FACTORS AFFECTING AVAILABILITY OF ESSENTIAL MEDICINES IN HEALTH UNITS: THE CASE OF SOROTI REGIONAL REFERRAL HOSPITAL

BY:

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DECLARATION

This study is original and has not been published and/or submitted for any other degree award to any other University or Institution of higher learning.

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APPROVAL

We the undersigned supervisors of Mr. Paul Okiring append our signatures hereunder in approval of this dissertation to be submitted to the School of Management Science in Partial fulfilment of the requirements for the award of a Degree of Masters in Management Studies (Project Planning and Management) of Uganda Management Institute, Kampala, Uganda.

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DEDICATION

This study is dedicated to my lovely wife Miriam Amuge, my children Keren Ajoot Okiring, Kenan E Olupot Okiring, Keslyn Amuge Okiring and Kelvyn Acham Okiring. I further dedicate it to my Mother, Toto Ajoot Hellen and father, Papa Robert Olupot.

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LIST OF ACRONYMS

AEM - Availability of Essential Medicines

ART - Antiretroviral Treatment

EMHS - Essential Medicines and Health Supply

GGHs - Government General Hospital

HAI - Health Action International

HSSP - Health Sector Strategic Plan

HU - Health Unit

MDGs - Millennium Development Goals

MHCP - Minimum Health Care Package

MOFPED - Ministry of Finance Planning and Economic Development

MOH - Ministry of Health

NDP - National Development Plan

NMS - National Medical Stores

OAREM - Office rules and Administrative Regulations and availability of Essential Medicines

OMEM - Offices Management and availability of Essential Medicines

PEAP - Poverty Eradication Action Plan

PHC - Primary health care

PPDA - Public Procurement and Disposal of Public Assets Authority

RRHs - Regional Referral Hospitals

SHBEM - Stakeholder behavior and availability of essential medicines

SWAP - Sector Wide Approaches

UN - United Nations

UNICEF - United Nations International Children Emergency Fund

WHO - World Health Organization

ABSTRACT

This study assessed the factors affecting availability of essential medicines in health Units, a case of Soroti Regional Referral Hospital. The study objectives were; to establish how office laws and administrative regulations affected availability of essential medicines in Soroti Regional Referral Hospital; evaluate how stakeholder behavior influenced availability of essential medicines in Soroti Regional Referral Hospital, and finally to find out how Office management affected availability of essential medicines in Soroti Regional Referral Hospital. The study was motivated by the need to understand how Ministry of Health efforts through restructuring the drug procurement system influenced availability of medicines. The study used a cross sectional descriptive design where both qualitative and quantitative methods were employed. A total of 196 respondents were sampled from 260 hospital staff and hospital users. The methods used to collect data were; questionnaire survey, interviews and documentary review. The primary data i.e. from questionnaires administered to hospital staff was used for quantitative analysis using SPSS and the other data was analyzed qualitatively. The findings were that, office laws and administrative regulations positively affected availability of essential medicines although the relationship was weak; stake holder behavior positively affected availability of essential medicines although the relationship was statistically weak while Office/staff management affected availability of essential medicines negatively. The study recommended an increase in the Medicines procurement budget; improvements in the current system of medicines procurement; sensitization of patients; raising salaries and advocating other partners and NGOs to invest more on medicines procurement and management. I learnt that; the hospital is overwhelmed by patients needs, this study alone cannot exhaustively explain the constant stock outs of medicines hence a need for another study in-depth study on this subject.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This study assessed the factors affecting availability of Essential Medicines and Health Supplies (EMHS) in Health Units, a case of Soroti Regional Referral Hospital. This chapter presents the background to the study, the statement of the problem, the general objective of the study, the specific objectives of the study, research questions, hypothesis of the study, the conceptual framework, scope of the study and the operational definitions, justification of the study, and significance of the study

1.2 Background to the study

This study was conducted at Soroti Regional Referral Hospital with the aim of understanding the factors that affect availability of Essential Medicines.

1.2.1 Historical background

Essential Medicines as defined by World Health Organization (WHO) 1977 are those that satisfy the priority health care needs of a population. They are selected with due regard to the public health relevance, evidence on efficacy and safety, and competitive cost effectiveness. Essential medicines are intended to be available within the context of functioning health systems at all times in adequate amounts, in the appropriate dosage forms, with assured quality and adequate information, and at a price the individual and the community can afford.

The idea of defining essential medicines and establishing a list of them was adopted from a report made to the 1975 World Health Assembly. These efforts were aimed to increase the range and availability of medicines for populations within poor access.

The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) convened the International Conference on Primary Health Care, in Alma-Ata in the former Soviet Union between 6th and 12th September, 1978, which issued a declaration identifying PHC as the key to the attainment of the goal of health for all. The Alma-Ata Declaration of 1978 emerged as a major milestone of the 20th Century in the field of public health as it introduced the concept of Primary Health Care (PHC).The Alma-Ata Declaration of 1978 urged governments, World Health Organisation (WHO) and United Nations Children's Fund (UNICEF), International Organizations, Multinational and bi-lateral agencies, Non-Governmental Organizations, Funding agencies, all health workers and the whole world community to support national and international commitment to primary health care and channel technical and financial support to it, particularly in developing countries.

At regional level, the 2001 Abuja Declaration in which Uganda is a signatory witnessed a declaration by heads of states and governments in Africa at which a review of the health situation on the continent and a new direction for investment in the health sector was developed. One of the leading outputs of this meeting was the commitment to take all necessary measures to ensure that the needed resources are made available for health setting a target of at least 15% of national annual budgets to health. This was in tandem with the earlier UN Millennium Declaration of 2000 in which all countries agreed to allocate at least 15% of their national budgets to health to achieve the MDGs on health within a period of 15 years.

In the last decade, Uganda has introduced a number of policy reforms aimed at reaching the target of the WHO and UN (1978). These include the National Health Policy first launched in 1999, to operationalize the 1995 constitutional provisions and the Local Government Act and the Decentralization Policy 1997. In order to foster implementation, coordination and effective delivery of health services, Uganda adopted a five year National Health Sector Strategic Planning framework. In Principle, Uganda's attempts in improved health have been instituted to serve the health needs of the population, including ensuring sufficient supply, availability and accessibility of essential medicines and health supplies (EMHS).

Existing evidence in Uganda suggests that the demand for EMHS still far exceeds supply. A study report published by Health Action International (HAI) and World Health Organization (WHO) in 2004 suggested that more than half of the population obtains essential medicines from the private sector where they are more available (76%) than in the public sector (14%) and in the private not for profit (36%). Handling and use of essential medicines is also wrong according to the same report. A majority (about 61%) of drug shops selling medicines is not licensed and is operated by unqualified staff, and offer unauthorized services, according to HAI/WHO. If no action is taken to reverse this situation, the consumers of health services are in danger of continued deterioration health that could result in increased mortality in the long run.

In 2002, the kit system of drug acquisition was abolished and a "pull system" or order-based system replaced it to make better use of the limited resources available for Essential Medical Health Supplies. A drug tracking study in August 2002 indicated sub-optimal levels of drug procurement at the Health Sub-district level. Following the study, the National Medical Stores (NMS) went through a process of restructuring to comply with the introduction of a new order-based supply system, the so-called "Pull System", introduced nationwide in January 2003. After a realization of failures within this system including poor procurement planning and attendant

capacity limitations to undertake timely and transparent procurement, Uganda was forced to revert to the old system. The decision to move from the pull to "push system" is further supported by Basheka and Mugisha (2008) in a paper, "Measuring Professionalism and its implication to Procurement outcomes in Uganda"; presented during the third International Public Procurement Conference Proceedings. It was observed in this paper that 56% of the personnel that were handling procurement at the time of the study had qualifications in business and commerce related disciplines, 30% had qualifications in arts and social sciences and 12% had science related qualifications, a finding that indicates the low levels of evolution of the procurement function at that time.

Prior to the "push or kit system", each facility ordered Essential Medicines and Health Supplies (EMHS) against a budget line at National Medical Stores (NMS) Vote 116 reflecting the facility's annual budget. Their ability to use their budget to procure EMHS effectively depended on their stock management and quantification expertise. Moreover, the budget available was insufficient to ensure that EMHS were available at all times. With the introduction of the kit system, the EMHS funding for heath centre IIs and IIIs increased compared to what was previously available under the Vote 116 budget. The introduction of the kit, therefore, succeeded in increasing the per capita EMHS funding, which was needed to increase availability; however, the effectiveness of this increased funding will depend fully on the composition of the kit and how well it supplies what facilities need the most.

According to Uganda Bureau of Statistics, (2006), 40% of the Ugandan population fell sick in the 30 days preceding the date of the survey compared to 29% in 2002/03 with most prevalent attack being Malaria. Eastern Uganda had the highest percentage of persons who fell sick (49%) and had a malaria prevalence rate of more than 50% (ibid).

In fact Uganda has continued to suffer from delayed drug supplies, causing expiry of procured drugs at the national Medical stores before they have reached the intended recipients. District Health Centers continue to suffer from absence of essential drugs at the time of need especially in rural settings hence making the achievement of the MDG 4 and 5 a far reached dream.

1.2.2 Theoretical background

This study benefited from the theoretical underpinning of the "Bureaucracy theory" advanced by Max Webber and Woodrow Wilson (1864-1920). This is probably the most influential theory on public service management. At its simplest, Max Webber took a functionalist view of an organization as a whole. He proposed that smooth functioning of an institution/organization would depend on the degree to which there are firm rules, policies and procedures, a fixed hierarchy and clear division of labor with appointments based on merit and not any other criteria. To Webber, there are basic six principles/elements of a bureaucracy; 1) fixed and official jurisdictional areas, generally ordered by rules and administrative regulations, 2) office hierarchy and graded levels of authority, for instance from least secretary to the accounting officer/permanent secretary, 3) the management of a modern office as based on written documents which are preserved meaning that bureaucracy segregates between public office and private life as two different spheres, and public money and equipment are divorced from private property of the individual occupying such an office, 4) office management: all offices to be run by experts professionally and with specialist training, 5) full time employment: when office is fully developed and organized, it demands the time of the official is full time, 6) stable rules: the management of the office follows general rules that are more or less stable, exhaustive, and can be learned.

According to the Uganda National Drug Policy and Authority Act 1993 (ch.206), availability of essential medicines refers to the degree to which medicine is easily accessible to those in need of

it at a given period of time. This however can be undermined by several factors: Poor medicine supply and distribution systems; insufficient health facilities and staff; and low investment in health, and the high cost of medicines. The same 1993 Act provides for mechanisms which ensure essential, safe, efficacious and cost effective drugs are available to the entire population of Uganda. Despite of this, problems of access to quality essential medicines have continued to undermine the concept of availability. The Essential Medicines List can help countries rationalize the purchasing and distribution of medicines, thereby reducing costs to the health system.

While Government of Uganda has in place the minimum standards of medicines supplies at public funded health facilities, recent studies show several factors that contribute to non-availability of essential medicines drugs in health centres[1].

1.2.3 Conceptual background

This study was guided by the concept of Essential Medicines. There is no clear definite understanding of the concept essential medicines. The concept was first introduced by World Health Organization (WHO) in 1977. WHO defines essential medicines as those that satisfy the priority health care needs of the population. They are selected with due regard to public health relevance, evidence on efficacy and safety, and comparative cost-effectiveness. Essential medicines are intended to be available within the context of functioning health systems at all times in adequate amounts, in the appropriate dosage forms, with assured quality and adequate information, and at a price the individual and the community can afford. The implementation of the concept of essential medicines is intended to be flexible and adaptable to many different situations; exactly which medicines are regarded as essential remains a national responsibility.

[1]See Ministerial Policy Statements, Ministry of Health, Kampala. FY2013/14; FY2014/15

Max Webber's Bureaucracy theory guided the development of the concepts for this study. Webber's takes a functionalist view of an organization as a whole. He proposes that smooth functioning of an institution/organization depends on the degree to which there are firm rules, policies and procedures, a fixed hierarchy and clear division of labor with appointments based on merit and not any other criteria. The concepts of office laws/rules and regulations, including budgets, degree of centralization and local site management; stakeholder behavior, including characteristics, needs and behavior of people served and finally office/hospital management comprising of staff management, professionalism/expertise of those occupying office and accountability mechanisms have been advanced as major concepts for this study.

1.2.4 Contextual background

In Uganda, the availability of EMHS in draws to attention of various stakeholders ranging from Public, Private and Civil Society. This was critical due to the realization that this could have a potential to undermine the realization of the health MDGs. I found out that, Uganda had put considerable attention to addressing this issue from policy through a decentralized health managed system of service delivery since 1998. Under decentralized service delivery, health policy was seen as an ongoing struggle for power and influence among individuals and collective actors operating within institutional structures that provide both constraints and opportunities; Scharpt (1997); Peters (1988), further assert that institutions define decisions processes, participation and roles and they influence strategic options for the actors. Actors that feel particularly constrained in a centralized setting may attempt to promote policies of decentralization and vice versa. These assertions may well describe the struggles that Uganda has gone through to ensure improved access and availability of EMHS from sector wide approaches in 1990s that saw abolition of cost sharing in late nineties and introduction of a pull based medicine's supply system only to be replaced with kit based system in early 2003.

With operationalization of a decentralized managed health system, Uganda has to draw lessons from Europe. Whereas authors advocate for autonomy of health systems, decentralization has come to close scrutiny among its proponents in early 2001. e.g. in the Nordic region, previously strong advocates of decentralization in the health sector, countries are adopting various forms of decentralization that allow some elements of centralization mixed with some power and authority[2]. In January 2002, the Norwegian state took ownership and operating control of all hospitals away from 19 elected county councils and then vested management responsibility in five new state appointed regions. In January 2006, the Danish state took back financial responsibility for the hospital sector from 14 elected county councils and from January 2007, hospital management was five newly designed regional governments. Moreover, evidence of recentralization can also be observed in central Europe; In 2003, Poland recentralized funding responsibility for the health sector, merging 16 regional insurance funds into one national body, Slovakia reduced the number of income funds from 13 in 1996 to 5 in 2004. Letivia reduced 32 territorial sickness funds in 1993 to 8 regional sickness funds in 1998.

Despite the commendable progress made towards ensuring availability of EMHS, Uganda needs to draw lessons from the current systems and re-focus her attention and efforts in delivering health services to her population in a manner that responds to their needs timely and in an accountable manner as seen in the works of Burns et.al. (1994); Calcan et.al (1998); Hunter et.al (1998) Azfar et.al (1999); Atkinson et.al (2000); Kahkonen and Lanyi (2001); Collin et.al (2003); Atkinson and Haran (2004) who both see political decisions and policies as ways of maximizing relations with the population through creating satisfaction, responsiveness,

[2]See World Bank (2001); Tracking Uganda's Health Sector in Budgeting, Financing and Delivery of Essential Medicines, (2010); Tropical Journal of Pharmaceutical Research December (2010); 9 (6) 55-564; Uganda Ministry of Health. Annual sector performance Reports (FY2010/2011 and 2011/2012); Uganda Ministry of Health with support from USAID/SURE Program. (2011). Assessment of the Essential Medicines Kit-based supply system in Uganda.

accountability and empowerment. Although the Annual Health Sector Performance Report 2010/11 indicated improvements in Drug availability, with 43% of facilities reporting no stock out of the six tracer drugs in the first and last quarters of 2010/11, up from 21% in the preceding year, this is still a figure far below average.

A recent baseline study commissioned by Teso Anticorruption Coalition (TAC) in July 2013 on Teso Sub-region show overall service delivery were not responsive to the real needs of the consumers as majority of them ranked the services at just average. Almost 63% ranked the services in their districts as average compared to 8.9% who ranked the services as good. Only 17.6%, 13.9%, 16.6%, 8.6% and 2.7% rated the services as good for education, health, water, transport and energy respectively. The worst service was cited to be energy, where 76.4% rated it as poor, and this was more so in Katakwi (93.9%), Kaberamaido (81.5%), Kumi (78.1%) and Soroti (63.3%). Similarly, transport was poor more especially in Katakwi where an overwhelming 78.9% reported that transport was poor compared to 48.2% in Kaberamaido, 41% in Soroti and 38.5% in Kumi. Others services like education, Health and Water were largely rated as average. Half of the respondents (50%) from Kaberamaido reported that service delivery in their district was been declining. The decline in service delivery was blamed on corruption. 70.2% of respondents felt that there was inequality in access to services between the rich and the poor. The respondents cited tribalism, political differences, and corruption.

1.3 Problem statement

Uganda's commitment to ensure availability of essential medicines and health supplies (EMHS) dates back to the 1980's during the administrative reform era which swept most African nations. Efforts both at strategic, structural and institutional level through a decentralized health managed system of service delivery have since then been instituted. Over the years, various developments

in the approaches, mechanisms and systems have been used to enhance EMHS including the use of the push or kit-based order system and a “pull system” or order-based system.

Recently, government through the Ministry of Health has made efforts and restructured the drug procurement system through empowering the National Medical Stores (NMS). Despite this effort directed at the push system coupled with intensified capacity building in supply chain management at facility level, availability of EMHS management still remained a challenge in Soroti Regional Referral Hospital and Ugandan health service delivery in general. The SURE survey, (2010) for example revealed that only 50% of the items had the correct stock balanced. It further highlighted the poor EMHS management combined with insufficient funding. Also, the media and press continued to feature news and stories of patients overcrowding health facilities, lack of essential medicine (Ministry of Health Assessment of essential medicines kit-based supply system in Uganda, (2011).

This study therefore sought to investigate what factors are influencing the conditions of Medicines supplies at Soroti Regional Referral and ways of overcoming them so that the population can continue to experience constant stock supplies of essential medicines and hence ensure larger proportion of health service consumers accessing health care services hence reducing the mortality rates in Teso Sub-region.

1.4 General objective of the study

The overall objective of the study was to assess the factors affecting availability of essential medicines using Soroti Regional Referral Hospital as a case.

1.5 Specific objectives of the study

i) To establish how Office laws and administrative regulations affect availability of essential medicines in Soroti Regional Referral Hospital,

ii) To evaluate how stakeholder behavior affect availability of essential medicines in Soroti Regional Referral Hospital, and

iii) To find out how Office management affect availability of essential medicines in Soroti Regional Referral Hospital.

1.6 Research Questions

i) How do Office laws and administrative regulations affect availability of essential medicines in Soroti Regional Referral Hospital?

ii) What influence does stakeholder behavior have on availability of essential medicines in Soroti Regional Referral Hospital?

iii) To what extent does office management affect availability of essential medicines in Soroti Regional Referral Hospital?

1.7 Hypothesis of the Study

i) Office laws and administrative regulations affect availability of essential medicines in health units in Soroti Regional Referral Hospital.

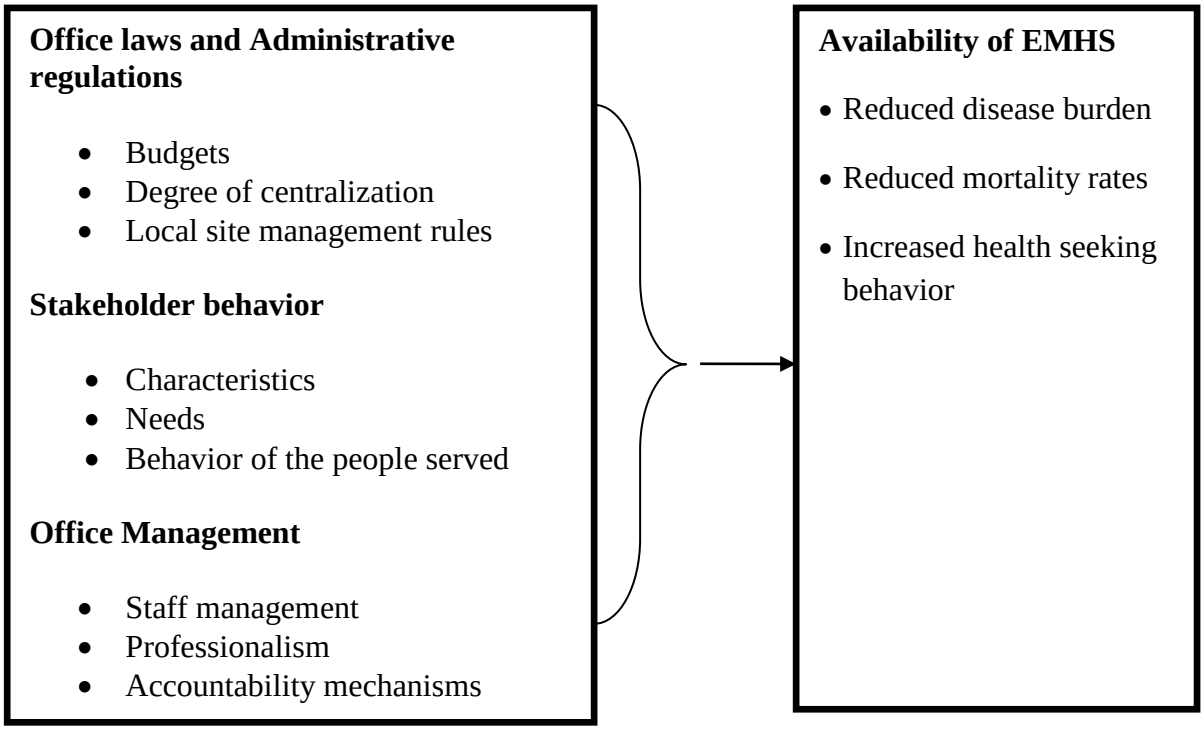
ii) There is a relationship between stakeholder behavior and availability of essential medicines in health Units in Soroti Regional Referral Hospital.

iii) There is no relationship between Hospital management and availability of essential medicines in Soroti Regional Referral Hospital.

1.8 Conceptual Framework

The conceptual frame work to this study was generated from the bureaucracy theory as illustrated bellow:

Independent Variable **Dependent Variable**



Source: Adapted from Agaba (2010) and modified by the researcher

Figure 1: Presented the relationship between the independent variables and the dependent variable.

The figure above illustrated the linkages between influential factors as an independent variable with the dimensions of office laws and administrative regulations, stakeholder behavior, office management and availability of EMHS as the dependent variable. If there are supportive office laws and administrative regulations, through availability of approved budgets and resources, with a good degree of centralization and local site management rules, availability of EMHS would be guaranteed. In the same way, if there was a clear understanding of stake holder characteristic, health needs and behaviors, availability of EMHS can be definite. Also, a clear account of office

management indicated by proper staff management, professionalism and clear accountability mechanisms leads to availability of EMHS.

1.9 Significance of the study

Given the settings and context of the study, the findings and recommendations of the study are expected to influence the planning, policy and decision making processes at national, district and sub county levels regarding acquisition and management of EMHS.

The study findings and recommendations may be used by a wider range of stakeholders including government, civil society, researchers, academicians and donor agencies for policy engagement and reform.

The study findings and recommendations may help guide districts and regional referral hospitals, in view of decentralization on how best to develop, manage and utilize EMHS.

1.10 Justification of the study

This study was justified by the fact that the PPDA Corporate Plan 2004-2007 estimates that; Government of Uganda spends over 60% of its annual budget on procurement of goods, works, and services and its further estimated that a sound public procurement system can eliminate wasteful spending thus resulting into savings of up to 20% - 30%. Record Keeping and Work Plan Management has remained low in Uganda's health Units e.g. The Staff Establishment for HC IIIs provides for two Health Information Assistants. For HC IIs, it provides for one. The Health Information Assistants are supposed to be in charge of records and stores at the HU. However only 21.1% (5 out of 24) of the sampled HC IIIs had the two positions filled according to the Essential Medicines and Health Supplies tracking study by the Uganda Ministry of Health (October 2009), 14% (3 out of 22) of the sampled HC IIs had this position filled. The inadequate

staffing by appropriate personnel in records and stores management at HC IIs and HC IIIs made it difficult for HUs to keep records that could be used reliably for planning purposes. Such health units experienced problems in quantifying their needs and making timely orders against available funds. This provides the justification to this study.

1.11 Scope of the study

1.11.1 Content

The study concentrated on assessing how Office laws and administrative regulations (budgets, degree of centralization, Local site management); stakeholder behavior (Characteristics of people served, needs of people served, behavior of people served) and office management (staff management, professionalism, accountability mechanisms) affect availability of Essential Medicines: the case of Soroti Regional Referral Hospital. These variables were chosen because they relate to the Principles of the Bureaucracy theory by Max Webber (1864-1920) as the theory underpinning this study.

1.11.2 Geographical

The study was conducted in Soroti Regional Referral Hospital located in Soroti District serving the whole of the Teso Districts (Soroti, Bukedea, Kumi, Ngora, Serere, Kaberamaido, Amuria, Katakwi) in Teso Sub region including its neighboring districts (Pallisa, Dokolo, Abim, Sironko and Napak). Soroti district is bordered by Serere District in the south, Kaberamaido in the West, Kumi in the East and Amuria in the North.

1.11.3 Time

The study covered a 5 years period from 2010/11 to 2014/15; a period that is covered by the third Uganda Health Sector Strategic Plan (HSSP). This plan sets strategic focus and guidelines under which health service provision is based in the country.

1.12 Operational definitions

Behavior: the manner in which people react and respond to situations within the environment.

Local site management: the processes and procedures established at HU level and national guidelines governing the operations and management of health supplies and equipment through use of a tracking system for supplies received and released through stores management practices including use of Health information management records and bin cards.

Budgets: the government financial allocations and financing to the EMHS

Characteristics: the relative composition the Uganda's health service clientele in terms of the population

Office laws and administrative regulations: Relates to internal and external systemic and guidelines for effective performance and delivery of a service

Degree of Centralization: refers to the extent to which decisions are concentrated at the center rather than the lower units

Characteristics: relates to the prevailing patterns defining a given population served

Needs: These arise when there is a discrepancy between what is and what ought to be.

Hospital management: relates to all functions performed by management to ensure effective and efficient operations

Staff management: refers to systems established to manage the day to day performance of the staff in a given setting

Professionalism: refers to generally acceptable values and standard norms of a profession

Accountability mechanisms: refers to the systems and procedures adopted to maximize feed back by duty bearers to the rights holders.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Review of the related literature involved systematic identification, location and analysis of documents containing information related to the research problem being investigated (Mugenda & Mugenda 2003). This chapter presents the theoretical literature review, the conceptual literature review, actual literature review and summary of the literature indicating the lessons learnt and the gaps the study is intending to fill. This chapter presents the review of literature on the variables (independent variables as well as the dependent variables) of the study

2.2 Theoretical review

This section provides the theoretical foundation of the study. It explores the theoretical debates around factors affecting availability of essential medicines and health supplies. This study adopts the Bureaucracy theory originated by Max Webber and further advanced by Woodrow Wilson between 1864 -1920.

2.2.1 The Bureaucracy theory

This study benefited from the theoretical underpinning of the "Bureaucracy theory" by Max Webber 1864-1920 and later advanced by Woodrow Wilson. The Bureaucracy theory is probably the most influential theory on public service management. At its simplest, Max Webber took a functionalist view of an organization as a whole. He proposed that smooth functioning of an institution/organization would depend on the degree to which there are firm rules, policies and procedures, a fixed hierarchy and clear division of labor with appointments based on merit and

not any other criteria. To Webber, he assumes that the following are the basic six principles/elements of a bureaucracy: 1) Fixed and official jurisdictional areas, generally ordered by rules and administrative regulations, 2) Office hierarchy and graded levels of authority, for instance from least secretary to the accounting officer/permanent secretary, 3) the management of a modern office as based on written documents which are preserved meaning that bureaucracy segregates between public office and private life as two different spheres, and public money and equipment are divorced from private property of the individual occupying such an office, 4) Office management: all offices to be run by experts professionally and with specialist training, 5) Full time employment: when office is fully developed and organized, it demands the time of the official is full time, 6) Stable rules: the management of the office follows general rules that are more or less stable, exhaustive, and can be learned.

For purposes of this study, the researcher developed three concepts from the 6 principles to guide investigating factors affecting availability of essential medicines and health supplies in Soroti Regional Referral Hospital. These concepts include: Administrative regulations, Stakeholder behavior and Office/staff management.

The theory helps in keeping the organization focused or to achieve total quality to satisfy the customers. Regardless of what management wants, says or does, if the front-line people are on the team, the mission doesn't get lost. Team members only need to be helped to understand their role and importance in the overall process. Every job and every role is important. Eventually, relative status and importance becomes much less of an issue. It can further be urged that the theory helps in preserving organizational values and culture which of importance to every organization. In this way, the bureaucracy theory ensures success of an organization in addressing the needs of its clients. One can further note that the theory enables an organization to

operate in an orderly and organized manner in which people are given adequate space to produce under the key roles they have been assigned.

Bureaucratic organizations have been criticized for: Too much emphasis on rules and regulations. The rules and regulations are rigid and inflexible; giving no importance to informal groups. Nowadays, informal groups play an important role in all business organizations; involving in a lot of paper work. This results in wastage of time, effort and money; unnecessary delay in decision-making due to formalities and rules; being more suitable for government organizations and not suitable for business organizations because business organizations believe in quick decision making and flexibility in procedures; too much importance in technical qualifications of the employees for promotion and transfers disregarding dedication and commitment of the employee; difficulty in coordination and communication and limited scope for Human Resources.

2.3 Office Laws and Administrative regulations

2.3.1 Budgets and availability of EMHS

The level of financing to the Ministry of Health (MoH) is done through the national budget projections that are presented and approved by parliament according to the Budget Act, 2001 (as amended).

Uganda is a low income country, with a per capita of US$506); about 24.5% of the population still living below the poverty line during 2010/11) (Vision 2040, April 2013). The life expectancy stands at 51.5 at birth; Under 5 Mortality rate per 1,000 stands at 96; Maternal mortality rate per 100,000 live births stands at 438; while Infant mortality rate per 1,000 live births stands at 63 (Vision 2040, April 2013). Although these performances to point to progress,

access to healthcare and other social services remains a challenge, partly as a result of underfunding. The second Uganda Health Strategic Plan, 2006-10 estimates that effective delivery of national minimum health care package (MHCP) requires at least US$28 per person per year in order to achieve maximum progress on the goals of poverty Eradication Action Plan (PEAP) and the United Nation; Millennium Development Goals. In 2008/09, government allocated about 10.7% of the budget to health, which is significantly lower than the proportion recommended by the 2001 Abuja Declaration in which African governments committed to spend at least 15% of their national budgets on health.

In Uganda, a lot has emerged about the level of financing to the health sector with many surveys across the country sighting inadequate financing as one of the causes of low availability of medicines in the Uganda's HCs despite the increase in the population and need for EMHS (Annual Health Sector Performance Reports (2010/2011 and 2011/2012). Trends have seen health financing falling as the population and disease burden keep on rising. This is confirmed in the MoH budgets when the 9.7 allocation in the financial year 2004/2005 dropped to 9.6 in 2007/08. It's believed that as long as funding to the health sector does not meet the 15% target, the low availability of EMHS is likely to persist.

A comparative analysis done during a review of the progress and challenges towards reaching the Abuja target for intermittent preventive treatment of malaria pregnancy in African women by Hill and Kazembe (2006), revealed that Uganda and Zambia experienced frequent drug stock outs due to lack of resources and delay in the release of funds to districts among others. It was further observed that health staff in Malawi are limited in the quantity they are entitled to order due to the maximum limit imposed on order forms which are frequently insufficient to cover the needs; Ashwood et.al. (2002)**.** The review further revealed that out of 24 countries that had adopted IPT-SP Policy, only one country (Malawi) was close to achieving the Abuja target of

60% of pregnant women. The low capacity of Uganda's HCs has resulted to having a high out-of-pocket (OOP) expenditure estimated at 58% by the same review. This indicates that the vulnerable are likely to be exposed to catastrophic expenditures and to be pushed to the medical poverty trap. It also means that the poor may not benefit maximally from the government subsidies in the health sector. Cite in the paragraph above at least some latest journal articles. Most of these are rather old.

Paina and Peters, (2011) argue that, despite large investments in global health initiatives, efforts to scale up health services in low developed countries will not meet expectation of the MDGs. They attribute this shortfall to traditional linear approaches and propose to adopt effective planning, implementation and evaluation of interventions. They propose the following to replenish the health systems; 1) Improve medical supplies: Both centralized and decentralized medicines procurement may results in timely supply and improve quality (Ali, 2009); 2) Improvement of funding holistically will improve availability; Audibert and Mathonnat (2000), improve cash availability and management flexibility at the facility level. 3), as well as Human resource considerations adding that health staff may be confident to perform their work as medicines are available and vice versa. Uzpchukwu and Onwujekwe, (2005) added that if the situation is not addressed, there may however be a risk that health staff will focus on revenue generation activities at the expense of delivering preventive services.

The problem of availability of EMHS is further viewed internationally and proponents and advocates have reached a position requiring donors that despite the Paris declaration on aid effectiveness, harmonization and alignment of donor funding has not been optimal, and donor assistance for financing consumables such as medicines are highly debated (World Health Organization , 2004). Adopting the same human rights perspective, Cometto et al. (2009) propose a global health fund for MDGs that would set aside criteria of financing contributions to

health and clarify financial commitments to tackle system bottlenecks. This concept derives from the work of Oms, (2008) who proposes a new global health aid paradigm, similar to the support provided for combating Aids. This paradigm should promote access to EMHS not only access to retroviral therapy, he adds. This study sought to understand how the study variables affect availability of EMHS in health units and propose recommendations to improve availability of EMHS.

2.3.2 Degree of Centralization and availability of EMHS

Around late 1990s, Uganda conceived the decentralization as a model for service delivery with devolution of powers to plan, implement and monitor taken from the center to the lower level service delivery centers. In the health ministry, under the sector wide approaches introduced in 1993, the Ministry of Health (MoH) had to redefine its role from one of service provider to that of policy making, providing guidelines, training and capacity building, monitoring the health sector and coordination of donors. In other words, the main role of the center MoH was to support the decentralized level in the implementation of the Health Sector Strategic Plan (HSSP). It should be noted that the changes in the MoH since 2000 followed on from the previous restructuring starting in 1993 when decentralization policy was first implemented. Since then, the MOH has been under increasing pressure to become more effective and responsive to the lower levels and reduce expenditure at central level. This meant that, in theory, SWAP funds become more centralized i.e. sent to the decentralized levels (except salaries). However, this was reported not to take place after the major 1995, MoH restructuring due to resistance from the center to decentralize (Jeppsson et.al, 2003). It was however, noted that the 1995 restructuring saw MOH staffing increased by 40% instead of decrease. It was also reported that the decentralization of service delivery met with great resistance in the later restructuring lasting from 1997-1999. It was not until the operation of the Poverty Alleviation Fund (PAF) a fund that must be spent on

poverty reduction activities), the requirement of the Ministry of Finance Planning and Economic Development (MOFPED) for the MoH to reduce expenditure at central level, and various reviews concluding that the service and various reviews concluding that the service level needs to be strengthened, that sufficient resources have been decentralized since 2000 to give the increased power promised to the decentralized levels for so long.

Under decentralized service delivery, health policy should be seen as an ongoing struggle for power and influence among individuals and collective actors operating within institutional structures that provide both constraints and opportunities; Scharpt 1977; Peters 1988, who further assert that institutions define decisions processes, participation and roles and they influence strategic options for the actors. Actors that feel particularly constrained in a centralized setting may attempt to promote policies of decentralization and vice versa. These assertions may well describe the struggles that Uganda has gone through to ensure improved access and availability of EMHS from Sector Wide Approaches in 1990s that saw abolition of cost sharing in late nineties and introduction of a pull based medicine's supply system only to be replaced with kit based system in early 2003.

With operationalization of a decentralized managed health system, Uganda has to draw lessons from Europe. Whereas we advocate for autonomy of health systems, decentralization has come to close scrutiny among its proponents in early 2001. E.g. in the Nordic region, previously strong advocates of decentralization in the health sector, countries are adopting various forms of decentralization that allow some elements of centralization mixed with some power and authority. In January 2002, the Norwegian state took ownership and operating control of all hospitals away from 19 elected county councils and then vested management responsibility in five new state appointed regions. In January 2006, the Danish state took back financial responsibility for the hospital sector from 14 elected county councils and from January 2007,

hospital management was five newly designed regional governments. Moreover, evidence of recentralization can also be observed in central Europe; In 2003, Poland recentralized funding responsibility for the health sector, merging 16 regional insurance funds into one national body, Slovakia reduced the number of income funds from 13 in 1996 to 5 in 2004. Letivia reduced 32 territorial sickness funds in 1993 to 8 regional sickness funds in 1998.

In the case of Uganda, even under the decentralization reforms, health units in Uganda have little incentive to manage costs effectively or to respond to local demands. Many important decisions remain under central control, and those that have been devolved to the district do not filter down, thus creating an "insufficient centralized system within each district" (Hutchinson, 1999). Secondly, the expansion of local power into certain areas of health care that have spillover effect is bound to create anomalies. Decentralization by definition potentially endangers vertical programs. It requires new systems at the district level that did not exist before, and it inevitably confronts contrary preferences and incentives of local governments who have other priorities. Immunization programs in Uganda are the responsibility of the central government, but the districts now exercise control over supplies and cold chain maintenance. In the case of Malaria control, the MoH contributes by setting standards and guidelines, technical support and supervision, training, supporting epidemic control, and monitoring, but local fiscal contributions and to a lesser extent primary health care conditional grants are subject to being diverted towards completing local health care priorities.

Despite the commendable progress made towards ensuring availability of EMHS, Uganda needs to draw lessons from the current systems and re-focus her attention and efforts in delivering health services to her population in a manner that responds to their needs timely and in an accountable manner as stressed in the works of Burns etal. (1994); Calcan et.al (1998); Hunter et.al (1998) Azfar et.al (1999); Atkinson et.al (2000); Kahkonen and Lanyi (2001); Collin et.al

(2003); Atkinson and Haran (2004), who both see political decisions and policies as a way to maximize relations with the population through creating satisfaction, responsiveness, accountability and empowerment. This study hence sought to find out how the degree of centralization of procurement and decision making processes affected availability of EMHS in health units

2.3.3 Local site management rules and availability of EMHS

Local site management refers to the processes and procedures/rules established at HU level and national guidelines governing the operations and management of health supplies and equipment through use of a tracking system for supplies received and released through stores management practices including use of Health information management records and bin cards.

The Ministry of Health, Uganda, (2010) Survey on EMHS availability discovered discrepancies in Bin/Stock card balances and physical count of stocks at all health facilities visited across the five levels. HC IIs had the highest (40%) discrepancy between spot check physical count and BIN card balance. RRHs had an average discrepancy of 31% while the discrepancy at HC IVs averaged 30%. The lowest discrepancy (26%) was at HC III. The results show that the Bin/Stock cards do not reflect the correct position of stock levels at the health facilities. In most cases, the balance reflected on BIN Cards was much higher than the physically available stock. Stock card balances are therefore not a reliable indicator of availability of EMHS in the facility.

On investigating the reasons for the discrepancies, the staff at HC IIs claimed that the discrepancies were largely due to inadequate staffing at the HUs; the staff were few in number and prioritized attending to patients leaving them little time to up-date their records including Bin cards. However, the study team noted that in addition to inadequate staff, the available workers largely lacked the capacity to utilize the Bin cards accurately. This is the reason the

entries on the cards were often incorrect. At most HCIIs clients reported in the morning and the health units closed at around 1pm. The remaining time of the day (2 -5pm) could be used to do administrative work including up-dating Bin cards if the staff were serious at their work. Further, the higher HUs (RRHs and GGHs) had relatively competent staff that could handle stock cards competently but they too had the same problem of inaccurate Bin/stock cards. This means that the reason for not updating stock cards went beyond under-staffing per se. The main reason according to the study team was negligence of duty by most workers. The study further noted that 18% (3 out of the 20) indicator items did not have stock cards. The common items that did not have stock cards were folic/ ferrous sulphate, examination gloves and depo provera.

2.4 Stakeholder behavior

2.4.1 Characteristics of the population and availability of EMHS

Uganda's health service clientele is composed of relatively very poor people. In fact a proportion of Ugandans living in poverty according to the Economic Policy and Research development under the Ministry of Finance Planning and Economic Development May 2012 is being seen reducing over time from 56.4% to 24.5% between 1992/3 and 2009/10. This success meant that there were over 23 million Ugandans above the poverty line in 2010. But of this group around 13million are classified as 'insecure non poor'. These households had consumption below twice the poverty line, they are able to meet their basic needs but remain insecure and vulnerable of falling into absolute poverty line. One wonders whether this could affect the consumption behavior for medicines. The findings of a participatory Poverty Assessment (PPA) confirmed that there has been significant progress. The same communities in 2011 reported the lack of an ox plough or mattress as the corresponding characteristics of poverty. Likewise, those perceived to be poor in 1990 lacked access to health care, but today the quality of health services is the key issue and not availability of health care. In the National Development Plan (NDP) 2010/11-

2014/15, although the Uganda's economy is registering varying growth rates, its projected that Growth Domestic Product (GDP) will reach an average of 7.2 % per annum. At this GDP growth rate, nominal per capita income is projected to increase from USD 506 in 2008/09 to about USD 850 by 2014/15. During the same period, the proportion of people living below the poverty line is expected to decline from the level of 31% in 2005/06 to about 24.5% in 2014/15.

2.4.2 Needs of people and availability of EMHS

This level is usually considered as the demand side. Ensor and Cooper, (2004), Jacob's et.al, (2012). Demand-side ATM barriers include perceived quality, health workers' attitude, as well as affordability of medicines and services; Kiwanuka et.al, (2008), Chuma et.al, (2010), and Patel et.al, (2010). Irrational health seeking behavior, medicines demand and use are also considered as contributing factors to reduced access. The first level of the health system is not limited to individual patients but extends to the households and communities. As mentioned, demand side barriers are present beyond the individual as they also relate to social and cultural characteristics, including stigma, determined by the household and community affiliations; Ensor and Cooper, 2004; Ruxin et.al, (2005).

The present delivery of health services does not adequately meet the needs of the most poor and vulnerable. Perceptions of being discriminated against or being treated badly because of their socioeconomic status and/or rural residence were found to be common. This paper argues that there should be improvement of quality of health services for everybody and particular attention paid to the poor. Despite wide focus on improvement of the existing infrastructure and donor funding, there is still low satisfaction with health services and poor perceived accessibility. The involvement of the poor and vulnerable will be crucial in providing services that are perceived to be responsive to their special needs.

Lee, (2004) specifies that to make the supply chain component of distribution and logistics efficient, it has to respond to short-term changes in demand or supply quickly and to handle external disruptions smoothly. Hence an efficient supply chain has to be responsive to changes in the market. Responsiveness requires that accurate information is available to facilitate decision making. Information technology can help to process and share information. Timely flow of information facilitated by collaborative inter linkages enable supply chain members to be responsive to customers' needs and act very fast (McCarthy and Golicic, 2002). This study is useful through finding out how peoples' needs and demand for EMHS affect their availability in health units.

2.4.3 Behavior of people and availability of EMHS

Behavior refers to the manner in which people react and respond to situations within the environment. In this case, the behavior of the people towards EMHS in the Ugandan health units has been reported to be desperate in nature with some reports indicating that the people have resorted to dodging drugs especially when they are reported to be available at the Health Units. Health seeking behavior depends on the "vulnerability context" of an individual or household in a community which is determined by the five livelihood assets: natural, physical, human, social and financial capital Obrist et.al, (2007). Interventions such as health equity funds; Bideli and Annear, (2009), maternity voucher schemes Ahmed and Khan, (2011) or conditional cash transfers Lagarde *et al*, (2007), improve access to a number of livelihood assets and impact access to health services. The ACCESS programme in Tanzania has successfully adopted this approach; Obrist *et al*, (2007) to design a range of interventions aimed at improving malaria treatment to achieve better access to treatment and care, it's important to mobilize the full human capital available at community level and remove the strict distinction between providers and patients (Haines et.al, (2007); Van Damme et.al, (2008). Moving away from passive users,

patients, communities and community members become ‘expert patients’ and are valuable and available resources in supporting other patients or building collective networks and actions. Although the mentioned authors apply this concept to child survival interventions or scaling-up antiretroviral treatment (ART), it’s also applicable for access to many other essential treatment, especially for chronic and lifelong conditions; Van Olmen et.al, (2011).

The EMHS supply and Utilization survey of 2010 by the Uganda Ministry of Health showed health units reporting that once medicines were delivered, even people who were not sick flocked them overwhelmingly. This was reportedly most common at HC II and HC IIIs where supplies were said to last 1 to 2 weeks because of the upsurge in client attendance immediately after delivery of supplies. This was revealed through use of comparison of client attendance 1 month before and 1 month after delivery of medicines. This trend was largely attributed to the fact that communities were sick but kept away because the drugs were not available and can only flock on hearing that the drugs have been delivered. Statistically, it was revealed that most clients in Moroto (82.1%), Butaleja (80.2%) and Gulu (73.6%) reported to have ever sought treatment due to information they received that supplies had come.

In principle, the public sector exists to serve the health needs of the population, including ensuring sufficient supply, availability and accessibility of essential medicines and health supplies (EMHS). Existing evidence in Uganda suggests that demand for EMHS still far exceeds supply. A study report published by Health Action International (HAI) and World Health Organization in 2004 suggested that more than half the population obtains essential medicines from the private sector, where they are more available (76%) than in the public (14%) and in the private-not-for-profit (36%) sector. This study is relevant since it sought to establish how the behavior of people served in terms of assessing their cultural norms and values, behaviors, attitudes, character among others affected availability of EMHS in Health Units

2.5 Office Management

2.5.1 Staff management and availability of EMHS

Despite the staff establishment for Health Unit IIIs providing for two Health Information Assistants and one for the Health Unit IIs to generate and manage information, only 21.1% (5 out of 24) of the sampled HC IIIs had the two positions filled. 14% (3 out of 22) sampled HC IIs had this position filled. It was also found out that where there were better qualified health workers, the substantive in-charges were often absent thus leaving the HC s to the less qualified persons. In fact, 45.8% (11out of 24) HC IIIs visited had their in-charges absent a revelation by the 2009 EMHS survey. This could also explain the poor management and record keeping at Uganda's HCs for purposes of planning making it difficult for these Units to quantify and justify their needs and making timely orders against available funds. This survey further indicated that all the sampled HC IIs at one time or the other during 2007/08 experienced stock out of each of all (100%) of the listed items. At HC IIIs, and HC IVs, 93% and 70% respectively of the items in the study were out of stock while at RRHs and GGHs 65% of the items experienced stock outs. This showed that stock outs were more prevalent at lower Hus than higher ones.

At the RRHs, the items that experienced stock outs more than 30 days were: Depo Provera (171 days, Ferrous/Folic (110 days), Ibuprofen (108 days), Propanolol (60 days), Bendrofluazide (67 days) and Insulin (105 days). This implied that clients who get referred from lower HCs are more likely to find the drugs required out of stock even at RRHs. The Health Sector annual performance report 2011/12 indicated that lack of resource capacity to quantify supplies against available credit contributed to high level of stock outs particularly at lower Health Units (Hus). It further noted that higher HU levels (Hospitals) with better human resource capacity utilized their credit line better than lower ones. In the study, sampled Regional Referral Hospitals (RRHs) utilized 109.2% and Government General Hospitals (GGHs) utilized 98.2% while HSDs utilized

88.5% in Financial Year (FY) 2007/08. The annual health sector performance report for FY 2007/08 reported the same trend; 105% utilization for the RRHs; 100% for GGHs; and 84.5 for HSDs in the same period.

Absenteeism of health workers had been noted to be on the rise. This was attributed to poor remunerations of health workers. It was suggested that their remunerations should be improved so that they can be motivated to work harder. This study here forth sought to establish the extent to which staff management and attitude of staff towards work affect availability of EMHS in health units.

2.5.2 Professionalism and availability of EMHS

One of the major challenges in ensuring effective management and storage of medicines in Tropical Journal of Pharmaceutical research report, (2010) is lack of adequate training in medicine management and storage. This was further reinforced in the Uganda Ministry of Health survey of Essential Medicines and Health Supply Survey October, (2009) that discovered that health Units were understaffed and the problem was in numbers and in qualifications of the health workers. It was further revealed in the same survey that nursing assistants instead of enrolled nurses managed 41% of the sampled HC IIs. It also observed that while a HC III is supposed to be managed by a senior Clinical Officer, only 17% (4 out of 24 sampled HC IIIs had this position filled. It was also found out that where there were better qualified health workers, the substantive in-charges were often absent thus leaving the HC s to the less qualified persons. In fact, 45.8% (11out of 24) HC IIIs visited had their in-charges absent. The implication of this is that the personnel left in charge could hardly measure up to the responsibility of managing a health unit hence failure to keep records and to plan for the respective health units. This poses challenges in terms of obtaining reliable date necessary for planning especially for stock and could explain why there are constant stock outs. Basheka and Mugisha, (2008) in a paper,

"Measuring Professionalism and its implication to Procurement outcomes in Uganda"; presented during the third International Public Procurement Conference Proceedings, observed that 56% of the personnel that were handling health supplies procurement at the time of the study had qualifications in business and commerce related disciplines, 30% had qualifications in Arts and social sciences and 12% had science related qualifications, a finding that indicates the low levels of evolution of the procurement function at that time. This trend showed a worrying situation for Uganda's health system in which non professionals were deployed to do work in wrong professions. This study therefore wanted to establish the relationship between professionalism, professional levels of health staff and availability of EMHS.

2.5.3 Accountability mechanisms and availability of EMHS

The technical brief number 1 May 2008, sites Lack of information on price, source and quality of medicines procured, distributed and used in health sectors of LMICs as a constraint to access. Enforcing transparency on these issues is very often beyond the scope of the health sector alone, as it does require broader interventions cutting across sectors at national level, touching upon economic sectors (growth of local production, fiscal policies), trade, customs, law enforcement agencies and other aspects. Partnerships with civil society and consumer organizations as well as international collaborations are essential in collecting and sharing transparent information that impact ATM. Several initiatives such as the Medicines Transparency Alliance have emerged recently (MeTA, 2010). Other initiatives such as the Health Action International-WHO medicines pricing surveys, offer a web-based access to data collected in a number of countries on medicines prices, availability and affordability. This has offered a greater advantage for improved transparency and accountability in health service delivery and management.

The Ministry of Health Annual Sector Performance Report 2011/12 highlighted that there was need for Uganda to; increase staff accountability and crate a rewarding/sanctioning system (fight

impunity), operationalize clear and transparent funds allocation at district and HSD level. In fact Transparency International estimates that 10-25% of global public health procurement spending is siphoned off and stolen. It further states that; "Life saving resources are being snatched away from the millions of people that need them most". The pharmaceutical sector, with US$ 750 billion market value, is vulnerable to fraud. The good governance for medicines programme's goal is to improve this situation. Guided by WHO's Medicines Strategy 2004-07 and launched in late 2004, the programme is raising awareness of abuse in Public pharmaceutical sector and promoting good governance. Its ultimate aim us to ensure that pharmaceutical spending is not misappropriated and essential medicines reach people not the black market.

The World Bank has identified corruption as the single greatest obstacle to economic and social development. And as the Good Governance project increases in momentum, more and more public health ministers and national medicines regulatory authorities are taking up the challenge to address it. A number of steps have been taken with the aim of combating corruption and inefficiency in Uganda's health sector. Whereas vaccines and essential drug kits were formerly distributed to18 the districts based on local returns, now the MOH collects data and projects these needs, allocating supplies accordingly. Also, Uganda's Health Management Information System has been put in place to collect and manage data on health system inputs, needs, and outcomes. These approaches help to dilute pre-existing strong incentives to over-report both input needs and outputs such as immunization coverage. To increase transparency, health unit fees (but not budgets) are required to be posted, and overcharging has often led clients to complain to the local health committees. Some local health committees have taken the further step of opening the drug kits sent to the districts and comparing quantities to official records. Facility inspections by district and sub-district-level health staff also provide a safeguard, but even the wealthiest LGUs do not appear to have the means to ensure regular inspection of all

facilities. This study therefore wanted to establish how existing accountability mechanisms have helped in enhancing availability of EMHS in the health units hence device mechanisms that could improve or reinforce the existing systems.

2.6 Summary of literature review

In summary, the review of related literature revealed that despite the concerted efforts by various stakeholders towards improving availability of EMHS in Uganda's health service delivery, a lot remained to be done in terms of ensuring effective availability to all Ugandans including those in rural settings. While a lot of enthusiasm characterized health policy in Uganda, loop holes remained in strengthening Office Laws and administrative regulations, improving stakeholder behavior and reinforcing Office Management. Basheka and Mugisha, (2008) in a paper, "Measuring Professionalism and its implication to Procurement outcomes in Uganda"; presented during the third International Public Procurement Conference Proceedings, observed that 56% of the personnel that were handling health supplies procurement at the time of the study had qualifications in business and commerce related disciplines, 30% had qualifications in Arts and social sciences and 12% had science related qualifications, a finding that indicates the low levels of evolution of the procurement function at that time.

The Ministry of Health, (2010) Survey on EMHS availability discovered discrepancies in Bin/Stock card balances and physical count of stocks at all health facilities visited across the five levels. HC IIs had the highest (40%) discrepancy between spot check physical count and BIN card balance. RRHs had an average discrepancy of 31% while the discrepancy at HC IVs averaged 30%. The lowest discrepancy (26%) was at HC III. The results show that the Bin/Stock cards do not reflect the correct position of stock levels at the health facilities. In most cases, the

balance reflected on BIN Cards was much higher than the physically available stock. Stock card balances are therefore not a reliable indicator of availability of EMHS in the facility.

One of the issues unclear was whether the irregularities in the stock cards were by design or default to defraud the beneficiaries. It was as well unclear whether this situation was affecting the way the community perceived the health service delivery and the government capacity to deliver services to the community. The available literature further did not reveal the coping mechanisms at health unit level that health service providers resort to in ensuring continuous improved service delivery. This warranted an investigation into factors affecting availability of EMHS in spite of efforts put in place to address the situation

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter presents the proposed research methodology that was used in assessing the factors affecting availability of Essential Medicines and Health Supplies (EMHS) in Uganda, A case of Soroti Regional Referral Hospital. The chapter presents research design, study population, sample size and selection, sampling techniques and procedures, data collection methods, data collection instruments, quality control (validity and reliability), procedure of data collection and data analysis.

3.2 Research design

This study used a descriptive case study design. This enabled me gain an in-depth understanding of the factors affecting availability of essential medicines, measure the study hypothesis and make reliable deductions/ recommendations.

Descriptive case study designs emphasized detailed contextual analysis of a limited number of events or conditions and their relationships thereby enabling the researcher to understand complex issues and extend experience or add strength to what is already known through previous researchers, (Amin, 2005). The study employed both qualitative and quantitative methods of research to gain a deeper understanding of the problem (Triangulation). Triangulation enabled the researcher to have a variety of issues examined, (Amin, 2005).

The quantitative approach was used to quantify data collected in order to generate meaningful descriptions and to examine the effect between the independent and dependent variables using

information obtained from questionnaires. The qualitative approach was used to give an explanation to and describe findings using interviews and documentary analysis. All these will enable getting data that can be used to find solutions for the research questions on influential factors that affected availability of EMHS. The quantitative approach was used to quantify incidences in order to describe the current conditions and to investigate the factors that affected availability of EMHS in Uganda; a case study of Soroti Regional Referral Hospital and establish the relationship between the independent and dependent variables.

3.3 Study population

The population under study was 260 staff of Soroti Regional Referral Hospital (staffing establishment 2013/2014). The researcher also interviewed patients of Soroti Regional referral Hospital to corroborate the study findings.

3.4 Sample size

A sample of 152 hospital staff was selected using Krejcie and Morgan (1970) from the accessible population of 260. Other 20 respondents including district (10), Sub county (5) and Civil society (5) respondents were targeted as key informants under the study.

3.5 Sampling techniques and procedure

In the study, both purposive and simple random techniques were used to select respondents.

The purposive sampling was used as it allows the researcher to choose cases and respondents with the required characteristics enabling the researcher to collect information from a knowledgeable category of persons. On the other hand, simple random sampling technique, a technique that allows for an equal chance for each individual to be chosen from the population was applied on selecting the respondents. By this method the sample was drawn without bias

from the study population, with all members of the population having an equal chance of selection (Burns, 2000).

3.6 Data collection methods

The research considered the use of the interview, Questionnaire survey and documentary review methods as detailed below

3.6.1 Interviews

Semi-structured questionnaires/ interview questions were drafted, piloted and finalized. The guides facilitated consultation to collect information from the key informants at the district, sub-county and Organizational levels as well as the development partners and responses recorded. The transcribed responses of the interviewees provided greater insights into the study as it corroborated the findings analyzed from questionnaires, documentary reviews and other in literature reviews conducted.

3.6.2 Documentary review

As a general background, the study accessed relevant literature from the health sector, including key government documents relating to the health sector plans, reports, strategic policy documents and budgets, both nationally and internationally. Based on these documents accessed, the study strengthened the investigation arguments by documenting and analyzing, using rapid documentary review approach. Among the documents reviewed were budgets, procurement plans, monthly reports, stock cards, work plans, annual planning and progress reports, evaluation reports and strategic plans among others. These records helped to validate the findings obtained through other research instruments.

3.6.3 Questionnaire survey method

This method involved preparing a set of closed ended questions in relation to factors affecting availability of essential medicines, (Chandan, 1995). The reason to the choice of this method was because it facilitates the collection of quantified data in a short time, guarantees respondent anonymity and is cost effective.

3.7 Data collection instruments

3.7.1 Self administered Questionnaires

Mugenda & Mugenda (1999) acknowledges that the use of self-administered questionnaires allows the researcher to collect data from several respondents within the shortest possible time. The SAQ contained closed ended questions based on a five item likert scale with multiple choices of answers from which they select the most appropriate. The instrument was administered to the hospital staff as service providers, see (**Appendix II).**

3.7.2 Documentary review check list

The researcher used a documentary check list to peruse through various documents containing information on availability of essential medicines. The documents reviewed included budgets, procurement plans, monthly reports, stock cards, work plans, annual planning and progress documents/reports, evaluation reports and strategic plans among others The instrument enable or guided the researcher in getting accustomed with the situation relating to medicines availability and consumption. More so, the researcher focused on the specific documents needed to collect secondary data on administrative regulations, stakeholder behavior and office management, see (**Appendix III**)

3.7.3 Interview Guide

This instrument was designed and contained mainly open ended questions pertaining to the factors affecting availability of essential medicines. It contained a list of questions upon which the researcher based to probe the interviewee for more valuable information. The instrument was applied on key interviewees including the District staff, Sub county and CSO/NGO staff. In addition, Interview guide**s** are good because they help in obtaining non-verbal clues from the respondents (Sekaran 2003) as cited by Mukose, (2012). This instrument was used because it is convenient for the respondents with limited interaction time; See **(Appendix, V)**

3.8 Validity and reliability

The researcher pre-tested research instruments to make sure that valid and reliable data was collected thus able to produce findings that are in agreement with conceptual values, produce accurate results and measure what was supposed to be measured.

3.8.1 Validity

Content validity was censured by testing the questionnaires in another health unit. The researcher subjected the instrument to expert judgment and this guidance was sought from the supervisors at UMI. The supervisor evaluated the relevance of each item in the instrument to the objectives of the study to establish the validity of the instrument. The questionnaire was rated on the scale where 4 (very relevant), 3 (Quite relevant), 2 (somewhat relevant), 1 (Not relevant). The then rated questions of 4 and 3 was taken into consideration. To calculate the content validity, the total outcomes was divided by the total number of questions in the questionnaire. If the content validity was high, then the instrument would be able to measure what it was supposed to.

3.8.2 Reliability

Polit & Hungler (1999:246) states that reliability refers to the stability, consistency or dependability of an instrument. An instrument, which is reliable, measures accurately and reflects the time score of the attributes under investigation. The instrument was pretested in a government Health Unit in Soroti district which is the area of the study. Mugenda & Mugenda (1999) suggested that the pilot sample may range from 1-10% and in this study; based on this, the researcher identified 10 respondents not part of the study upon which the instrument was administered. The internal consistency technique specifically the alpha cronbach was used to ensure reliability of the instruments with the results obtained presented in Table I below.

Table 1: Reliability results

Conbach's Alpha	Conbach's Alpha Based on Standardized Items	Number of questionnaires
.810	.884	10

Reliability was done by administering the test to a sample population outside the study population. 10 questionnaires were administered. The data was coded and a Conbach's alpha coefficient of reliability revealing the validity of 0.8. This is in agreement with Garson (2006) who states that a tool with an alpha coefficient of 0.70 and above is considered reliable.

3.9 Procedures of data collection

Upon successful defense and approval of the proposal by UMI, the researcher will obtained a cover letter from UMI and permission from the management of the hospital to conduct the research. Before going to the field, the researcher trained 2 research assistants for 2 days to have

them acquainted with the questionnaire and made sure that they understood every item therein so as to administer it with confidence.

3.10 Data analysis

Completed questionnaires were coded, edited and checked for completeness, accuracy, uniformity and comprehensiveness. The coded questionnaires were entered in SPSS version 20.0 computer package for analysis. Content analysis was performed on qualitative data to examine the intensity with which certain words/phrases were used and frequencies generated.

Once the questionnaires were completed and collected, the researcher worked together using data entrants to process data. The data sets were analyzed using the SPSS version 20.0 computer package and results are presented in form of tables and pie charts as percentages and frequencies. Correlation statistics and regression analysis have been performed to examine the effects of one variable (influential factors) onto the other variable. The result of data analysis is presented in line with the hypotheses and literature presented on each objective. Finally conclusions and recommendations have been made on the factors affecting the availability of EMHS in Soroti Regional Referral Hospital.

3.11 Measurement of Variables

The study adopted both the ordinal and nominal scales on the variables. Questions on office rules and administrative regulations, stakeholder behavior, office/staff management and availability of essential medicines were linked to a five item likert scale ranging from 1-5 (1: Strongly Disagree, 2: Disagree, 3: Not Sure, 4: Agree and 5: Strongly Agree). These score reveal a rank of data and therefore, ordinal scale was applied. On the other hand, nominal scale was applied on non-ranked data specifically the back ground information about the respondents specifically, gender, category, level of education and age among others.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF RESULTS

4.1 Introduction

This chapter forms chapter four of the study. The chapter presents study findings/results. The findings/results are presented according to the objectives of the study. However before the study findings are presented it is critical that study respondents' attributes are shared under this chapter.

Table 2: Response Rate:

Method	**Planned**	**Actual**	**Percentage**
Questionnaire	122	122	100
Interviews	20	18	90
Overall Total	**142**	**140**	**95**

Newman (2000) gives the formula for calculating the response rate as

Total number of responses over the total number of the sample.

Lin 1979 asserts that the response rate of 50% or higher is adequate, mean while a response of 100% is very good. In this case, the study response rate is adequate since it's at 95%.

4.2 Data Analysis

4.2.1 Office Laws and Administrative regulations and availability of Essential Medicines (OAREM)

Table 3: Summary of knowledge of key office laws and administrative regulations

Objective I Study questions	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
Soroti Regional Referral Hospital makes annual medicines procurement plans and budgets	.8	0.0	12.3	52.5	34.4
The process of medicines procurement planning is involving and participatory done by staff	5.9	11.5	0.6	63.1	18.9
The medicine procurement plans are generated using the information from the Health Management Information Systems	0.0	7.4	13.9	58.2	20.5
The medicines procurement budget is adequate to address the medicines requirements of the patients in Soroti Regional Referral Hospital	1.6	26.2	18.9	42.6	10.7
The Hospital management uses the budget as a planning; monitoring and reporting tool	2.5	3.3	18.9	51.6	23.8
The hospital uses the budget for lobbying and advocating for policy changes	2.5	23.0	30.3	39.3	4.9
The Hospital Medicines procurement plan receives adequate financial allocation from the ministry	4.9	23.0	24.6	37.7	9.8
The Hospital medicine procurement planning is done without interference by national guidelines and regulations	5.7	34.4	27.0	27.9	4.9
The hospital medicines supply/delivery by NMS is always timely	9.8	41.8	12.3	32.8	3.3
The National Medical stores addresses all the Hospital Medicines needs adequately	7.4	42.6	18.0	28.7	3.3
The push system of medicines procurement has improved availability of medicines	11.5	14.8	32.0	36.9	4.9
Under the push system the decision making processes regarding medicines procurement has improved	12.3	22.1	32.8	28.7	4.1
The Hospital has full capacity to plan and manage the procurement of essential medicines	3.3	3.3	11.5	57.4	24.6
There are clear and set rules, procedures and	5.7	5.7	8.2	54.9	25.4

guidelines governing the management of medicines in the Hospital					
The Hospital uses Health Information Management System (HMIS) for medicines management	2.5	5.7	6.6	63.9	21.3
The hospital has records staff/IT to guide medicines information management	.8	3.3	10.7	63.1	22.1
The Hospital has tools i.e. stock/bin cards etc for managing storage and release of medicines	1.6	1.6	9.8	58.2	28.7
The Hospital has adequate skilled staff to manage the supplies and storage well	0.0	14.8	13.1	51.6	20.5
The bin cards are accurately updated on a regular basis	1.6	9.0	28.7	41.8	18.9
The various rules; guidelines and regulations are documented and communicated to all staff	2.5	9.0	13.1	55.7	19.7
The various rules, guidelines and regulations are documented and communicated to medicines patients	2.5	17.2	22.1	46.7	11.5
The roles of staff handling storage and dispatch of medicines are documented and clearly communicated to them	3.3	4.9	14.8	60.7	16.4
There are clear guidelines from Ministry of Health on HMIS specifying tasks associated to each role to the hospital	1.6	3.3	13.9	59.8	21.3
There is adequate supervision and follow up from MoH and Hospital management on staff to ensure efficient and effective operations	2.5	7.4	16.4	54.9	18.9

For purposes of this study, the researcher combined responses of Strongly Disagree and Disagree to mean *Disagree* while those of Strongly Agree and Agree to mean *Agree*. In this case responses *of Not sure* stood alone in this analysis.

The researcher sought views of respondents on whether Soroti Regional Referral Hospital makes annual medicines procurement Plans and budget, in which 87% of respondents agreed while 8%

disagreed. Under the same question, 12.3% of respondents were not sure. *Review of documents revealed that the Hospital indeed makes annual plans and budgets although these are guided by the allocated votes from the Ministry of Health and not determined by the Hospital.* This implies that while the researcher targeted staff of the Hospital, it's not true that every staff is aware of the planning and budgeting processes of the Hospital. As to whether budgeting is participatory, 82% of respondents agreed, 11.5% disagreed and 0.6% were not sure. This confirms the earlier finding that while a bigger percentage of staff agreed that the planning and budgeting process is involving and participatory, not all staff participated in planning and budgeting at Soroti Regional Referral Hospital according to this study. They also further confirmed that the medicines procurement planning and budgeting benefits from the available information from the Health Management Information System (HMIS) as 79% agreed and 13.3 disagreed. Only 13.9% were not sure under this question. In a related development, 85% of respondents agreed that the Hospital uses HIMS to manage medicines while 8.2% and 6.6% disagreed and were not sure respectively. HMIS, 85% agreed, 4% disagreed and 11% of respondents remained unsure on whether the Hospital had records/IT staff to guide medicines information management. Asked whether the Hospital has tools i.e. stock/bin cards for managing storage and release of medicines, 87% agreed, 3.2% disagreed while 9.8% were not sure.

The above findings were further confirmed during interviews in which one respondent said, *"The planning is participatory and the Hospital sends the plan and budget to the Ministry of Health for implementation, the only challenge is if the drugs stated in the plan are not available at the National Medical Store".* Further, literature review at the unit of pharmacy revealed that there is stock cards and is accurately updated by the staff reflecting the correct drug status. This finding disapproves the earlier finding by The Ministry of Health Uganda, (2010) Survey on EMHS availability that revealed discrepancies in Bin/Stock card balances and physical count of stocks

at all health facilities visited across the five levels. HC IIs had the highest (40%) discrepancy between spot check physical count and BIN card balance. RRHs had an average discrepancy of 31% while the discrepancy at HC IVs averaged 30%. The lowest discrepancy (26%) was at HC III. The results showed that the Bin/Stock cards do not reflect the correct position of stock levels at the health facilities. In most cases, the balance reflected on BIN Cards was much higher than the physically available stock. Stock card balances are therefore not a reliable indicator of availability of EMHS in the facility.

The researcher sought to know whether the Hospital has adequate skilled staff to manage the supplies and storage of medicines in which 72% agreed and 15% disagreed. Only 13% were not sure. Related to the above, 60.7% agreed that the bin cards are accurately updated on a regularly basis while 10.6% disagreed and 28.7% were not sure. *The above finding was also confirmed during review of documents in which regularly updated bin cards were available at the store of the pharmacy.* This also disapproved the findings By the MOH survey in which it was noted that in addition to inadequate staff, the available workers largely lacked the capacity to utilize the Bin cards accurately. In the contrary, this study has confirmed the earlier finding the MOH that the higher HUs (RRHs and GGHs) had relatively competent staff that could handle stock cards competently.

When asked whether the medicines procurement budget is adequately addressing the requirements of the patients, 53.3% agreed, 28% disagreed and 19% were not sure This was not in agreement with views collected during interviews in which one respondent remarked, *"if the hospital is to improve on the availability of drugs, there is need for the hospital administration to try and lobby for more funds from external sources since the hospital budget is quite small and inadequate to sustain the high number of patients who come from all over the region. This can also help in the sustainability of drugs stocked in the hospital store".* 75.4% of respondents

agreed, 5.8% disagreed and 18.9% were not sure that the budget is used as a planning, monitoring and reporting tool by the Hospital. As to whether the budget is used as a lobbying tool, 44.2% agreed, 25.5% disagreed and 30.3% were not sure. Also 47.5% agreed, 30% disagreed and 24.6% were not sure that the Medicines procurement plan receives adequate financially allocation from the ministry of Finance.

On seeking views of whether medicines procurement planning and budgeting is done without interference from national guidelines, 32.8% agreed while 40.1% disagreed and 27.0 were not sure. This points to the fact that the Hospital enjoys limited autonomy to carry out planning and budgeting and could further suggest that the level of interference is relatively higher according to these findings and is confirmed by Scharpt 1997; and Peters 1988, who argued that Under decentralized service delivery, health policy should be seen as an ongoing struggle for power and influence among individuals and collective actors operating within institutional structures that provide both constraints and opportunities. They further asserted that those institutions define decisions processes, participation and roles and they influence strategic options for the actors. Actors that feel particularly constrained in a centralized setting may attempt to promote policies of decentralization and vice versa. This finding was in agreement with results from interviews in which one of the senior staff at the Hospital said, *"The hospital only does planning for already allocated financial votes at the center. In fact the Hospital is just a unit in the Ministry of Health that benefits from the national allocations hence does not determine the budget"* This is also in unison with (Hutchinson 1999) who argued that, "Many important decisions remain under central control, and those that have been devolved to the district do not filter down, thus creating an "insufficient centralized system within each district".

The researcher proceeded to find out the timeliness of delivery of medicine stock by NMS. Only 36.1% agreed while 51.6% disagreed as 12.3% remained unsure and 32% agreed, 50% disagreed

and 18% were not sure that the NMS addresses the hospital medicines needs adequately. The researcher was also interested in understanding whether the push system of drug procurement has improved availability of medicines. 42% agreed, 26.3% disagreed and 32% were not sure. This was supported by interviews in which one interviewee stated that "*The push system of drug procurement ensures that drugs urgently needed by Soroti Regional Referral Hospital can easily be delivered on a timely basis and this creates efficient and proper accountability of drugs that are delivered."*

This means that less than half of the staff interviewed appreciated the current medicines procurement and delivery system. Regarding improvements in decision making under the push system, 32.8% agreed, 34.4% disagreed and 32.8% remained unsure. This relates to the earlier finding that Soroti Regional Referral Hospital is autonomous and does decision making without interference.

Under capacity to plan and manage the procurement of essential medicines, 82% agreed, 6.6% disagreed that the hospital has resident capacity to do so. Only 11.5% remained unsure. This presents a challenging situation where by the Hospital capacity to plan and manage procurement is affected by limited autonomy and decision making as confirmed under the earlier finding. Moreover when 80% agreed that there are clear and set rules, procedures and guidelines governing the management of medicines in the Hospital. Asked whether the various rules and regulations are documented and communicated to all staff, 75% agreed, 11.5% disagreed and 13% were not sure. To this end therefore, one would expect the Hospital to handle medicines planning, procurement and management independently without much central interference. On the other hand, asked whether these guidelines are communicated to patients, 58.2% agreed, 19.7% disagreed and 22.1% were not sure.

This implies that the Hospital despite having a client's charter, provision of information to staff is relatively higher than to the clients hence a needs to improve on availing information to the patients as a right of clients under the clients charter. Through observation, the researcher verified that the Hospital has a clients' charter but evidence of interaction with the clients/patients confirmed that they are not informed about the provisions under the charter. Whereas 77% of respondents agreed that the roles of staff handling storage and dispatch of medicines are documented and clearly communicated to them, 81% also agreed that there are clear guidelines from the ministry on HMIS specifying tasks associated to each role. On both of the two questions, less than 10% disagreed and less than 30% were not sure; while 74% agreed that there is adequate supervision and follow up by the MOH and hospital management on staff for effective and efficient operations at the Hospital while less than 10% disagreed and 16.4 were not sure. One can therefore conclude that the Ministry has done relatively a good job in terms of supporting hospital operations as opposed to NMS according to this study.

4.2.2 Measurement of Relationships

The researcher measured the relationship between Office laws and administrative regulations and availability of essential medicines and obtained the following results:

Table 4: Correlations

Study Variables		OAREM	AEM
OAREM	Pearson Correlation	1	.078
	Sig. (2-tailed)		.392
	N	122	122
AEM	Pearson Correlation	.078	1
	Sig. (2-tailed)	.392	
	N	122	122

This result indicates that the Pearson correlation between these variables is positive (.078) when using a two tailed hypothesis implying that there is a positive but weak/statistically insignificant relationship between office laws and administrative regulations and availability of essential medicines.

4.2.3 Regression Analysis between Office laws and administrative regulations and availability of essential medicines:

Table 5: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.010	.441		6.818	.000
	OAREM	.105	.122	.078	.858	.392

a. Dependent Variable: AEM

To find out how much the predictor variables affect the predicted, I ran a correlation and found that all the independent variable has no effect at all on the dependent variable as sig. value is .392 well above 0.59.

Table 6: Stakeholder behavior and availability of Essential Medicines (SHBEM)

Objective II					
Study Questions	**Strongly Disagree**	**Disagree**	**Not Sure**	**Agree**	**Strongly Agree**
The level of poverty amongst the community members greatly influences the medicine consumption	1.6	.8	9.0	52.5	36.1

The level of education determines the disease burden imposed on the hospital	3.3	11.5	18.0	47.5	19.7
The population resorts to private health providers when medicines are not available at the Hospital	5.7	8.2	9.0	41.8	35.2
The needs of the people is higher than the essential medicines available	.8	4.9	7.4	59.8	27.0
The procurement planning directly addresses the needs of the people	2.5	23.8	13.9	50.8	9.0
The type of medicines consignment supplied address the actual needs of the patients	.8	21.3	27.0	44.3	6.6
The available information on medicines management makes the Hospital to be responsive to the needs of the patients	.8	3.3	8.2	76.2	11.5
The demands from the patients are overwhelming the health staff and medicines	2.5	3.3	9.0	48.4	36.9
The needs of the patients have never been adequately met by the available medicines stock	.8	9.8	9.8	50.0	29.5
Availability of essential medicines increases the level of community satisfaction on government health service delivery	1.6	13.9	12.3	43.4	28.7
The higher the vulnerability, the higher the need for essential medicines	.8	6.6	6.6	65.6	20.5
The Regional Referral Hospital is adequately prepared to attend to the needs of all referred patients from lower units.	4.9	16.4	5.7	51.6	21.3
The behaviour of patients is to blame for constant drug stock outs	11.5	21.3	21.3	32.8	13.1
The people including non sick ones flock the hospital on hearing that medicines have been delivered	1.6	5.7	9.0	44.3	39.3
The cultural norms of patients affects availability of essential medicines	9.0	45.1	16.4	23.8	5.7
The behaviour exhibited by patients reflects their knowledge levels regarding medicine consumption	2.5	23.0	32.0	33.6	9.0

Asked whether the level of poverty greatly influences the medicines consumption, up to 88.6% agreed, 2.4% disagreed and 9% remained unsure. There is however, hope that the poverty situation will be reversed as the proportion of people living below the poverty line is expected to decline from the level of 31% in 2005/06 to about 24.5% in 2014/15 according to the National Development Plan (NDP) 2010/11-2014/15. Although the Uganda's economy is registering varying growth rates, its projected that Growth Domestic Product (GDP) will reach an average of 7.2 % per annum. At this GDP growth rate, nominal per capita income is projected to increase from USD 506 in 2008/09 to about USD 850 by 2014/15. Related to the above, 67.2% of respondents agreed that education levels determined the disease burden imposed on the hospital while 14.8% disagreed and 18.0% were not sure. This presents a worrying situation as many reported that while the disease burden increased, the Hospital has limited capacity to respond to the needs implying that the population is at a risk of experiencing higher mortality rates if this is not reversed. The researcher in view of the above situation asked about where people resort to when the hospital is unable to attend to the client's needs and 77% agreed that people resort to private service providers, 13.9% disagreed and 9% were unsure. This trend has led to emergence of many private health providers most of whom providing low standardized quality services without adequately being checked by the district and health authorities.

This could leave many people with unmet needs or receiving sub standard services as confirmed by 87% who agreed that the needs of the people are higher than the medicines available at the Hospital and 85% agreeing that the demands from the patients are overwhelming the health staff and medicines. 79% of respondents also agreed that the needs of patients have never been met adequately by the Hospital while less than 11% disagree as less than 10% were not sure. This finding was further supported during interactions with the patients as one stated *"The hospital is overwhelmed and has never addressed our needs".* Related to the above, one interviewee

working at the hospital said *"the problem we have is the people who do self referral. Instead of accessing medication at the lower units, they rush to the regional referral hospital causing shortages of drugs".* As to whether procurement planning targets to directly address the needs of the people, 60% agreed, 26.3% disagreed and 13.9% were not sure. Also, 51% agreed that the type of medicines consignment supplied addressed the actual needs of the patients while 22% disagreed and 27% were not sure. It can therefore be deduced that the medicines supplied certain times is not what is actually required by patients. There is therefore a need for NMS to consult the User departments before packaging and delivery of medicines consignments. The researcher also found 88% of respondents agreeing that the available information on medicines management makes the Hospital to be responsive to the needs of the patients while less than 5% disagreed and less than 9% were not sure.

The above findings are further confirmed by (Lee 2004) who discovered that despite wide focus on improvement of the existing infrastructure and donor funding, there is still low satisfaction with health services and poor perceived accessibility. He added that the involvement of the poor and vulnerable will be crucial in providing services that are perceived to be responsive to their special needs.

Lee, (2004) specifies that to make the supply chain component of distribution and logistics efficient, it has to respond to short-term changes in demand or supply quickly and to handle external disruptions smoothly. Hence an efficient supply chain has to be responsive to changes in the market. Responsiveness requires that accurate information is available to facilitate decision making. Information technology can help to process and share information. Timely flow of information facilitated by collaborative inter linkages enable supply chain members to be responsive to customers' needs and act very fast (McCarthy and Golicic, 2002). This is crucial in ensuring accountability to a wider range of stakeholders.

On whether availability of medicines increases community satisfaction, 72% agreed and 15% disagreed while 12.3 were not sure. This could imply that the absence of medicines generates negative community reactions and feelings that may cause loss of confidence on government hospitals and resorting to private service providers as confirmed earlier by this study.

It study further asked whether the level of vulnerability affects availability of medicines and 86% agreed, 7.4% disagreed while 6.6% remained unsure. In a community like Teso, Karamoja, Lango, Bugisu and Busoga who are the major users of service in Soroti Regional Referral Hospital, one can conclude that common disasters such as floods, drought, and wars among others which have constantly attacked those communities annually have consequently imposed a burden on the hospital. Seeking to know whether the Hospital is prepared to attend to all the needs of the referred cases from lower units, 72.9% agreed, 21.3% disagreed and 5.7% remained unsure. This contradicts with the earlier finding that the Hospital and staffs are overwhelmed by the number of patient requiring attention. One can conclude that while the Hospital is aware of its role as a Regional Referral Hospital, the pressure from the patients often times make it unable to address all the needs of patients it receives.

Regarding behaviour of patients, 46% agreed that patients are to blame for constant stock outs while 33% disagreed as 21%; a finding compounded by 84% agreeing that people flock the Hospital on hearing that medicines have been delivered. This finding agrees with The EMHS supply and Utilization survey of 2010 by the Uganda Ministry of Health showed health units reporting that once medicines were delivered, even people who were not seek flocked them overwhelmingly. This was in agreement with some interviewees, who felt that there is still need to strengthen administrative regulations by saying, *'The hospital administration should put in place a system that checks irrational use of drugs, this is because self medication makes clients tend to demand for particular treatment (drugs) which leads to wastage of other drugs"*

Another respondent added that *"the hospital management and entire staff should always make serious assessments on drug prescription to ensure that drugs are prescribed based on diagnosis and lab investigation'.*

One can conclude that community members attempt to collect medicines and stock them to respond to future disease attacks. This is a dangerous practice as medicines storage and intake requires specific instructions by the dispenser hence requiring community education on drug use to minimise this trend that undermines availability of medicines at the Hospital.

On culture and availability of medicines, only 29% agreed that cultural norms affect availability of medicines while 54% disagreed and 16% were not sure. One can deduce that there is a weak relationship between cultural norms and availability of medicines. Related to the above, 43% of respondents agreed that the behaviour exhibited by patients reflects their knowledge levels regarding medicine consumption while 25% disagreed and 32% remained unsure. One can therefore argue that the higher the knowledge, the more likely that peoples' medicines consumption will improve. This also requires that people are sensitized to enhance their knowledge for better usage of medicines. This finding further agrees with the assertion that in principle, the public sector exists to serve the health needs of the population, including ensuring sufficient supply, availability and accessibility of essential medicines and health supplies (EMHS). Existing evidence in Uganda suggests that demand for EMHS still far exceeds supply. A study report published by Health Action International (HAI) and World Health Organization in 2004 suggested that more than half the population obtains essential medicines from the private sector, where they are more available (76%) than in the public (14%) and in the private-not-for-profit (36%) sector. Evidence of interaction and observation at the Hospital also revealed that the patients who were flocking the Hospital were those who could not afford medication at the price

of the private service providers hence preferred attending to the hospital requirements, pace and difficulties.

4.2.5 Measurement of relationships

The researcher further proceeded to measure the relationship between stakeholder behavior and availability of essential medicines. The following results were obtained:

Table 7: Correlations

		SHBEM	AEM
SHBEM	Pearson Correlation	1	.019
	Sig. (2-tailed)		.835
	N	122	122
AEM	Pearson Correlation	.019	1
	Sig. (2-tailed)	.835	
	N	122	122

This result indicates that the Pearson correlation between these variables is .019 when using a two tailed hypothesis implying that there is a positive but weak relationship between stakeholder behavior and availability of essential medicines. The relationship is not statistically significant since the computed p-value (Sig.) is greater than 0.059 (=0.835).

Table 8: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.289	.469		7.019	.000
	SHBEM	.026	.125	.019	.209	.835

a. Dependent Variable: AEM

To find out how much the predictor variables affect the predicted, I ran a correlation and found that all the independent variable has no effect at all on the dependent variable as sig. value is .000. The above findings are interpreted to mean that the predictor explains only up to .0% of the predicted leaving 100% unexplained under this study. This means that the relationship is statistically very insignificant.

4.3 Office Management and availability of Essential Medicines (OMEM)

Table 9: Office Management and Availability of Essential Medicines

Objective III					
Study Questions	**Strongly Disagree**	**Disagree**	**Not Sure**	**Agree**	**Strongly Agree**
The hospital has staff responsible for management and dispensing medicines	.8	2.5	5.7	58.2	32.8
The information regarding medicines is well stored , managed and availed to public easily	2.5	6.6	19.7	51.6	19.7
The hospital has adequately qualified staff to manage medicines	4.9	9.0	10.7	55.7	19.7
The hospital staff make timely requests and medicines orders	0.0	4.9	12.3	59.0	23.8
The staff are always present to address client medicine needs	3.3	4.9	11.5	64.8	15.6
The hospital staff are well paid and are motivated to do their roles	29.5	27.0	17.2	18.0	8.2
The hospital staff are well trained in record keeping and planning for essential	1.6	18.0	7.4	57.4	15.6

medicines					
The hospital staff have a sense of ownership of the medicines affairs	2.5	11.5	16.4	59.8	9.8
The hospital staff are professionally trained to manage medicines procurement, storage and dispensing	0.0	2.5	12.3	63.1	22.1
All the hospital staff handling health supplies have relevant qualifications	1.6	6.6	11.5	62.3	18.0
The Hospital staff always handle their roles in a professional manner	.8	3.3	7.4	64.8	23.8
The Hospital staff are partly to blame for constant stock outs of essential medicines	13.9	34.4	17.2	26.2	8.2
The hospital management has adequate mechanisms for disciplining un professional staff conduct	0.0	2.5	11.5	60.7	25.4
The Hospital management avails all information relating to price, source, quality and quantity of essential medicines to the public	9.0	29.5	29.5	23.0	9.0
There is a notice board for display of information relating to medicines procurement and dispensing	2.5	9.8	22.1	54.1	11.5
The Notice Board is in a public place accessible to public	2.5	6.6	15.6	52.5	23.0
There are accountability guidelines in place to guide usage and reporting on medicines	.8	4.1	20.5	53.3	21.3
The accountability guidelines are documented and disseminated to all staff regarding medicine management	1.6	12.3	18.0	55.7	12.3
Proper accountability is one way to ensures availability of essential medicines	.8	1.6	6.6	51.6	39.3
The Hospital operations are inspected by either the Ministry or district authorities to ensure proper accountability	1.6	3.3	22.1	38.5	33.6

Regarding personnel and availability of essential medicines, the researcher sought to understand whether there are adequate staff, qualified, well trained, and professional at work and hold relevant qualifications. On average, 82% of respondents agreed that the Hospital has adequate staff, qualified, well trained, professional at work and hold relevant qualifications as opposed to less that 15% who disagreed and less than 10% who remained unsure. These findings provide an improvement in terms of staffing, training and professionalism as opposed to what was found by the Tropical Journal of Pharmaceutical research report, (2010) whereby the One of the major challenges in ensuring effective management and storage of medicines was lack of adequate training in medicine management and storage. This was further reinforced in the Uganda Ministry of Health survey of Essential Medicines and Health Supply Survey October, (2009) that discovered that health Units were understaffed and the problem was in numbers and in qualifications of the health workers. It was further revealed in the same survey that Nursing Assistants instead of Enrolled Nurses managed 41% of the sampled HC IIs. It also observed that while a HC III is supposed to be managed by a Senior Clinical Officer, only 17% (4 out of 24 sampled HC IIIs had this position filled. It was also found out that where there were better qualified health workers, the substantive in-charges were often absent thus leaving the HC s to the less qualified persons. In fact, 45.8% (11out of 24) HC IIIs visited had their in-charges absent. The implication of this is that the personnel left in charge could hardly measure up to the responsibility of managing a health unit hence failure to keep records and to plan for the respective health units posing challenges in terms of obtaining reliable date necessary for planning especially for stock and could explain why there were constant stock outs.

Basheka and Mugisha, (2008) in a paper, “Measuring Professionalism and its implication to Procurement outcomes in Uganda”; presented during the third International Public Procurement Conference Proceedings, further observed that 56% of the personnel that were handling health

supplies procurement at the time of the study had qualifications in business and commerce related disciplines, 30% had qualifications in Arts and social sciences and 12% had science related qualifications, a finding that indicates the low levels of evolution of the procurement function at that time. This trend showed a worrying situation for Uganda's health system in which non professionals were deployed to do work in wrong professions.

Asked whether the staffs are well paid, only 26% agreed and 56% disagreed while 17.2 were not sure. While many agreed that staffs are not well paid, 71% agreed that staff have never the less managed and stored information regarding medicines and availed to public easily, 83% agreed that staff make timely requests and medicine orders and 70% agreed that the staff have a sense of ownership of medicines affairs and less than 20% disagreed and less than 10 were not sure. When asked on whether the Hospital staffs are partly to blame, only 34% agreed, 48% disagreed and 17% were not sure. As observed in the earlier sections in which 46% of the respondents stated that the community takes higher blame for constant drug stock outs. Regarding discipline of staff, the researcher asked whether the Hospital has adequate mechanisms for disciplining un professional staff conduct and 86% agreed, 2% disagreed and 11% were not sure. This could mean that the hospital administrative measures are adequate. Emphasis needs to be on whether these mechanisms work for effective and efficient hospital operations.

On accountability mechanisms, the researcher asked whether the Hospital avails information regarding price, source, quality and quantity of Essential Medicines to the public and 32% agreed whereas 38% disagreed. 30% were not sure. When asked of the notice board, 66% agreed that the Hospital has a notice board for display of information and 75% agreed that the notice board is in a public place accessible to public as 9% disagreed while 16% were not sure. Related to the above, 75% of respondents agreed that there are accountability guidelines to guide usage and reporting on medicines as 5% disagreed and 20% were not sure. As to whether the accountability

guidelines are documented and disseminated to all staff, 68% agreed, 14% disagreed and 18% were not sure While 91% agreed that proper accountability is one way to ensure availability of medicines. 2% and 7% disagreed and were not sure respectively.

On operations and supervision of the Hospital, 72% agreed that the Hospital operations are inspected by either the Ministry or the District authorities to ensure proper accountability. This could imply that the hospital operations are under proper support for effective and efficient operations. There is therefore need to strengthen other aspects like timely delivery, staff motivation among others.

These findings disapprove the Ministry of Health Annual Sector Performance report 2011/12 which highlighted that there was need for Uganda to; increase staff accountability and crate a rewarding/sanctioning system (fight impunity), operationalize clear and transparent funds allocation at district and HSD level. In fact Transparency International estimates that 10-25% of global public health procurement spending is siphoned off and stolen. This study reveals that the Hospital is adequately prepared to account for medicines and improve on effectiveness and efficiency of operations.

4.4 Measurement of Relationships

Table 10: Correlations

		OMEM	AEM
OMEM	Pearson Correlation	1	-.027
	Sig. (2-tailed)		.764
	N	122	122
AEM	Pearson Correlation	-.027	1
	Sig. (2-tailed)	.764	
	N	122	122

The researcher further proceeded to measure the relationship between Office/hospital management and availability of essential medicines and obtained the following results:

This result indicates that the Pearson correlation between these variables is -.027 when using a two tailed test implying that there is a negative relationship between Office management and availability of essential medicines. The relationship is not statistically significant since the computed p-value (Sig.) is greater than 0.059 (=0.764).

Table 11: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.535	.496		7.133	.000
	OMEM	-.040	.132	-.027	-.301	.764

a. Dependent Variable: AEM

To find out how much the predictor variables affect the predicted, I ran a correlation analysis and found that the independent variable has no effect at all on the dependent variable as sig. value is .000. The above findings are interpreted to mean that the predictor explains only up to .0% of the predicted variable leaving 100% unexplained under this study. This means that the relationship is statistically very insignificant.

In order to understand how the variables are correlated, I ran a joint correlation analysis between Administrative regulations; stakeholder behavior; Office management and availability of Essential Medicines revealed the following results:

Table 12: Joint correlation of variables

		OAREM	SHBEM	OMEM	AEM
OAREM	Pearson Correlation	1	.386**	.582**	.078
	Sig. (2-tailed)		.000	.000	.392
	N	122	122	122	122
SHBEM	Pearson Correlation	.386**	1	.605**	.019
	Sig. (2-tailed)	.000		.000	.835
	N	122	122	122	122
OMEM	Pearson Correlation	.582**	.605**	1	-.027
	Sig. (2-tailed)	.000	.000		.764
	N	122	122	122	122
AEM	Pearson Correlation	.078	.019	-.027	1
	Sig. (2-tailed)	.392	.835	.764	
	N	122	122	122	122

**. Correlation is significant at the 0.01 level (2-tailed).

The above joint correlation of variables indicated a 0.0 level of significance for a two tailed test. This indicated a positive but very insignificant relationship between the variables when jointly correlated.

However, it's important to note that correlations do not mean causation hence the results of these correlations do not necessarily mean that the independent variables affect the dependent variable.

4.5 Joint regression analysis

Table 13: Model Summary

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	.506	3	.169	.626	.599[b]
	Residual	31.793	118	.269		
	Total	32.299	121			

a. Dependent Variable: AEM
b. Predictors: (Constant), OMEM, OAREM, SHBEM

To find out how much the predictor variables affect the predicted, I ran a joint regression analysis and found that all the independent variables have no effect at all on the dependent variable as sig. value is .599 greater than 0.059. This means that the coefficient is statistically insignificant

Table 14: Availability of Essential Medicines

Dependent Variable					
Study Questions	**Strongly Disagree**	**Disagree**	**Not Sure**	**Agree**	**Strongly Agree**
Donations to the Medicines budget reduces the disease burden	.8	5.7	19.7	60.7	13.1
The medicines procurement budget is critical in reducing the disease burden	3.3	.8	17.2	49.2	29.5
Centralized medicine procurement affects availability of essential medicines	6.6	4.9	27.9	47.5	13.1
The pull system of medicines procurement has helped in increasing health seeking behaviour	3.3	4.1	21.3	54.9	16.4
The religious beliefs of people served greatly affect availability of essential medicines	14.8	33.6	22.1	26.2	3.3
The cultural norms of the patients affects availability of essential	18.9	36.9	23.8	16.4	4.1

medicines					
The irrational health seeking behaviour affects availability of essential medicines	1.6	26.2	27.9	36.1	8.2
The community and individual values increase community appreciation of health services	4.1	32.0	30.3	29.5	4.1
Professional training on medicines management affects staff motivation and performance	2.5	8.2	12.3	58.2	18.9
The hospital provides feedback to the patients relating to availability of essential medicines	.8	17.2	18.9	56.6	6.6

Under the Dependent Variable, the researcher asked whether donations to the medicines procurement budget reduces the disease burden and obtained the following responses; 74% agreed, 6% disagreed and 20% were not sure. Asked whether the medicines procurement budget is critical in reducing the disease burden, 79% agreed and 4% disagreed while 17% were sure. 61% agreed, 12% disagreed and 28% remained unsure on whether centralized medicines procurement affects availability of essential medicines. On the other hand, 71% agreed that the pull system of medicines procurement helps in increasing health seeking behaviour as opposed to 8% who disagreed and 21% remained unsure.

Regarding religion and Culture, Only 25% agreed that neither religion nor culture affects availability of Essential Medicines as opposed to 52% who disagreed and 23% who remained unsure. On the same note, 44% agreed that irrational health seeking behavior affects availability of essential medicines while 28% disagreed and 28% were not sure. As to whether the community and individual values increase community appreciation of health services , 34% agreed, 36% disagreed as 30% were not sure. 77% of respondents agreed that professional

training on medicines management affects staff motivation and performance. On the other hand, 11% disagreed and 12% remained unsure.

Lastly, the researcher sought to know whether the Hospital provides feed back to the patients relating to the availability of essential medicines and found out that 63% agreed, 18% disagreed and 19% were not sure.

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter presents major conclusions in this study arising from the findings of the study. The conclusions relate to the objectives for which the study was conceived. For avoidance of doubt the study was set out to answer the following specific objectives;

i) To find out how administrative regulations affect availability of essential medicines in Soroti Regional Referral Hospital
ii) To evaluate how stakeholder behavior affects availability of essential medicines in Soroti Regional Referral Hospital
iii) To find out how Office management affects availability of essential medicines in Soroti Regional Referral Hospital

5.1 Summary of the Findings

This section in the study briefly highlights the key findings as based on the specific objectives of the study.

5.1.1 Office laws and Administrative regulations and availability of essential medicines

Findings obtained in chapter four reveal a positive (.078) though statistically insignificant relationship between office laws and administrative regulations and availability of essential medicines. The following can be summarized mainly, medicines were available because the hospital did timely planning and budgeting for medicines procurement, essential medicines are available because the hospital has clear set rules and regulations governing medicines usage and

dispensing and the hospital keeps clear records on medicine dispensing. In addition, the ministry of health and district leadership does supervision of the hospital operations.

5.1.2 Stake holder behavior and availability of essential medicines

Findings obtained in chapter four reveal a positive (.019) though statistically insignificant relationship between stakeholder behavior and availability of essential medicines. The following can be summarized; the behavior and needs of people served affect availability of essential medicines. When medicines are not available, the patients needs overwhelm the hospital, patients resort to private health providers, people flock the hospital on hearing that medicines are available and people are largely to blame for constant stock out of essential medicines.

5.1.3 Office management and availability of essential medicines

Office management was found to have a negative relationship (.-027) with availability of essential medicines and one can say that all staff in the hospital have relevant skills, profession and are well trained to handle medicine dispensing and management, the hospital staff are dedicated despite low pay and motivation and the hospital staff are accountable on their duties

5.2 Discussions

5.2 Discussion

This section in the study gives an insight of key issues in the study based on the specific objectives of the study.

5.2.1 Office laws and Administrative regulations and availability of essential medicines

Findings obtained in chapter four reveal a positive (.078**) though statistically insignificant relationship between Office laws administrative regulations and availability of essential medicines. The regression results obtained attribute the variance on availability of essential medicines to other factors rather than office laws and administrative regulations. These

generalized findings can be supported by the way the numerous set questions were answered by the respondents for instance:

Many respondents (87%) agreed that the hospital makes annual medicines procurement plans and budgets while only (53%) agreed that the medicines procurement budget is adequate, just (36%) agreed that the medicines supply by NMS is timely. In a related incident, (75%) agreed that the hospital guidelines are documented and disseminated to staff yet only (58%) agreed that the guidelines are documented and disseminated to patients. This is further seen in Paina and Peters, (2011) argued that, to Improve medical supplies: Both centralized and decentralized medicines procurement may result in timely supply and improve quality (Ali, 2009); 2) Improvement of funding holistically will improve availability; Audibert and Mathonnat (2000), improve cash availability and management flexibility at the facility level.

The study has therefore approved the hypothesis that administrative regulations affect availability of essential medicines in Soroti Regional Referral Hospital although insignificantly.

5.2.2. Stakeholder behavior and availability of essential medicines

Findings obtained in chapter four reveal a positive (.019) though statistically insignificant relationship between stakeholder behavior and availability of essential medicines. The regression results obtained attribute the variance on availability of essential medicines to other factors rather than stakeholder behavior. These generalized findings can be supported by the way the numerous set questions were answered by the respondents for instance:

Only (33%) of respondents disagreed that the behavior of people is to blame for constant drug stock outs in hospitals while (84%) agreed that even non sick people flocked the hospital on hearing that medicines were delivered making (79%) to agree that the needs of the people have

never been met adequately by the hospital. This is further related to the (87%) respondents who agreed that the poverty level of people determined their medicines consumption.

The study has accepted the hypothesis that there is a relationship between stakeholder behavior and availability of essential medicines in Soroti Regional Referral Hospital although the relationship is statistically insignificant and approved Ensor and Cooper, (2004), Jacob's et.al, (2012) who stated that demand-side ATM barriers include perceived quality, health workers' attitude, as well as affordability of medicines and services. Kiwanuka et.al, (2008), Chuma et.al, (2010), and Patel et.al, (2010) who once noted that irrational health seeking behavior, medicines demand and use are also considered as contributing factors to reduced access. The first level of the health system is not limited to individual patients but extends to the households and communities. As mentioned, demand side barriers are present beyond the individual as they also relate to social and cultural characteristics, including stigma, determined by the household and community affiliations; Ensor and Cooper, 2004; Ruxin et.al, (2005). The study has further confirmed the EMHS supply and Utilization survey of 2010 by the Uganda Ministry of Health that showed health units reporting that once medicines were delivered, even people who were not sick flocked them overwhelmingly.

This was reportedly most common at HC II and HC IIIs where supplies were said to last 1 to 2 weeks because of the upsurge in client attendance immediately after delivery of supplies. This was revealed through use of comparison of client attendance 1 month before and 1 month after delivery of medicines. This trend was largely attributed to the fact that communities were sick but kept away because the drugs were not available and can only flock on hearing that the drugs have been delivered.

5.2.3 Office management and availability of essential medicines

Findings obtained in chapter four reveal a negative (.-027) relationship between stakeholder behavior and availability of essential medicines.

Averagely (82%) of respondents agreed that the hospital has adequate, professional, skilled and well trained staff to handle medicines affairs. While this earlier finding indicated so, only 32% of staff agreed that they are well paid and motivated to perform their roles. Relatedly, (86%) agreed that the hospital has adequate disciplinary mechanisms for disciplining unprofessional staff behavior while (72%) agreed that the ministry of health does adequate supervision of the hospital operations. This is further seen in Paina and Peters, (2011) who argued that, improving medicines availability should go as well with Human resource considerations adding that health staff may be confident to perform their work as medicines are available and vice versa. Uzpchukwu and Onwujekwe, (2005) added that if the situation is not addressed, there may however be a risk that health staff will focus on revenue generation activities at the expense of delivering preventive services.

The study has therefore disapproved the earlier finding that one of the major challenges in ensuring effective management and storage of medicines in Tropical Journal of Pharmaceutical research report, (2010) is lack of adequate training in medicine management and storage, a study which was further reinforced in the Uganda Ministry of Health survey of Essential Medicines and Health Supply Survey October, (2009) that discovered that health Units were understaffed and the problem was in numbers and in qualifications of the health workers. It also revealed that nursing assistants instead of enrolled nurses managed 41% of the sampled HC IIs. It also observed that while a HC III is supposed to be managed by a senior Clinical Officer, only 17% (4 out of 24 sampled HC IIIs had this position filled. It was also found out that where there were better qualified health workers, the substantive in-charges were often absent thus leaving the HC

s to the less qualified persons. In fact, 45.8% (11out of 24) HC IIIs visited had their in-charges absent. The implication of this is that the personnel left in charge could hardly measure up to the responsibility of managing a health unit hence failure to keep records and to plan for the respective health units. This poses challenges in terms of obtaining reliable date necessary for planning especially for stock and could explain why there are constant stock outs. Basheka and Mugisha, (2008) in a paper, "Measuring Professionalism and its implication to Procurement outcomes in Uganda"; presented during the third International Public Procurement Conference Proceedings, observed that 56% of the personnel that were handling health supplies procurement at the time of the study had qualifications in business and commerce related disciplines, 30% had qualifications in Arts and social sciences and 12% had science related qualifications, a finding that indicates the low levels of evolution of the procurement function at that time. The study has therefore accepted the null hypothesis that there is no relationship between Office/ Hospital management and availability of essential medicines in Soroti Regional Referral Hospital.

5.3 Conclusions

5.3.1 Office laws and Administrative regulations and availability of essential medicines

Based on the earlier discussions, the following can be concluded; much as many said that the hospital makes medicines procurement plans and budgets, It can be concluded that, this is done with limited autonomy as the center continues to influence every aspect of the planning and budgeting. It can further be said that much as the budgets are made, they are inadequate in terms of meeting the needs of the patients hence office laws and administrative regulations alone cannot guarantee availability of essential medicines in Soroti Regional referral hospital. More people reported having medicines un met needs from the hospital. The existence of Office laws and administrative regulations contributed positively to the availability of essential medicines

however, these rules and regulations are only much known to staff and not so much to patients and other stakeholders.

5.3.2 Stakeholder behavior and availability of essential medicines

Discussions on stakeholder behavior shows that stakeholder play a major role in ensuring availability of medicines. The behavior of people served for example has been found to affect availability of medicines negatively as the health seeking behavior of people is seen to cause wastage of medicines and long term effects on the medicines availability. Many health staff was seen blaming the patients who overwhelmed the hospital by seeking health services at the regional hospital before reporting to lower health units. This means that people's knowledge on how to access health services is low and needs to be raised.

5.3.3 Office management and availability of essential medicines

From the earlier discussions, one can conclude that Soroti Regional Referral Hospital has qualified staffs that are skilled and professional as indicated in the discussions and earlier presentation of results. Despite the above, it was also revealed that the staffs are not well paid and poorly motivated to do their work although they handle their mandates responsibly. To this end, Office management/staff management in Soroti Regional Referral Hospital is not the cause of constant drug stock outs.

5.4 Recommendation

5.4.1 Office laws and Administrative regulations and availability of essential medicines

The following are the recommendations the researcher came up with pertaining to administrative regulations and availability of essential medicines.

There is need to increase the Medicines procurement budgets to meet the overwhelming needs in the hospital. Attempts should be taken to sensibly allocate more funds and attract more partners into funding the medicines procurement plans and budgets.

There is need to advocate for improvements in the current push system of medicines procurement. This should be accompanied with improvements in the consignment and timely delivery by NMS. NMS needs to carry out an assessment to ascertain the satisfaction level of beneficiaries to their supply systems/procedure.

5.4.2 Stakeholder behavior and availability of essential medicines

There is need for Soroti Regional Referral Hospital to network with other partners including NGOs and sensitize its beneficiaries on drug intake, storage and management to avoid tendencies of flocking the Hospital on hearing that medicines have been delivered. This will ensure that medicines are dispatched to only sick people who need them most.

There is need for the hospital to strengthen screening of patients to avoid situations of non sick people collecting and storing medicines that should have benefitted the sick people who need them most.

5.4.3 Office management and availability of essential medicines

Ministry of Health should carry out a survey to establish the human resource gaps and offer more training and recruit more staff to meet the overwhelming demand of the health sector.

There is need for the Ministry of Health to raise the staffing level and address the motivation issues relating to salaries and other staff benefits. This will enable staff to raise their motivation levels and attend to their tasks effectively and efficiently.

REFERENCES

Ministry of Health, FY (2011/2012). *Annual Sector Performance Report*.

Health Action International (HAI) and World Health Organization (WHO), (2004).*A study Report.*

Benon C. Basheka and Michael .I. Mugabira. (2008) *Measuring Professionalism Variables and their implications to Procurement Outcomes in Uganda*

Brabin L & Brabin BJ. (2005). *HIV, malaria and beyond: reducing the disease burden of female adolescents.* Malaria Journal 4, 2.

Caroline Charity Linda Agaba (2010). *Procurement planning as a tool for improved accountability in the UNDP projects in Uganda*.

Country Procurement Assessment Report (CPAR) May (2004). Volume I, *Main Findings and Recommendations.*

Essential medicines in Primary Health Care, January – may **(**2009*) no.187*

European Observatory on Health Systems and Policies Series (2007). *Decentralization in the Health Care*. Edited by: Richard B Saltman, Valda Vankauskaite, Kastern Vrangbaek. Open University Series. *Published by WHO on behalf of European Observatory on Health Systems and Policy.*

Guy Hutton, (2003) *Case study of a 'successful' sector-wide approach: the Uganda health sector SWAP, A lessons learned paper established in the frame of the SDC-STI SWAP Mandate 2003-4*

Hans V Hogerzeil-BMJ (2004); ch 329, 1169-1172. *The concept of essential medicines; Lessons for rich countries*

Indian Journal of Community Medicine January (2013) *Ch 35 (1): 10-13*

Jenny Hill, Peter Kazembe 23 MAR (2006). *Reaching the Abuja target for intermittent preventive treatment of malaria in pregnancy in African women, a review of progress and operational challenges*

John Storey, Paul Bate, David Buchanan, Rod Green, Graeme, Salaman and Nick Winchester. (2008). *New Governance Arrangements in NHS: Emerging implications.*

McKinlay Douglas Ltd, March (2011). *Australian Centre of Excellence for Local Government, Working Paper no.2*

Ministry of Finance, Planning and Economic Development May (2012). *Department of Economic Development and policy Research*

Ministry of Finance, Planning and Economic Development, (2012)

Ministry of Health with support from USAID/SURE Program, (2011). *Assessment of the Essential Medicines Kit-Based Supply System in Uganda*

Ministry of Health Uganda. (2011) *Annual sector performance report, Financial Year 2011/2012*

National Planning Authority, National Development Plan (NDP). (2010). Kampala.

National Planning Authority. April (2013). Kampala *Uganda Vision 2040.*

National Medical Stores, Uganda. (2010), *a report on procurement of drugs for Uganda Cancer Institute*

Omar Azfar, SatuKähkönen, and Patrick Meagher. (2001) *Conditions for Effective Decentralized Governance, A Synthesis of Research Findings, IRIS Center, University of Maryland The World Bank March 13,*

Operational Quality and knowledge services for Africa region. 28-30 August (2008), *3rd International Public Procurement Conference Proceeding.*

Operational Quality and Knowledge Services for Africa Region. (2008). *3rd International Public Procurement Conference Proceeding*

Peter McKinlay, McKinlay Douglas Ltd. *Review Australian Centre of Excellence for Local Government*

Peter Kazembe, Jenny Hill. (2006). *Reaching the Abuja target for intermittent preventive treatment of malaria in pregnancy in African women: a review of progress and operational challenges. Article first published online, 23 MAR (2006)*

Pillora. S (2011). *Local Government and Community Governance: A Literature Review*:

Uganda Country Procurement Assessment (2004). *Volume 1, Main Findings and Recommendations.*

Public Procurement and Disposal of Public Assets Authority (PPDA), (2004 – 2007).

Corporate Plan

Pross Nagitta Oluka.P.N, Francis Ssennoga and Stephen Kambaza. *Tackling the supply chain bottlenecks of essential drugs. A case of Uganda Local Government Health Units.*

Public Procurement and Disposal of Public Assets Authority (PPDA). (2004) *Corporate Plan 2004-2007.*

Stefanie Pillora March (2011). *Local Government and Community Governance*

Technical Brief No.1, May (2008). November (2010). *Progress Report - Good Governance for Medicines, Strengthen District and HSD governance and managerial skills.*

Teso Anticorruption Coalition (TAC) July (2013). *Baseline Survey on Accountability for Development.*

The Abuja Declaration (2001).

The Alma-Ata Declaration (1978).

The Public Procurement and Disposal of Public Assets Authority (PPDA)

The Second Public Procurement Integrity Survey (1997). *The Uganda Local Government Act*

The Uganda National Health Sector Strategic Plans (2002/2003)-(2006/2007); (2010/2011)-(2014/2015)

The Public Procurement and Disposal of Public Assets Authority (PPDA) *Final Report the 2nd Public Procurement Integrity Survey*

The World Bank Decentralization and governance June (2001): *does decentralization improve public service delivery?*

Tropical Journal of Pharmaceutical Research December (2010). 9 (6) 55-564

Uganda Ministry of Health (2010/2011). *Annual Health Sector Performance Report*

Uganda Health System Assessment 2011

Uganda Ministry of Health August (2010). *Tracking Uganda's Health Sector in Budgeting, Financing and Delivery of Essential Medicines*

Uganda Ministry of Health with support from USAID/SURE Program. (2011). *Assessment of the Essential Medicines Kit-based supply system in Uganda.*

World Health Organization (WHO). (2007) *Open University Series.*

Yona Tumwine, Paul Kutyabami, Richard A Odoi, and Joan. N. Kalyango. (2010). *Tropical Journal of pharmaceutical Research. December.*

APPENDIX I: QUESTIONNAIRE FOR THE RESPONDENTS

Uganda Management Institute

P. O. Box.....

Kampala

Dear Sir/Madam

I am currently undertaking a study on the topic "the factors affecting availability of Essential Medicines in Health Units. "A case of Soroti Regional Referral Hospitals" in partial fulfilment for the award of a Master of Management Studied.

The information sought is required only for academic purposes. Participation is entirely out of your free will and necessary for the success of this work. I request you to respond with truthfulness and honesty for the success of the study. Information provided will be handled with utmost confidentiality.

Most Sincerely,

Paul Okiring

Participant

APPENDIX II: STUDY QUESTIONNAIRE

SECTION A: BACKGROUND INFORMATION

Dear Respondent,

My name is Paul Okiring, a student of Uganda Management Institute (UMI) pursuing a Masters in Management Studies (Project Planning and Management). This study is on Factors affecting availability of Essential Medicines in Health Units, A case of Soroti Regional Referral Hospital. Kindly spare some minutes to answer these questions. Information obtained will be treated with confidentiality and will be used only for the purpose of this study.

BIO-DATA OF RESPONDENT

Please tick the appropriate box

1. Sex: Female ☐ Male ☐
2. Marital Status : Not married☐ Married☐ Divorced☐ Separated☐ Widowed ☐
3. Age: Below 20 years☐ 20-30 years☐ 31-40 years ☐ 41-50 years ☐ Above 50 years ☐
4. Highest level of Education attained: Primary ☐ Secondary ☐ Tertiary ☐ University ☐ Others (please specify)……...
5. Respondent's category 1. Administration 2. Finance 3. Procurement 4. Medical 5. Others (please specify)……..

SECTION B: RESPONSE TO THE THEMES OF THE STUDY

Indicate by a tick, the extent to which you agree with the following observations on a scale of 1- Strongly Disagree (SD); 2- Disagree (D); 3- Not Sure (NS); 4- Agree (A); 5- Strongly Agree (SA)

Variables **Office Laws and Administrative Regulations**	**Strongly**	**Disagree**	**Not Sure**	**Agree**	**Strongly Agree**
Budgets					
Soroti Regional Referral Hospital makes annual medicines procurement plans and budgets					
The process of medicines procurement planning is involving and participatory done by staff					

The medicine procurement plans are generated using the information from the Health Management Information Systems					
The medicines procurement budget is adequate to address the medicines requirements of the patients in Soroti Regional Referral Hospital					
The Hospital management uses the budget as a planning; monitoring and reporting tool					
The hospital uses the budget for lobbying and advocating for policy changes					
The Hospital Medicines procurement plan receives adequate financial allocation from the ministry					
Degree of Centralization					
The Hospital medicine procurement planning is done without interference by national guidelines and regulations					
The hospital medicines supply/delivery by NMS is always timely					
The National Medical stores addresses all the Hospital Medicines needs adequately					
The push system of medicines procurement has improved availability of medicines					
Under the push system the decision making processes regarding medicines procurement has improved					
The Hospital has full capacity to plan and manage the procurement of essential medicines					
Local Site Management					
There are clear and set rules, procedures and guidelines governing the management of medicines in the Hospital					
The Hospital uses Health Information Management System (HMIS) for medicines management					
The hospital has records staff/IT to guide medicines information management					
The Hospital has tools i.e. stock/bin cards etc for managing storage and release of medicines					

The Hospital has adequate skilled staff to manage the supplies and storage well					
The bin cards are accurately updated on a regular basis					
The various rules; guidelines and regulations are documented and communicated to all staff					
The various rules, guidelines and regulations are documented and communicated to medicines patients					
The roles of staff handling storage and dispatch of medicines are documented and clearly communicated to them					
There are clear guidelines from Ministry of Health on HMIS specifying tasks associated to each role to the hospital					
There is adequate supervision and follow up from MoH and Hospital management on staff to ensure efficient and effective operations					
Stakeholder Behaviour-Characteristics of people served					
The level of poverty amongst the community members greatly influences the medicine consumption					
The level of education determines the disease burden imposed on the hospital					
The population resorts to private health providers when medicines are not available at the Hospital					
Needs of people served					
The needs of the people is higher than the essential medicines available					
The procurement planning directly addresses the needs of the people					
The type of medicines consignment supplied address the actual needs of the patients					
The available information on medicines management makes the Hospital to be responsive to the needs of the patients					
The demands from the patients are overwhelming the health staff and medicines					

The needs of the patients have never been adequately met by the available medicines stock					
Availability of essential medicines increases the level of community satisfaction on government health service delivery					
The higher the vulnerability, the higher the need for essential medicines					
Units The Regional Referral Hospital is adequately prepared to attend to the needs of all referred patients from lower units.					
Behaviour of people served					
The behaviour of patients is to blame for constant drug stock outs					
The people including non sick ones flock the hospital on hearing that medicines have been delivered					
The cultural norms of patients affects availability of essential medicines					
The behaviour exhibited by patients reflects their knowledge levels regarding medicine consumption					
Office Management- Staff Management					
The hospital has staff responsible for management and dispensing medicines					
The information regarding medicines is well stored , managed and availed to public easily					
The hospital has adequately qualified staff to manage medicines					
The hospital staff make timely requests and medicines orders					
The staff are always present to address client medicine needs					
The hospital staff are well paid and are motivated to do their roles					
The hospital staff are well trained in record keeping and planning for essential medicines					
The hospital staff have a sense of ownership of the medicines affairs					

Professionalism					
The hospital staff are professionally trained to manage medicines procurement, storage and dispensing					
All the hospital staff handling health supplies have relevant qualifications					
The Hospital staff always handle their roles in a professional manner					
The Hospital staff are partly to blame for constant stock outs of essential medicines					
The hospital management has adequate mechanisms for disciplining un professional staff conduct					
Accountability Mechanisms					
The Hospital management avails all information relating to price, source, quality and quantity of essential medicines to the public					
There is a notice board for display of information relating to medicines procurement and dispensing					
The Notice Board is in a public place accessible to public					
There are accountability guidelines in place to guide usage and reporting on medicines					
The accountability guidelines are documented and disseminated to all staff regarding medicine management					
The management of the Hospital makes timely reports regarding medicine management					
Proper accountability is one way to ensures availability of essential medicines					
The Hospital operations are inspected by either the Ministry or district authorities to ensure proper accountability					
The Dependent Variable					
Donations to the Medicines budget reduces the disease burden					
The medicines procurement budget is critical in reducing the disease burden					

Centralized medicine procurement affects availability of essential medicines					
The pull system of medicines procurement has helped in increasing health seeking behaviour					
The religious beliefs of people served greatly affect availability of essential medicines					
The cultural norms of the patients affects availability of essential medicines					
The irrational health seeking behaviour affects availability of essential medicines					
The community and individual values increase community appreciation of health services					
Professional training on medicines management affects staff motivation					
The hospital provides feedback to the patients relating to availability of essential medicines					

Thank you for your time!

APPENDIX III: DOCUMENTARY REVIEW CHECKLIST

1. Hospital files
    - Record books
2. Monthly hospital reports
3. Hospital planning documents
    - Annual Plans
    - Strategic plans
    - Evaluation report
    - Budgets, etc

APPENDIX 4: INPUTS

The researcher shall need a computer or laptop with the relevant software namely SPSS. This has already been acquired and is being utilised for purposes of the research and course. The funds to facilitate the project will be met by the researcher's savings arising out of his employment.

APPENDIX V: INTERVIEW GUIDE

1. What role do you play in supporting availability of drugs in Soroti RRH?
2. In your opinion, how does the push system of drug procurement influence availability of drugs in Soroti Regional Referral Hospital?
3. What is the general status of drug availability in Soroti Regional Referral Hospital?
4. What is your comment on constant drug stock outs?
5. How do administrative regulations influence availability of drugs in Soroti RRH?
6. How does client behavior affect availability of drugs in Soroti RRH?
7. How does staff behavior affect availability of drugs in SRRH?
8. Whom do you blame for constant drug stock out in Soroti RRH?
9. Which Organization(s) if any or initiatives should the hospital adopt to improve availability of drugs?
10. What would you propose to improve availability of drugs in SRRH?

APPENDIX 6: DETERMINING SAMPLE SIZE OF A GIVEN POPULATION

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Note: "N" is population size

"S" is sample size.

Source: Krejcie and Morgan (1970)