

**REVIEW OF DRUG FINANCING AND EXPENDITURE IN UGANDA:
SUSTAINABILITY AND IMPROVED ACCESS TO ESSENTIAL MEDICINES**

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NLKKAT001

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Dedication

I dedicate this piece of work to the Almighty God who gives life in all its fullness and through His omnipotent power gave me the wisdom to achieve this milestone.

I give thanks to God for indeed He is a mysterious God; He plants His footsteps in the sea and rides upon the storm, His wonders to perform. For it is only He working through friends to bring this dream to a reality.

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Finally, I thank God for the friends down here; together we made a home away from home.

Acronyms

AAR	African Air Rescue
AIDS	Acquired Immune Deficiency Syndrome
AIG	American International Group
DANIDA	Danish International Development Agency
DFID	Department For International Development
GAVI	Global Alliance for Vaccines and Immunization
GDP	Gross Domestic Product
GFATM	Global Fund for AIDS, TB and Malaria
HIPC	Heavily Indebted Poor Countries
HIV	Human Immunosuppressive Virus
HMO	Health Maintenance Organization
HSSP	Health Sector Strategic Plan
IAA	International Air Ambulance
NMHCP	National Minimum Health Care Package
OECD	Organization for Economic Cooperation and Development
PAF	Poverty Alleviation Fund
PAHO	Pan American Health Organization
PHC-CG	Primary Health Care- Conditional Grant
PNFP	Private Not-For-Profit
SWAp	Sector Wide Approach
UCMB	Uganda Catholic Medical Bureau
Ug.shs	Uganda Shilling
UNICEF	United Nations International Children's Emergency Fund
UPMB	Uganda Protestant Medical Bureau
US\$	United States Dollar
USAID	United States Agency for International Development
WHO	World Health Organization

Abstract

Drugs are an important factor of production in health care. They constitute a significant proportion of health care expenditure in both developed and developing countries rendering financing of drugs an important health care concern. Previous studies have focused on health care financing in general and less on drug financing specifically and more so in least developed countries. This study therefore aims to provide an overview of the drug-financing situation in Uganda demonstrating the flow of funds for drugs in the health sector. The study further investigates whether the available financial resources could be sustained over time and assesses financial sustainability of resources for drugs in the public sector required to meet the drug component in the National Minimum Health Care Package.

Data collection methods involved in-depth interviews with key informants in the relevant institutions and document reviews of financial records and other major relevant publications. The data obtained was analyzed using well-established methodologies. Financing mechanisms were analyzed using a framework consisting of aspects regarding viability, reliability and level of funding. The fund flows for drugs in the health sector were analyzed using the modified National Health Accounts methodology and finally financial sustainability was assessed using projections from the available financial resources.

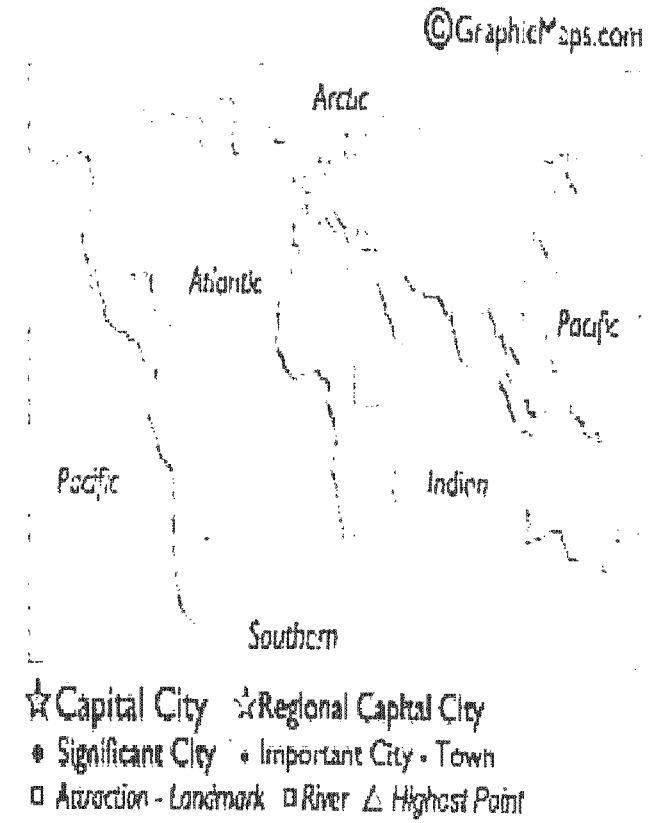
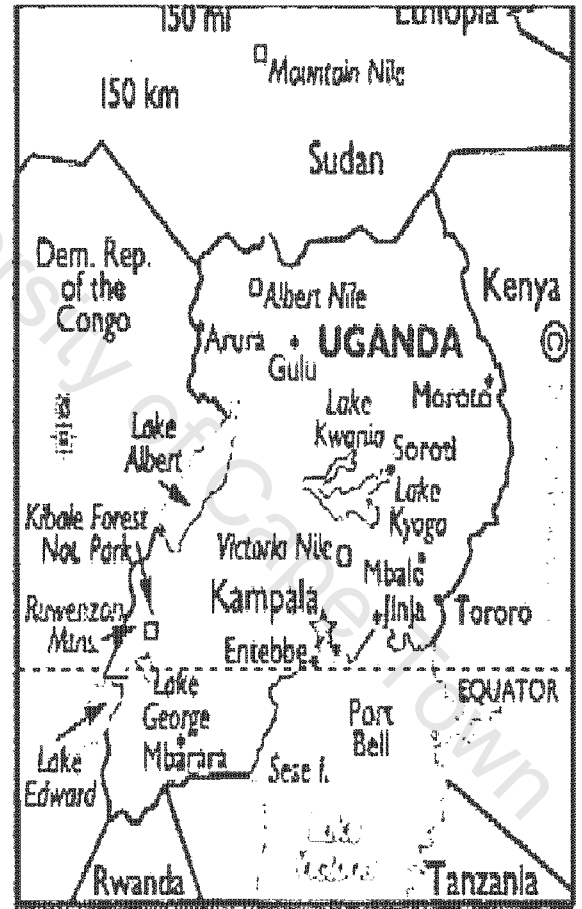
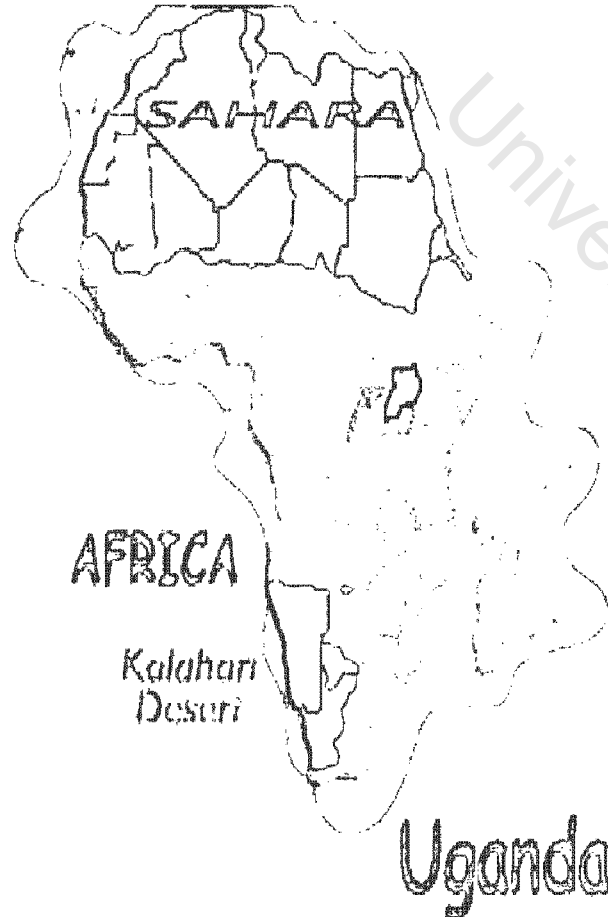
The study findings reveal a mix of financing mechanisms from both the public and the private sector employed to make drugs available to the population. The largest source of drug funding is out-of-pocket expenditure by households followed by central government tax revenue including donor support. There has been a noted increase in drug funding in the public sector though this is not adequate to cover the quantified drug need in the country. The size of the market for drugs increased over the review period (2001-2004) with an estimated total drug expenditure of 210 billion Uganda shillings. The projections show that the

available financial resources for drugs will not be able to cover the predicted drug requirement within the National Minimum Health Care Package more so with the introduction of drugs required to treat new diseases like HIV/AIDS and the change to more expensive treatments for endemic diseases like malaria.

The study concludes with policy recommendations urging government's commitment to allocate more resources to health and consequently to drugs so that there is less reliance on donor funding. It recommends that more effective means of utilizing available resources by mobilization of domestic resources including out-of-pocket payments through better-designed and well-managed health insurance schemes.

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Map of Uganda



- ☆ Capital City
- ☆ Regional Capital City
- Significant City
- Important City
- Town
- Attraction - Landmark
- River
- △ Highest Point

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CHAPTER 1: BACKGROUND OF THE STUDY

1.1 Introduction

Health sector reform has taken place in developing countries over the last twenty years aimed at improving the health status of the population. The main challenge concerning financing for drugs is to define and utilize those options, which will most efficiently ensure a universal access to essential drugs (Pan American Health Organization 1998). Drugs are a key component in delivery of health services, they are used to save life and improve health; drugs are costly and represent a large proportion of health expenditure in most developing countries (Dukes & Quick 1997). Drugs are special commodities that affect the utilization of health services and have both a political and economic impact. In this study the term “drug” refers to pharmaceutical products and medical supplies.

Drug financing should be envisaged within the whole context of health care financing. Health care financing in Uganda has been influenced by a several factors like the level of economic development, historic colonial rule and political factors. The National Health Accounts carried out for the financial years 1998/99,1999/2000 and 2000/01 showed a low level of funding to the health sector from all sources (Ministry of Health 2004a). The policy on health care financing is quite articulated to meet the objectives of the National Health Policy in broad terms but the funding is not forthcoming to meet the set targets.

Subsequently, drug financing in Uganda has not been well defined for the whole health sector so as to devise policy changes that would improve the existing financing situation for drugs. Although information on public drug funding and expenditure is available, comprehensive organized information on drug financing and expenditure in the whole health sector is lacking. Drug expenditure reviews are necessary to understand how best reforms in policy tools and objectives can be made to enhance total drug funding in the country. Different drug financing

mechanisms should be evaluated using various criteria namely equity, efficiency and sustainability of the mechanisms to derive suggestions for policy options. This study evaluates implications for sustainability of funding sources for drugs. In order to achieve sustainable financing for drugs, a comprehensive outlook on all funding mechanisms is examined and not just those for the poor.

1.2 Political Background

Before 1986, the country underwent a wave of political turmoil that left many of the government systems in disruption including the health sector. The current government that took over power in 1986 ushered in a new system of governance based on consensus building to re-structure the health sector and the whole country as a whole. The political environment of Uganda is relatively stable, with the country's democracy deepening as the government makes continuing efforts to improve its ways of exercising political, administrative and managerial authority (Organization for Economic Co-operation and Development 2002). However, a few areas are still ravaged by insecurity and call for conflict resolution.

1.3 Social Economic Environment

The government has pursued economic policies and structural adjustment programs with major support from development partners. This has been marked by disbursement of resources for Heavily Indebted Poor Countries (HIPC) thus improving Uganda's external debt sustainability indicators. The real GDP per capita is \$300 (Muhebwa, Mugarura & Mugambe 2000). Income disparities exist between the well-off and poor despite government's effort to correct this through fiscal and monetary policies. Most of the households are engaged in subsistence farming. The major source of foreign exchange is agricultural exports comprising of coffee, tea and cotton.

In a bid to deal with poverty and its influence on people's health status, the government has put in place a multi-sectoral poverty alleviation action plan with the top priorities being universal primary education, primary health care, rural water and sanitation, rural roads maintenance and agricultural extension and modernization (Ssengooba & McPake 2001).

1.4 Overview of the Health Sector in Uganda

The health sector in Uganda according to financing and delivery is categorized into public, private not-for-profit and private for-profit. The ministry of health is responsible for health service delivery in the public sector with the exception of ministry of defense and the police force that provide independent health services. In terms of stewardship role, the ministry of health at the central level is responsible for policy formulation, supervision, coordination and resource allocation.

With the decentralization policy in force, the district forms the next level of service delivery after the central level. Under the district are sub-districts and health centers III, II and I. The level of care in the health sector is classified as follows: primary care that addresses the majority of health care needs in form of basic curative and preventive care is offered at health centers III and II. Secondary care in form of curative care is offered in hospitals at regional, district and sub-district level. The tertiary, high-specialized level of care characterized by specialist health professionals and advanced technology is provided at academic hospitals or referral hospitals.

The private sector comprises of private hospitals, pharmacies, private clinics including nursing homes and drug shops. The various professional councils regulate these to ensure adherence to ethical practice and professional standards. The private-for-profit is made up of mission hospitals owned by international and national non-governmental organizations.

Major reform within the health sector was marked by the development of the ten-year National Health Policy launched in 1999/2000 (Ministry of Health 2004b). Under the bid to utilize result-oriented management and within the implementation modality of Sector Wide Approach (SWAp), the five -year Health Sector Strategic Plan was launched at the beginning of the financial year 2000/01 (Ministry of Health 2004b). Annual assessments are carried out to evaluate performance in the health sector and pave way for improvement. One of the outputs is to deliver a National Minimum Health Care Package (NMHCP) to the population. The package addresses key elements of the national disease burden and comprises of interventions considered to improve morbidity and mortality rates in the country.

The Annual Health Sector Report (2001) showed that the sector is grossly under funded and was operating at less than half of the minimum required to deliver the National Minimum Health Care Package. Since drugs are required to treat the priority diseases like malaria, they form a critical component in delivery of the National Minimum Health Care Package. Some of the selected interventions including drug treatments are of unknown effectiveness in the local circumstances and have turned out to be beyond the reach of available resources (Ssengooba 2002). In particular, the extent to which the drug component of the National Minimum Health Care Package is under funded is not clearly known.

It is further noted that the flow of funds to service delivery levels for health is characterized by inefficiency, a major constraint to maximizing output in the health sector. The flow of drug funds in the country have not been specifically mapped out and only estimates of lump sum figures are reported. It is not clear how drug funds are disaggregated to various financing agents and health care providers in the whole health sector.

1.5 Health Indicators

“The average healthy life expectancy has reduced to 41 for men and 43 for women due to the HIV/AIDS scourge. The adult mortality rate (probability of dying between the age of 15 and 59 years) is 505 per 1000 for men and 431 per 1000 for women” (World Health Organization 2002). The infant mortality rate of 97 per 1000 births (World Health Organization 2002) indicates low health status and further confirms the need for improved health delivery services. According to the burden of disease study in Uganda conducted in 1995, 75% of life years lost to premature death are due to preventable diseases like malaria, acute lower respiratory infections, AIDS and diarrhea (Ministry of Health 2000).

1.6 The Ugandan Pharmaceutical Sector

The Ministry of Health has the broad responsibility over pharmaceutical affairs in the country. Regulation of the pharmaceutical sector is carried out by a semi-autonomous legislative body, the National Drug Authority that is responsible for registration of pharmaceutical products and enforcement of the law governing drugs in Uganda. Retail pharmacies, hospital pharmacies, clinics and drug shops provide the major outlets for drugs in the country. Any registered person or company may own a pharmacy as long as supervision of operations is under a registered pharmacist authorized by the Pharmacy Council.

In 2002, the government reviewed the National Drug Policy to deal with the changes and developments in the health sector pertaining to drugs. The National Drug Policy was implemented as part of the Health Sector Strategic Plan and forms an integral part of the overall national health policy. One of the main elements of the health policy is to develop and implement a sustainable, broad based national health financing strategy that is geared towards attaining resources for the health sector and utilizing these on cost-effective priority health interventions like drugs (Ministry of Health 1999). The drug policy aims to

contribute to the attainment of a good standard of health by the population of Uganda, through ensuring the availability, accessibility and affordability at all times of essential drugs of appropriate quality, safety and efficacy and by promoting their use (Ministry of Health 2002b). In order to ensure access to drugs, the policy aims at making such drugs affordable and available to all parts of the country. Another major objective of the National Drug Policy is to institute and sustain suitable drug financing mechanisms, which will ensure continuous availability of adequate quantities of the required essential drugs. In order to achieve these major objectives, specific strategies have been drawn up to facilitate implementation of activities aimed at attaining the overall goal of the National Drug Policy.

Drug financing mechanisms namely government tax revenue, user fees, health insurance and donor funding have been put in place but the extent to which each of these contribute to the attainment of this objective is not known. This reveals the fact that no research has been conducted to analyze how far this policy objective has been achieved. Further more the sustainability of some mechanisms in place remains questionable.

Many health care reforms that have taken place over the past years have had an effect – direct or indirect - on the way drugs are financed. In the period between 1988 and 1994, drugs in the public sector were mainly provided through the Essential Drugs Program promoted on the basis of the essential drug concept and funded by the Danish International Development Agency (DANIDA). Drug procurement for the public sector was based on a push system where drugs were delivered to health units on a quarterly basis in form of essential drug kits. When the program was phased out, the government was left with the responsibility of ensuring the supply of good quality drugs with the available scarce resources. In 2003, a new pull system based on orders from health facilities and drug needs was implemented so as to improve on the distribution of

drugs from the national procurement agency. The major supply of essential drugs to the public sector is mainly through the National Medical Stores.

The role of the private sector cannot be under estimated. Private expenditures for pharmaceuticals in developing countries typically account for 50 to 90% of all spending on drugs (Velasquez, Madrid & Quick 1998). In Uganda, provision of drugs to the private sector is mainly carried out through private pharmacies, clinics and drug shops. Since the country has a very small pharmaceutical manufacturing capacity, most of the drugs are imported from foreign countries. The exact size and rate of growth of the pharmaceutical market is not known.

Drug financing cannot be viewed independent of health financing, as drugs are critical towards improvement of health and delivery of health services. Financial sustainability of drug supplies is important to maintain such services for advancement of health and welfare of the population. In this context financing mechanisms for drugs, are quite similar to those for health financing in Uganda. Public general revenue, which is mainly obtained from tax revenue, forms a significant reliable source of funding for health services. The per capita public expenditure on health in 2002/2003 was US\$7.2 (Ministry of Health 2003a). There are several factors that influence the amount of funds allocated to health and subsequently to drugs. There are competing sectors like education, development, industry and defense that may be given greater priority than health. Within the health sector, drug expenditure is usually second to personnel. Financing of health services has been mainly through external sources and this applies similarly to drugs. This kind of financing mechanism raises concern over sustainability. User fees were introduced in health services as an effort to compliment government funding for health services but were abolished in the public sector except for private wings in hospitals and in mission facilities. A large proportion of the population is believed to purchase drugs out of pocket from the private sector. Community based financing has been a growing source of mobilization of resources for both health and drug financing. This has led to

establishment of community financing schemes especially in rural areas. Private health insurance as a form of health care financing is less developed in most developing countries. Various financing mechanisms have not been explored collectively to determine the level of funding for drugs obtained from the different sources.

1.7 Problem Statement

The National Drug Policy is explicit in its recognition of drug financing among its key objectives. However, it is not clear how much each of the current drug-financing mechanisms contribute towards this goal, in what proportion and the major uses of the drug funds. Further to this the exact size of the pharmaceutical market in Uganda and its growth has not been clearly marked out making policy development related to the pharmaceutical sector difficult and left to opinions.

The National Minimum Health Care Package spells out a cost required to meet the demand for drugs in the public and private not for profit sector. From the available sources of funding it is not known whether these can satisfy this cost and be sustained over time.

1.8 Rationale and Justification for research

Recent health care reforms have brought about re-organization and restructuring of the health sector including development of the National Drug Policy. No comprehensive evaluation has been undertaken to assess the realization of drug financing as a national drug policy goal. There is no clear systematic approach to show how drugs are financed in Uganda, to illustrate whether current financing mechanisms are sustainable and whether they increase the availability of essential drugs to the population. The study is necessary to provide evidence on the flow of drug funds in the whole health sector so that better-informed decisions can be made for policy change and development. The study will also provide

evidence on whether the available funding for drugs is sufficient in meeting the National Minimum Health Care Package drug requirements.

1.9 Objectives of the study

Aim:

To evaluate drug financing mechanisms and expenditure with respect to sustainability and access to medicines in Uganda.

Objectives:

1. To map out different drug financing mechanisms and patterns in the country.
2. To estimate and analyze drug financing and expenditure from different sources of funding over three years from 2001.
3. To assess sustainability of current drug financing relative to the National Minimum Health Care Package requirements.
4. To make recommendations on how to improve the design of drug financing mechanisms for policy consideration.

1.10 Outline of the dissertation

The dissertation is outlined as follows:

In chapter 2, a review of concepts on health care financing is given with an account on previous work on drug financing. A framework for analyzing financing mechanisms is presented. The principle and significance of using National Health Accounts methodology for analyzing drug expenditure is presented and different approaches to assessing financial sustainability are documented.

In chapter 3, the conceptual framework for analyzing drug funding mechanisms and sources of funding is offered. This is followed by the methods used to obtain and analyze data.

Chapter 4 presents the findings of the study by giving an account of financing mechanisms and funding flows for drugs in matrices from sources through financing agents to health care providers. Drug expenditure in the public as well as the private sector is further offered including expenditure of drugs according to level of care in the public sector. Finally financing of the drug component within the National Minimum Health Care Package is assessed in relation to the available resources within the review period.

The key findings concerning drug financing and expenditure and implications for sustainability of financial resources are discussed in chapter 5. Explanations for the observed drug expenditure trends are also given.

Finally, chapter 6 offers conclusions from the study followed by policy recommendations, which point out the different alternatives that can be pursued to improve drug-financing mechanisms in Uganda.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter examines literature on theoretical approaches and perspectives regarding health care financing, drug financing and expenditure. A framework for analyzing financing mechanisms is presented. The principle guiding the use of the National Health Accounts methodology and its modification is explored. Finally a review of economic concepts on financial sustainability is presented.

2.2 Overview on Health Care Financing

Health care financing is a major and critical function of the health care system. Its main purpose is to make funds available so that access to appropriate health care can be guaranteed. In order to improve financing of health care, the following four strategies have to be employed: reduction of out-of-pocket payments at the point of service; increase accountability of purchasing and providing health services; improve the pooling of resources and raise funds through efficient means by reducing administrative costs (World Health Organization 2003). Several studies have been conducted to examine health care financing and expenditure in different countries. The information obtained is useful for evaluating existing health systems including international comparisons. Musgrove, Zeramdini & Carrin (2002) compared health-financing patterns for 191 World Health Organization member states for 1997. Their study revealed that total health expenditure and public expenditure on health increases with a rise in income in all countries although in low-income countries the total spending on health is low. According to the World Health Report (2003) high income countries are more concerned with effectiveness of spending, cost containment and equity because in such countries resources are relatively plentiful with per capita income of US\$8000 and health expenditure ranging from US\$1000 to US\$4000 compared to low income countries with income per capita of less than US\$1000.

The need to provide public goods and services with market failures such as externalities makes public expenditure on health in poor countries particularly important. Basic health financing data is needed to be collected in order to support policy proposals and to help in implementation (Rannan-Eliya & Berman 1994) so that decisions are based on evidence rather than opinions. Subsequently, policy analysis is a useful tool for strategic management in the health sector and for developing processes that help the effective implementation of any health care financing reform (Gilson 1998). Assuming an appropriate policy design is used, strong political factors and actors influence implementation of health care financing policies (Gilson et al 2003). The opportunity to effect policy changes usually arises during political transition as experienced by the formulation of the National Drug Policy after the rise of the Aquino government in 1986 (Lee 1994). This scenario is quite similar to that in Uganda where a strategic turning point occurred in the health sector when the current government took over power in 1986. As earlier stated, one of the developments in the health sector was the implementation of the Health Sector Strategic Plan. Within this plan the health financing strategy sets out methods that will promote increased efficiency, fairness, risk pooling and protecting the poor and vulnerable groups in a manner that is sustainable. Although the level of spending has changed, financing mechanisms seem not to have changed. There are mainly five broad ways of generating revenue for healthcare financing and these include general tax revenue, donor funding, social health insurance, out-of-pocket payments and voluntary and private health insurance. The preferred mode of funding health care needs in many countries all over the world is through public or private insurance schemes because of the unpredictability of illness and the accompanying financial costs required to obtain quality health care (McCarthy 1994). Insufficient insurance coverage means large out-of-pocket expenditure or no health care at all, which results into depletion of household income and poor health status.

2.3 Drug financing and expenditure review

The market for drugs differs from standard competitive markets because of what is referred to as market failures. Market failures include lack of competition, externalities and information bias. For this reason, state intervention is a prerequisite to correct for these market imperfections. The government may not provide all the health services including drugs but is responsible for ensuring that appropriate financing mechanisms are established to ensure access to drugs to the whole population.

Drugs constitute a significant proportion of health care expenditure in both developed and developing countries rendering financing of drugs an important health care concern. The National Drug Policy in South Africa calls for joint responsibility between the government and patient for financing of drugs although the task to ensure that essential drugs are available to all people in need rests on the government (Department of Health 1994). In Malawi, the National Drug Policy aims to ensure sufficient funding to provide essential drugs at the lowest possible cost based on proper drug quantification and joint involvement of different parties including government, parastatals, Non-Governmental and individuals in funding of drug supplies (Ministry of Health 1991). Drug expenditure in the developed world is also on the up rise, for example, pharmaceuticals increased their share of total health care expenditure in Sweden, from about 9% in 1990 to about 14% in 1995 (Henriksson, Hjortsberg & Rehnberg 1999). The pharmaceutical sub-sector typically accounts for 30-50% of health expenditures in the developing world compared to 10% in industrialized countries (Stenson, Tomson & Syhakhang 1997). The expenditure on health and drugs varies greatly among countries with a wide disparity between established economies and low-income countries. "In established market economies, private spending on drugs averages less than 40% of total pharmaceutical expenditure while more than 60% of pharmaceutical costs are paid through public budgets and social insurance whereas in low to middle-income countries, over three-

quarters of pharmaceutical expenditure are privately financed. Despite this situation the share of GDP spent on pharmaceuticals is similar in different regions ranging between 0.6% to 0.9%” (Bennett, Quick & Velasquez 1997). The per capita expenditure on drugs relates to the level of drug supply in a specified country. According to World Health Organization (1997) a less than US\$5 per capita drug expenditure means that a larger segment of the population have poor access to drugs; US\$5 – \$10 per capita drug expenditure implies that the drug needs of the population are adequately covered; more than US\$200 per capita drug expenditure like that observed in industrialized countries indicates over consumption of drugs. Much as the aggregate figures give an indication of level of access, it is important also to focus on disaggregated drug expenditures that unmask the differences in expenditure of drugs for various diseases or various levels of health care (Henriksson, Hjortsberg & Rehnberg 1999). Some of the work carried out by World Health Organization has included assessment of public financing for drug benefits within social health insurance schemes, a review of experiences with user fees for drugs and greater input from the planning of development bank loans for pharmaceutical projects (World Health Organization 2004). The system of user fees in the public sector adopted by many developing countries as part of the economic reforms was aimed to protect and support the vulnerable groups by exemption incremental fees (Chisadza, Maponga & Nazareli 1995). However the system requires high administration costs especially for exemptions. The Bamako initiatives were implemented to increase access to increased availability of drugs. Studies conducted in Africa and South East Asia reveals improved availability of drugs in rural areas but the direct profit incentive in the system leads to supplier induced demand through poly-pharmacy, “which could be irrational” (Uzochukwu, Onujekwe & Akpala 2002). In some cases revolving drug funds have established a stable supply of essential drugs and increased utilization of health services despite a drug fee (Murakami et al 2001). Experience indicates that national user fees systems have generated an average of only around 5 percent of total recurrent health systems expenditures, gross administrative costs (Gilson 1998). User fees therefore can only be a

complimentary financing mechanism to central government tax revenue and on its own is unable to close the resource gap in the public health sector. Similar sources of funding health care have been used to fund drugs. Drugs accessed through the public sector are mainly funded by government tax revenue. However to ensure adequate and stable financing for drugs other mechanisms have to be explored. The shortage of public funds for drugs has led to various systems of cost recovery, particularly in Sub-Saharan African including community financing and cost sharing (Dukes 1994).

Data relating to drug financing is usually incomplete, disaggregated and in some cases unavailable. This state of affairs applies to many developing countries like Uganda. A number of studies have focused on analyzing financing mechanisms of drugs for specific diseases like malaria for example the study by Haak (2003) focused on improving affordability and financing of artemisinin- based derivatives. Others have examined financing of defined health services like maternal health services in Uganda (Ssenooba & McPake 2001). More specifically, a case study on financing of medicines in Uganda was conducted by the Ministry of Health but only focused on the public sector (Ministry of Health 2003c). The study found out that drug supply systems are under-funded by 66% and could not conclude on the sustainability of the available drug financing mechanisms. Drug financing like health care financing is influenced by several factors not necessary within the health sector. These include the political environment, macroeconomic policies and international policies at both national and international level. The decentralization policy offers an illustration of such influence. The central government has created the fiscal decentralization strategy in a move to involve districts in decision-making regarding resource allocation so that local priorities are taken into consideration (Ministry of Health 2003b). The question is whether drug funding as a major concern at national level within the National Health Policy will remain and be considered a priority at the district level once the decentralization strategy is implemented.

Whereas 15% of the recurrent health budget in high commitment countries is allocated to drugs, only 5% of the recurrent budget is provided for drugs in low commitment countries (Bennett, Quick & Velasquez 1997). As stated earlier, drug financing is one of the major elements of the National Drug Policy in Uganda and is explicitly stated within the policy document. According to Ratanawijitrasin, Soumerai & Weerasuriya (2000) various methods that have been used to analyze the impact of national drug policies have used weak research designs severely weakening the validity of the results and usefulness of findings. Falkenberg and Tomson (2000) used a questionnaire to obtain valid and reliable data admittedly with a certain degree of variance to analyze the World Bank lending in the pharmaceutical sector worldwide and acknowledged the usefulness of research evidence to develop pharmaceutical sector policy. The study found out that 16% (US\$1.3 billion) of the total World Bank health, nutrition and population budget has been committed to loans or credits supporting pharmaceutical activities in the programme countries within the period 1989 – 1995 and of that about US\$1.05 billion had been committed to procurement of drugs and medical supplies. It is not clear how much financial support goes into the pharmaceutical sector in Uganda from such international development organizations. In addition it is not clear whether this funding is in form of loans that have to be paid back or grants that indeed assist the country's health economy. Many studies on drug management have focused only on the pharmaceutical supply system and very few on financing of drugs (Dumoulin, Kaddar & Velasquez 1998). Drug financing is of utmost concern because with the scarce resources available and the unequal distribution of these resources there is a much-felt need to ensure efficiency, equity and sustainability.

2.4 Approaches on Analyzing Drug Financing Mechanisms

Since drug financing is viewed within the context of health care, a similar approach used to analyze health care financing mechanisms may be employed. Kutzin (2001) uses a descriptive analysis framework for evaluating health care

financing mechanisms that focuses on revenue generation, pooling of resources, purchasing and providers. Financing mechanisms may be assessed using the following criteria: access to drugs; use of drugs, equity, efficiency, sustainability and administrative requirements (Dukes & Quick 1997). In other studies the criteria for evaluation of financing mechanisms has been based upon the mechanism's reliability, level of funding, health impact, efficiency, equity, and viability (Bennett, Creese & Monasch 1997). This study focused on reliability, level of funding and viability of drug financing mechanisms because such aspects have a direct linkage to sustainability of funding sources.

2.5 Use of the National Health Accounts Methodology

Empirical studies have demonstrated use of various methodologies to obtain information on health care financing and expenditure ranging from simple, standard surveys to advanced methodologies like the National Health Accounts. Several countries in Latin America, Southern and Eastern Africa, and the Middle East have used the National Health Accounts framework successfully. Sharma et al (2002) used the integrated framework of health accounts to analyze the sources and uses of reproductive and child health funds by provider and expenditure category. National Health Accounts describe the flow of funds in the whole health sector both public and private showing the channeling of funds from sources through financing agents to uses (Rannan-Eliya & Berman 1994). The significance of using National Health Accounts as a tool for policy making and informing the policy process can only be exemplified by studies conducted in various parts of the world. National Health Accounts have been used by policy makers to understand resource allocation, assess equity and efficiency implications so that changes are made in order for health systems to meet the needs of the population. For example, National Health Accounts estimates in Bangladesh showed that outlays for drugs exceeded two – thirds of household expenditures on health, which sparked off debate about the effectiveness of the National Drug Policy (Partnership for Health Reform Plus 2005). Results from

National Health Accounts have been used to develop strategies to improve policy design and implementation. In other studies, the methodology has been modified to facilitate sub-analysis. For example the sub-analysis used to track resource flows for HIV/AIDS (Tien & Ramos 2004). In this way the National Health Accounts framework is modified to enable data capture and collection of data related to specific services. The methodology therefore provides an overview not only on who finances the services but also how much is spent by each source and on what type of services. An adapted version of the 'sources and uses' matrix method is proposed for developing countries because such countries have pluralistic health financing structures than are found in developed countries (Berman 1996).

2.6 Financial Sustainability

In order to review financial sustainability, it is useful to examine major items of expenditure (Thomas & Muirhead 2000). According to Bossert (1990) a review comparing the sustainability of United States government-funded health projects in Central America and Africa found that these were less firmly sustained in Africa. The study evaluated context factors and project characteristics that were related to sustainability of the projects. Financial sustainability can only be achieved when the financial resources available are able to meet expenditure and support a given level of demand. If the demand for drugs exceeds the available resources, the health system is left with only four options: improve efficiency, increase financial resources, reduce demand or accept a decline in quality of care (Dukes & Quick 1997). Sustainability of the total funding source available for drugs in Uganda is not clearly known. In addition, sustainability of the estimated cost of the drug requirement within the National Minimum Health Care Package has not been determined. Achieving sustainability requires implementing a broader policy package to develop skills, systems and mechanisms of accountability critical to ensure effective implementation of financing mechanisms (Gilson 1998). There are several ways of looking at

sustainability; financial sustainability of programs or that of funding sources. This study aims to examine financial sustainability of funding for drugs. It explores financial viability of drug financing mechanisms and the question whether such mechanisms are able to generate adequate income to cover the costs of drugs. Kutzin (1995 p17) defines financial sustainability as the capacity of the reformed health system to provide a sufficient level of finance to enable it to function effectively over time without needing a substantial injection of external support. Others understand financial sustainability as the ability of a country to mobilize adequate resources whether from domestic or foreign resources to reliably meet the required cost of a service.

One way of assessing financial sustainability is to follow spending levels on services, which are particularly sensitive to changes in government revenue, and how these services are financed (Hutton 2000). Some of the indicators that may be used to examine financial sustainability include: exploration of the mix in funding sources and expenditure of revenue generated from these funding; comparing the share of GDP spent on health and on drugs and per capita utilization rates for specific services such as drugs (Kutzin 1995).

2.6 Summary

This chapter has given a review of literature with regard to health care financing concepts and how drug financing is linked to health care financing. An overview on perspectives and studies related to drug financing has been documented. Economic concepts and approaches towards financial sustainability have been explored. The literature shows that most studies have focused on assessing health care financing and expenditure in general and these have been conducted mostly in developed countries. Despite the effort and encouragement to impart skills and assistance in the areas of drug financing in least developed nations the progress has been relatively slow. Studies on drug financing in low income countries have been done mainly in South East Asia and Latin America with very

few in Africa to enable international comparisons. Even at the national level in Uganda, there is no information regarding disaggregated funding for drugs within the whole health sector. This study aims to cover some of the literature gaps by reviewing financing mechanisms and sources of funding for drugs in the both the public and private health sector in Uganda. The study further aims to provide an insight into the financial sustainability of the funding sources and that for the National Minimum Health Care Package drug requirement.

University of Cape Town

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology used in the study. A conceptual framework that clarifies the approach used for data analysis is first presented. The study design employed and the methods used for data collection and analyses from the different sources are then described. Limitations of the study methodology are finally given.

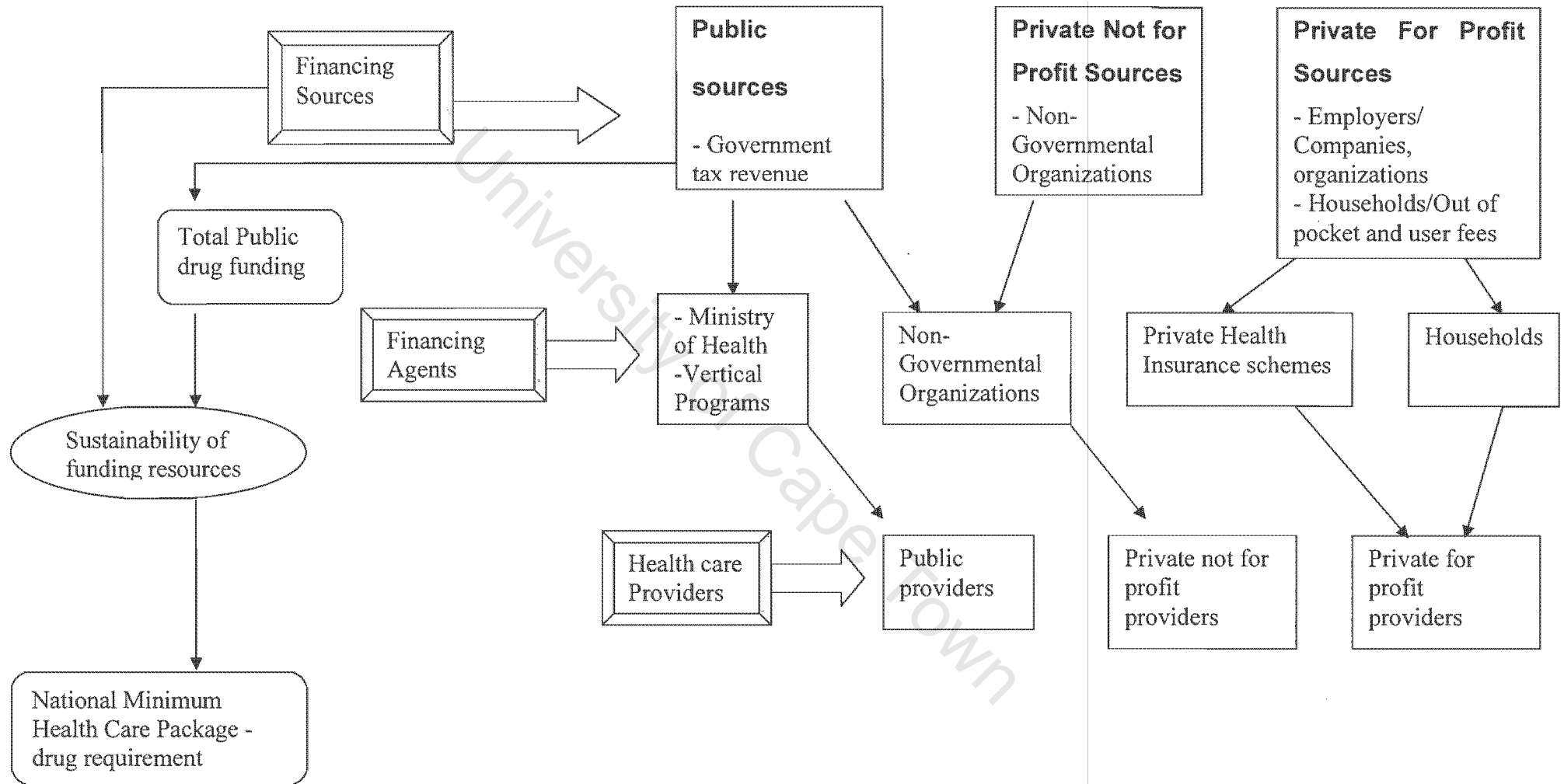
3.2 Conceptual Framework

The National Health Accounts framework developed by Berman (1996) provides an analytical approach for health expenditure requiring the calculation and presentation of national estimates through a "sources and uses" matrix; allowing for extensive disaggregating of sources of spending beyond the general categories of "public" and "private" as described by the Organization for Economic Cooperation and Development methodology. It provides a systematic structure for defining uses according to several important and mutually exclusive classifications.

In this study the framework is modified and applied to show the flow of drug funds from immediate "sources" through "financing agents" to "providers of health care" as illustrated in Figure 1. "Sources" refer to where the funding is coming from. In the framework, financing sources are the sources of drug funds that mainly include public sources, private not-for-profit and private for profit sources. The drug funds then flow through various financing "agents" that refer to those institutions or intermediaries, which receive the money and use it to either pay or purchase drugs. These are broadly classified into the Ministry of Health including vertical programs, non- governmental organizations, private health insurance firms and households. The drug funds are finally channelled to the "uses" which in this study refer to where the drug funds are spent in terms of health care

provider. The health care providers are classified into three major groups; public providers like hospitals, health centres; private not-for-profit providers that purchase drugs for hospitals, clinics and private for-profit providers that sell drugs in pharmacies, hospital pharmacies, clinics and drug shops. The study further investigates whether the total drug funding available in the public health sector was able to meet the drug requirement in the National Minimum Health Care Package. Incorporating assessment of drug financing in terms of sustainability modified the National Health Accounts framework. Sustainability is defined in two ways; first at a level of a health system, sustainability refers to the capacity of the system to continue its normal activities in the future, should foreign assistance be withdrawn (Knowles, Leighton & Stinson 1997) and stability of funding sources. A second definition is concerned with the sufficiency and regularity of sources of finances into the health sector (Thomas & Muirhead 2000). Sustainability may be viewed from two dimensions; financial and institutional. Most health sector reforms aimed at health system performance have concentrated on financial sustainability (Knowles, Leighton & Stinson 1997). This study therefore examines financial sustainability of the funding mechanisms available for drugs in Uganda. Further to this, sustainability of the current drug funding in the public sector in relation to the estimated cost of drug requirements in the National Minimum Health Care Package is reviewed. The total public drug funding includes funding from central government tax revenue and donor support.

Figure 1: Conceptual model for drug financing and flow of drug funds



3.3 Study design

This is a descriptive and analytical study of drug financing mechanisms in Uganda. The national expenditure on drugs as a single line item of health expenditure for both the public and private sector was investigated. Further to this the sustainability of drug funding mechanisms and that of the total public financial resources required to meet the National Minimum Health Care Package drug requirement was also determined.

3.4 Study sites

The study was conducted in Uganda and data collection was based in two sites. The sites included Kampala, the capital city where most of the administrative offices for the country are found and in Entebbe, a municipal town where other ministerial institutions are based.

3.5 Method of sampling

In the study purposive sampling was used for selection of key informants from the relevant institutions and knowledgeable about the topic under study. Snowballing was used for location of key informants in the health insurance industry.

3.6 Data collection methods

Type of data collected

Primary data on drug financing and expenditure patterns including opinions, views and drug financing policy was collected using interviews with key informants in the period from November 2004 to February 2005. Secondary data was obtained by means of document reviews on drug financing and expenditure

in Uganda. The trend in financing and expenditure on drugs was determined for a three-year period starting from the financial year 2001/2002. The key variables that were explored included sources of drug financing and expenditure reviews in the health sector. In addition, financial sustainability of available financial resources for drugs in the public sector was assessed in relation to the National Minimum Health Care Package drug requirement. Data collection methods involved collection of quantitative and qualitative data. Financial quantitative data on drug financing and expenditure in the public and private sector for three years starting from the year 2001 was collected using data capture sheets (see Appendix 1). Qualitative data was obtained using face to face in depth interviews.

Document reviews

Several documents were reviewed including financial records, annual reports and relevant publications. The documents included the National Health Policy (Ministry of Health 1999), the Health Sector Strategic Plan (Ministry of Health 2000), the Health Financing Strategy (Ministry of Health 2002d), Annual Health Sector Performance Reports for the years 2001/02 to 2003/04 (Ministry of Health 2002a, 2003a, 2004a), the National Drug Policy (Ministry of Health 2002b), the National Pharmaceutical Sector Strategic Plan (Ministry of Health 2002c), the Annual Budget Performance Reports (Ministry of Finance and Economic Planning 2002, 2003, 2004a).

Household survey data from the National Bureau of Statistics was used to obtain information on the amount of money spent on drugs by households. Only data for one year (2003) could be obtained since the household surveys are carried out every three years. Given the short duration for data collection disallowing carrying out a national survey and the difficulty in obtaining expenditure in the private sector a method of estimation was used. According to Griffiths and Mills (1983) trade and production statistics for commodities such as drugs and appliances can be used to estimate the cost. Data on drug imports was obtained from the database of National Drug Authority; an organization that regulates all

drugs on the market in Uganda. Data on drug imports was used to estimate drug expenditure in the private sector for the three financial years. Data for cost of drugs imported by National Medical Stores, which supplies mainly the public sector and cost data for drugs imported by Joint Medical Stores that supplies the Private Not-For-Profit sector was disaggregated from cost data for all drug imports leaving a figure that reflects cost data for drugs imported by the private sector. A 50 per cent (average wholesale mark up) mark up was then added to the cost value of drugs imported by the private sector to give an estimate of the wholesale drug cost in the private sector.

In – depth semi – structured interviews

Face-to face in depth interviews were held with key informants in the different government and private sectors (See Appendix 2, 3 and 4). Participants comprised of leading key personnel who were interviewed using purposeful sampling and snowballing sampling. Data sets were presented according to public and private sector.

In the public sector, interviews were carried out to obtain data on drug financing mechanisms and sources of funding for drugs. Face to face in- depth Interviews were conducted with leading personnel from key departments in the Ministry of Health (staff of Health Planning, Pharmaceutical and Accounts departments), Ministry of Finance and Economic Planning (department responsible for planning, budgeting and expense control for the health sector) and National Medical Stores. Interviews were also conducted with key officials from the following donor agencies: World Bank, Danish International Development Agency (DANIDA), United Nations International Children's Emergency Fund (UNICEF) and United States Agency for International Development (USAID-Deliver Project). Interviews were also conducted with the relevant key officials from International supporting bodies like World Health Organization (WHO). It was not possible to obtain data from Department for International Development (DFID) and other donors because these now subscribe to the Sector Wide Approach

framework and thus channel their financial support through the Ministry of Finance and Economic Planning.

In order to obtain data for the Private Not-For-Profit sector, an interview was held with the General Manager of Joint Medical Stores because most drug supplies for the mission sector are distributed from this institution. Joint Medical Stores supplies drugs to all health units belonging to the Catholic Medical Bureau and the Protestant Medical Bureau. The Islamic Medical Bureau mainly depends on drug supplies from the government and Joint Medical Stores. Therefore data from this source was omitted to avoid double counting.

For the private sector, a total of five private health insurance companies were visited. These included:

- African Air Rescue (AAR)
- Micro care (formerly known as AON)
- International Air Ambulance (IAA)
- Case Medicare
- American International Group Uganda (AIG)

It was assumed that other employers that do not subscribe to private health insurance companies or Health Maintenance Organizations pay medical expenses for their employees at specified clinics. Including these separately will mean double counting because these are included in the private sector that comprises of private hospitals, medical centers, clinics, pharmacies and drug shops. Face to face in depth interviews were held with key informants in these firms using the interview guide (see Appendix 4). The amount of funds spent on health services and drugs from 2001 to 2004 was extracted from their records and filled in the appropriate forms (see Appendix 1).

3.7 Data Analysis

Basing on the principle and modification of the National Health Accounts methodology (Berman 1996), the study set out to obtain data on drug financing and expenditure at a national level.

First, different drug financing mechanisms in the country were identified and presented as they function within the health sector. The drug financing mechanisms were analyzed according to level of funding, reliability and viability. Secondly, the flow of drug funds from sources to healthcare providers was obtained following the modification of the National Health Accounts method developed by Berman (1996). Data obtained was grouped according to flow of funds in the country. Using the modified NHA methodology, a matrix of flow of funds from the original source to financing agent (intermediary) was constructed. Another matrix of drug fund flow from financing agent to health care providers was then constructed. Drug expenditures at the different levels of health care were then compared and contrasted. Lastly, assessment of financial sustainability was carried out using projections based on the growth rate of drug financing resources within the review period (2001-2004). The growth trend was determined by plotting the total drug expenditure in billion Uganda shillings for the three financial years within the review period. The average growth rate within the review period was then obtained and used to project the total drug expenditure in the proceeding years. The projected figures were compared with the predicted cost of the drug component within the National Minimum Health Care Package. Qualitative analysis of financial sustainability was carried out based on the trend of support from donors as opposed to government budget allocation to health and subsequently to drugs; comparison of health and drug expenditure as a percentage of GDP and comparison of public and private funding for drugs.

The data was examined for errors and completeness. It was entered and analyzed using Microsoft Excel 2000.

Qualitative data was analyzed using narrative analysis. The qualitative data obtained from interviews was encoded manually on a document manually. The data was condensed according to the different themes regarding drug financing and sustainability. This was done manually and using the computer in MS Word. The different themes were then presented in the chapter on results under the four subsections together with the quantitative data.

3.8 Limitations of data and bias

The data is based on estimates of drug expenditure and not accurate figures on expenditure on drugs. There is a selection bias in that only mid – level managers were selected for the interviews nevertheless, it is thought that these have a clear overview of drug financing issues both at policy and operational levels and influence decision- making.

Data on drug expenditures excludes expenditure on traditional medicines, which is difficult to compute. Data on drug funds disbursed from the Ministry of Finance and Economic Planning to other ministries were excluded. Funds for drugs spent by firms to workplace clinics were omitted due to the fact that such firms are few in number and the majority of these firms now subscribe to private health insurance and health maintenance organizations.

It was difficult to disaggregate data on funding of drugs from government of Uganda and donor support. It was not possible to disaggregate funds spent on the National Minimum Health Care Package drug requirement and other drug requirements in the public health sector.

3.9 Ethics Approval

Being a descriptive and analytical research, the study posed minimum risk to participants. Before conducting the research, approval to conduct the study was sought from the Research Ethics Committee at the University of Capetown, South Africa. Authority to conduct the study and review relevant records in Uganda was obtained from the Ministry of Health, Kampala (see Appendix 5).

Permission to review documents and extract data from all participating institutions was obtained from the head of the organizations concerned. Face to face in- depth interviews were conducted with key informants after seeking consent thus ensuring autonomy of the persons involved in the study. Before the interviews, participants were informed about the purpose of the study and were requested to participate on a voluntary basis without any coercion. A letter of consent was read and signed by the participant as proof of consent to participate in the study (see appendix 6). As a means to avoid harm, participants were assured of the choice to withdraw from the interview at any point in time. Since retrieval of information involved handling financial and other sensitive issues, participants were assured of their confidentiality.

3.10 Summary

This chapter has outlined the research methodology used to conduct the study. The data was based on qualitative and quantitative primary and secondary data from different sources in both the public and private health sector in Uganda. The conceptual framework used is based on the National Health Accounts methodology, which was modified by incorporating the aspect of sustainability of financing resources for drugs. Data was analyzed using Microsoft Excel 2000 and narrative qualitative analysis.

CHAPTER 4: RESULTS OF THE STUDY

4.1 Introduction

This chapter describes the main findings of the study. The different drug financing mechanisms and patterns are mapped out followed by analysis of drug financing and expenditure from different sources of funding. Finally the sustainability of current drug financing resources relative to the National Minimum Health Care Package drug requirement is assessed. Primary data is based on interviews with key informants in the relevant organizations, firms and institutions. Secondary data was obtained from review of documents relating to data reported or published within a period of three years starting from 2001. Both sources of data provided quantitative and qualitative data.

4.2 Drug financing mechanisms in Uganda

This section presents the different drug financing mechanisms in Uganda. The mechanisms are categorized into two groups, public and private. A description of each drug financing mechanism as it functions in the country is given. Finally, a brief report on Social Health Insurance as an emerging financing mechanism for drugs is also presented.

It was expressed by all key informants in the Ministry of health that drug financing forms part of the National Health Policy (Ministry of Health 1999), is explicitly defined in the Health Sector Strategic Plan (Ministry of Health 2000) and the Uganda Health Financing Strategy (Ministry of Health 2002d). The main goal of drug financing as a major policy area within the National Drug Policy is to ensure that sufficient funds are available to maintain a regular and adequate supply of the required essential drugs and equitable access to these by the population (Ministry of Health 2002b). Several drug-financing mechanisms have developed over time within the Ugandan health sector and have been established to meet

the above-mentioned goal. The responsibility for implementation, monitoring and evaluation of the drug financing policy lies mainly with the pharmaceutical and planning department of the Ministry of Health. The Principal pharmacist said that there has been a gradual realization of the objectives of the drug financing policy in the advent of new diseases like HIV/AIDS and new treatments for malaria. All key informants acknowledged the importance of availability of drugs as a major development issue.

In Uganda, drug-financing mechanisms may be categorized into either public or private, similar to health care financing mechanisms. The different sources of funding disburse their funds through various funding mechanisms as shown in Table 1. All key informants in the government cited government tax-revenue including donor budget support and global initiatives as key sources of funding. It was further noted that households are a major source of drug funding except it was difficult to obtain accurate results due to poor documentation.

Table 1: Sources of drug funding and their financing mechanisms

Financing Source	Financing Mechanisms
Government of Uganda	Central Government tax revenue
	Donor Budget support
Donors	Donor Project funding
Employers	User fees
	Private Health Insurance
Non- Governmental Organizations	Grants and subsidies
Households	Out of pocket purchases/ User fees
	Community health insurance

Source: Ministry of Health (2002d)

4.2.1 Public drug financing mechanisms

Section 4.2.1 examines drug-financing mechanisms within the public sector. Public drug financing mechanisms comprise of mainly central government tax revenue, donor funding and donor project funding. Funding from donors is grouped under public because the funds are mainly utilized within the public health care system. Based on primary data from key informants in the Ministry of Health, Ministry of Finance and Economic Planning, Donor Agencies and supporting International organizations like World Health Organization coupled with documentary reviews, the following qualitative data findings were obtained and are presented below:

a) Central Government Tax Revenue including Donor funding

Central government funding for drugs is mainly generated from revenue collected from taxes. Financing of drugs from this mechanism is determined by a combination of economic factors, national budget decisions and internal decisions by health ministries (Dukes & Quick, 1997). As such the Ugandan government embarked on a new mode of financing government services through the Sector Wide Approach in the year 2001 (Ministry of Health, 2002a). Through this reform, all funds from the central government revenue and that from donors is pooled together through the Ministry of Finance and Economic Planning and then later distributed to the Ministry of Health and other government sectors (Ministry of Health, 2002d).

It is therefore difficult to disaggregate funds allocated to the health sector for drugs from the central government and those from donor funding. Several donors contribute funds to the government of Uganda some of which may be earmarked for the health sector specifically for drugs.

Allocation of drug funds is based on a number of constitutional arrangements as stated by the Senior Economist in the Ministry of Finance and Economic Planning. All relevant parties must agree upon the government budget including

that for drugs. According to interviews with key personnel in the Ministry of Health, Pharmaceutical Division, funds for drugs from the central government (including donor funds) within the review period 2001 to 2004, were disbursed to referral hospitals and district health facilities through two main streams:

- i). Recurrent transfers
- ii). Credit line

Recurrent transfers

Recurrent transfers are delegated funds arising from the Poverty Action Fund (PAF) that is classified as a Primary Health Care Conditional Grant (PHC – CG). Such funds are decentralized funds transferred to the local government in a bid to strengthen peripheral health services as agreed upon by countries in the Abuja declaration. As such the disbursement from the Ministry of Finance and Economic Planning is direct to the districts on a monthly basis although in reality the monthly frequency may not be attained as stipulated. Specific guidelines are set out on the utilization of Primary Health Care Conditional Grant. The guidelines require that 50% and 40% of the funds be spent on drugs for district health facilities and hospitals respectively. The guidelines further require that purchases of drugs be made at the National Medical Stores. In the event that the drugs required are not available, a certificate of non-availability is issued so that the health facility obtains the drug supplies from Joint Medical Stores. If the drugs are also not in stock at this facility, drug purchases can then be made from the private sector. Allocation of drug funds among districts is based on a formula that factors in the following aspects: population, poverty index and migrant population.

Credit line

Following the change from a push to a pull system of supplying drugs from the National Medical Stores, Essential Drug Accounts were established at the Ministry of Health for public and Private Not-For-Profit health facilities (Ministry of Health 2003b). Funds obtained from the national shared services programme and the Health Sector Support Programme II Project (funded by the Danish government) are disbursed from the central government to the Ministry of Health. Under this arrangement the health units at District level are notified of their credit line from which orders are placed at either National Medical Stores or Joint Medical Stores on a monthly basis. Such funds are only used to purchase drugs specified on a list of essential drugs consisting of 72 items (Interview data). For the credit line funds, 50% of the funds are allocated equally among the 56 districts and the other 50% is distributed using the allocation formula that takes into account factors such as population (Interview data).

b) Donor Project Funding

During the review period (2001 – 2004), most of the development partners had switched from project funding to budget support, thus channeling their funding through the government of Uganda (Ministry of Health 2004a). However, others continued to provide financial support directly to specific areas in the health sector through bilateral and multilateral agreements. The major players in this area include project funding from USAID, DFID (Ministry of Health 2004a). With this scenario, a new financing mechanism at international level has sprung up causing a new wave for donors to fund the health sector through Global Initiatives.

Global Initiatives

Global Initiatives is a way for development partners to fund projects in developing countries. The first of these global initiatives to be introduced into Uganda in mid 2002 was the Global Alliance for Vaccines and Immunization (GAVI) (Interview data). GAVI mainly focuses on improving child welfare by reducing child mortality rates through provision of high quality vaccines for the six major killer childhood diseases that can be prevented through immunization. The next to emerge in 2003 was the Global Fund for AIDS, Tuberculosis and Malaria (GFATM).

The Global Fund, an international financing mechanism for additional resources to the health sector provides funds according to locally developed proposals aimed at prevention and management of AIDS, Tuberculosis and Malaria (Ministry of Health 2003a). Since drugs form a major input in the management of these three diseases, a substantial amount of funds has been utilized to purchase anti-retrovirals, anti-malarials and anti – tuberculous drugs. Global initiatives have focused on financing priority areas within the health sector to provide impact on improving the health status of the population thus promising to be a key source of funding for drugs at least in the medium term.

On health sector program priorities that could impact on drug funding, all key informants noted human resource as a major competing input followed by infrastructure, equipment and operational items such as fuel, maintenance costs especially at district level.

4.2.2. Private drug financing mechanisms

Section 4.2.2 shows the major private drug financing mechanisms. In most developing countries, the private sector forms a significant source of funding for drugs and this is no different for a country like Uganda.

Three financing mechanisms for drugs in the private sector were identified and these include:

- a) Private Not-For-Profit (PNFP),
- b) Direct private purchases,
- c) Private health insurance,
- d) Community health insurance

An account of each mechanism is given as follows:

a) Private Not-For Profit

This mechanism encompasses funding from local and international non-governmental organizations. Financing of health services including purchase of drugs takes the form of grants or subsidies. The agencies involved in this sector are mainly faith-based and operate in collaboration with the Ministry of Health. Most of the drugs supplied to Non-Governmental Organizations' facilities are distributed through Joint Medical Stores, a Private Not-For-Profit organization that supplies medicines, medical equipment and related health care services to Uganda Catholic Medical Bureau (UCMB) and Uganda Protestant Medical Bureau (UPMB) health units (Joint Medical Stores 2004).

b) Direct Private purchases

The most common form of payment for health services in the private sector in Uganda is out-of-pocket fee for service. Thus households spend a substantial amount of their income on purchase of drugs from government, private not-for-profit and private for profit health facilities. In government and PNFP health units, payment takes the form of user-fees whereas in private for profit health facilities, payment is direct out-of-pocket.

User Fees

User fees, a prescribed amount of money to be paid by patients before health service delivery, were abolished in government health units in March 2001 (Ministry of Health 2002d) leaving such fees to be charged in private wings of hospitals and the “private window” of PNFP health facilities. This change in policy on financing health services resulted into increased utilization of health facilities and an increased demand for drugs in public health facilities (Ministry of Health 2003a).

c) Private Health Insurance

There were five companies providing private health insurance or voluntary private prepayment for health services that participated in the study. Private health insurance does not have large coverage in Uganda. The five firms visited were able to cover only 0.1% (Interview data) of the country's population. Some of the companies were underwriting other different kinds of risks like motor vehicle and travel insurance while others were dealing with health insurance independently. Subscription to private health insurance is mainly comprised of people in formal employment whereby employers pay specified premiums to private health insurance companies who may either provide the health services directly or contract out other health service providers. Premium rates per annum range from US\$200 to US\$800 per annum depending on whether one subscribes to individual or group membership (Interview data). All the five health insurance organizations provided basic essential drugs within their health benefit package. For some of the firms, high valued drugs like antiretrovirals were excluded in the basic package and were paid for separately. Drugs were provided from either private health facilities or public health facilities. From the interview data it was noted that regulation of the health insurance industry has not been well organized.

d) Community based health insurance

Community based health insurance had been embarked upon through the Revolving drug fund (Bamako Initiative) but during the review period these schemes had been scaled down and in other cases abandoned. The few that were operating were in very few districts and had minimal contribution.

4.2.3 Social Health Insurance

Social Health Insurance (SHI) is a financing mechanism that is not in place in Uganda. A feasibility study has been carried out by Ministry of Health in collaboration with the Harvard School of Public Health (Berman et al 2001). The study recommends a gradual introduction of Social Health Insurance schemes in the formal sector. Plans are underway to have a legislative framework within which to implement this mechanism within the formal sector in a phased manner.

4.2.4 Summary

This section has revealed the different drug-financing mechanisms outlining how they function within the health care system in Uganda. The country has taken a pluralistic approach in which different drug financing mechanisms serve different groups of population. The results show that some of the mechanisms like direct private purchases and government tax revenue including donor support are more dominant than others in meeting the burden of drug financing in the country. This is further illustrated in the next section that analyzes drug financing and expenditure from different sources of funding.

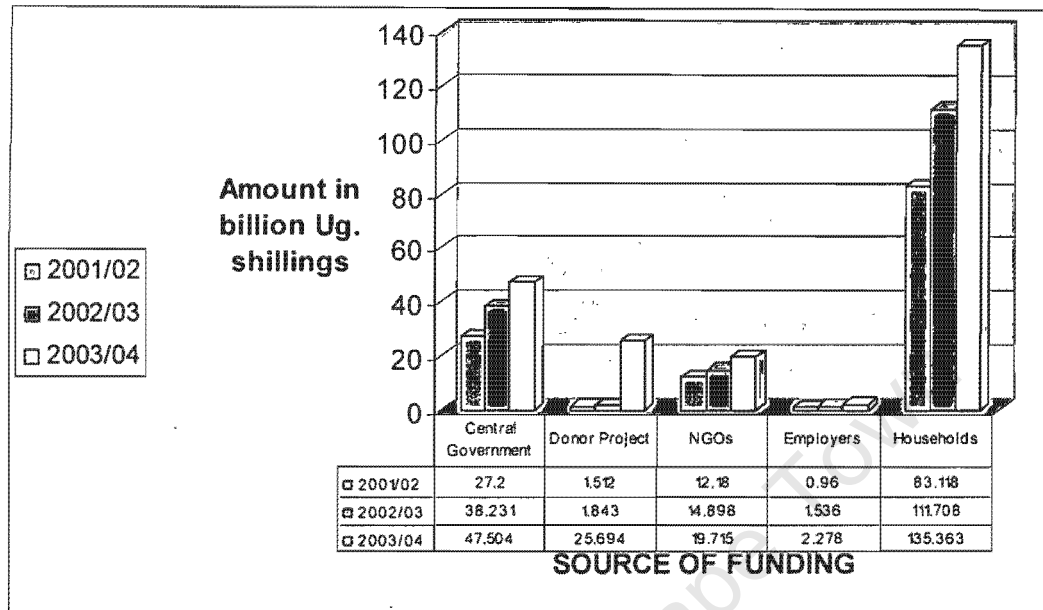
4.3 Sources of drug funding and the flow

This section presents the sources of drug funding and expenditure for three financial years starting from 2001/2002. The flow of funds from sources to financing agents, then financing agents to health care providers is examined.

4.3.1 Sources of drug funding

As mentioned earlier in section 4.2, there are five major sources of drug funding within the Ugandan health sector that contribute to the total funding pool for drugs. Figure 2 shows the largest source of drug funding to be households. It further reveals the lowest source of funding to be employers. The dramatic increase in donor project funding for drugs in the financial year 2003/04 was mainly attributed to the funds obtained from the Global Fund Program amounting to 20.7 billion Uganda shillings (Ministry of Health 2004c). Non-Governmental Organizations serve as a substantial source of funding for drugs (Joint Medical Stores Report 2004). Figure 2 further illustrates an increasing expenditure on drugs from all the different sources though at different rates with donor project funding increasing at the highest rate of 76.8% per annum from the financial year 2001/02 to 2003/04.

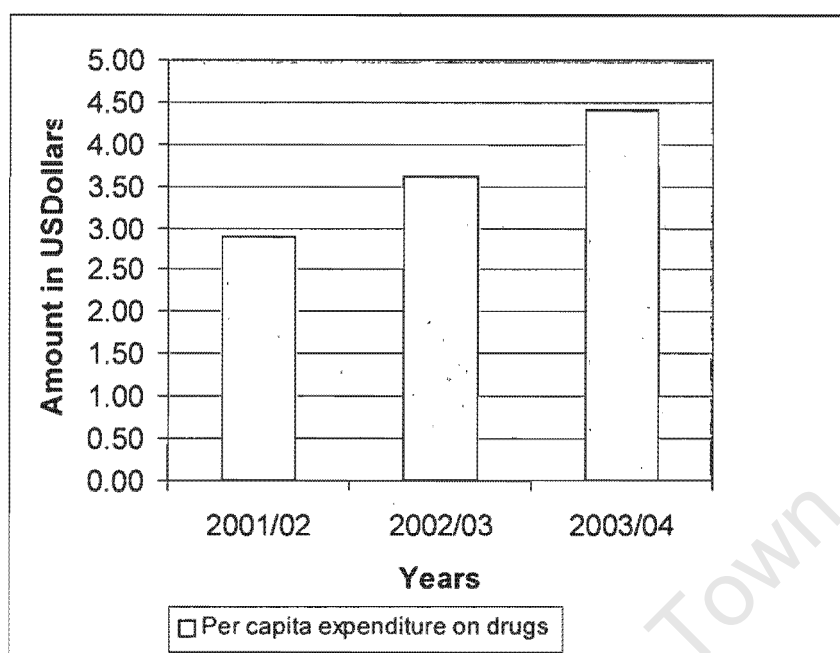
Figure 2: Expenditure on drugs by source (Ug.shs real terms)



Source: Ministry of Health (2004c); Joint Medical Store Report (2004); Private Health Insurance interview data (2004); National Drug Authority imports database (2004)

Combining all the financial resources from the sources mentioned above gives an estimation of the total resource base available for financing drugs within the review period (2001 – 2004). The total drug financial resource estimate increased from 125 billion Uganda shillings (2001/02) to 210 billion Uganda shillings (2003/04) excluding funds from the Global Fund, registering an increase of 23 percent per annum over the three-year review period. The total per capita drug spending from all sources is given in Figure 3. There was a steady increase in total per capita drug expenditure from all sources over the review period though less than US\$5 per capita in all the years reviewed.

Figure 3: Total per capita drug expenditure in the health sector (US Dollars)



Source: Ministry of Health (2004c); The average exchange rate for 2001/02 is 1US\$ = Ug.shs.1754.6; 2002/03: 1US\$ = Ug.shs.1881.1; 2003/04: 1US\$ = Ug.shs.1936.2 (Ministry of Finance, Planning and Economic Development 2004b)

4.3.2 Financial flows for drugs in Uganda's health sector

a) Financing sources to financing agents

Drug financing by source in the health sector for the three financial years 2001/02 to 2003/04 is presented in Table 2. Among the five major streams of financing agents, Households have the largest flow of drug funds [66.5% (2001/02); 66.4% (2002/03); 57% (2003/04)] followed by the Ministry of Health. This trend is reflected through out the three years under review.

Although the amount of funds flowing through the Ministry of Health from the Ministry of Finance and Economic Planning increased over the review period the percentage of the total amount of funds for the various years decreased slightly;

21.8% (2001/2); 21% (2002/3); 20% (2003/4). A similar slight decline was observed for funds spent by PNFP organizations though showing almost half the percentage [9.7% (2001/02); 8.9% (2002/03); 8.3% (2003/04)] spent by the Ministry of Health. Funds for drugs flowing from Donor project funding to vertical programs increased drastically up to 13.7% of the total drug funding in the financial year 2003/04. However, funds spent by Private Health Insurance firms remained almost constant [0.8% (2001/02); 0.9% (2002/03); 1% (2003/04)] over the period under review.

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Table 2: Matrix of sources of drug funding to financing agents for the FY 2001/2 to 2003/4 (Ug.shs. real terms)

Financing Agent	Source:																	
	Ministry of Finance			Donor Project Funding			Employer			NGOs			Household			Total		
	2001/02	2002/03	2003/04	2001/02	2002/03	2003/04	2001/02	2002/03	2003/04	2001/02	2002/03	2003/04	2001/02	2002/03	2003/04	2001/02	2002/03	2003/04
Ministry of Health	27.20	35.29	47.50															
Vertical programs				1.51	4.79	32.48												
Private NFP										12.2	14.90	19.7						
Households													83.1	112	135			
Private Health Insurance							0.96	1.54	2.28									
Total	27.20	35.29	47.50	1.51	4.79	32.48	0.96	1.54	2.28	12.2	14.90	19.7	83.1	112	135	124.97	168.22	237.34
% of Total	21.8	21.0	20.0	1.2	2.8	13.7	0.8	0.9	1.0	9.7	8.9	8.3	66.5	66.4	57.0			

Source: Ministry of Health (2002a, 2003a, 2004a, 2004c); Ministry of Finance and Economic Planning (2004a); Joint Medical Stores (2004); National Drug Authority (2004)

b) Financing agents to providers of health care

The flow of funds for drugs to the various health care providers is presented in Table 3 for the three financial years starting from 2001/02. The Ministry of Health distributes the drug funds to various levels of care, national, regional referral, district and at health center level. Table 3 shows that the Ministry of Health witnessed a sharp increase in the year 2003/04 in the amount of funds used to purchase drugs at the central level. Funding for drugs at the national referral hospitals remained constant (approximately 4 billion Uganda shillings) over the review period (2001 – 2004). Regional referral hospitals witnessed an average of 20% increase in drug funding whereas that for district hospitals was 26% within the period under review.

Private facilities still maintain the highest percentage of the total amount of drug funds in the health sector (67.3%, 68.6% and 58% for the financial years 2001/02; 2002/03 and 2003/04 respectively). These are followed by the non-governmental organizational facilities and the lowest are the regional referral and district hospitals. The total amount of drug funds utilized by health care providers increased over the three years by 112%.

Table 3: Matrix of financing agents to health care providers for the FY 2001/02 to 2003/04 (Ug. shs. real terms)

Provider	Financing Agent																				
	Ministry of Health			Vertical Programs			Private NFP			Households			Private Health Insurance			Total			%Total		
	2001/02	2002/03	2003/04	2001/02	2002/03	2003/04	2001/02	2002/03	2003/04	2001/02	2002/03	2003/04	2001/02	2002/03	2003/04	2001/02	2002/03	2003/04	2001/02	2002/03	2003/04
Ministry of Health	10.53	12	23.74													10.53	12	23.74	8.4	7.3	10
National Referral Hospitals	4.02	3.92	3.92													4.02	3.92	3.92	3.2	2.4	1.7
Referral Hospitals	1.21	1.72	1.88													1.21	1.72	1.88	1	1	0.8
District Hospitals	0.72	2.46	3.12													0.72	2.46	3.12	0.6	1.5	1.3
District Health Centers	7.45	7.25	9.54													7.45	7.25	9.54	6	4.4	4
Vertical Programs				1.51	4.79	32.48										1.51	4.79	32.48	1.2	2.9	13.7
NGOs	3.27	4.73	5.32				12.18	14.9	19.72							15.45	19.63	25.04	12.4	11.9	10.5
Private Facilities										83.12	111.71	135.36	0.96	1.54	2.28	84.08	113.25	137.64	67.3	68.6	58
Total																124.97	165.02	237.36			

Source: Ministry of Health data (2002a, 2003a, 2004a, 2004c); Ministry of Finance and Economic Planning (2004a); Joint Medical Stores (2004); National Drug Authority (2004)

4.3.3 Public expenditure on drugs

Section 4.3.3 presents expenditure on drugs in the public sector. Table 4 shows that GDP increased at 9.7% per annum over the review period (2001-2004) while expenditure on health and drugs increased at a rate of 4.8% and 24.8% respectively. Increase in GDP was accompanied with increased spending on health and subsequently an increased spending on drugs. Drug expenditure as a percentage of GDP increased from 0.27% in 2001/02 to 0.36% in 2003/04. Drug expenditure as a percentage of public health expenditure including donor support showed an increase from 8.6% (2001/02) to 13.2% (2003/04).

Table 4: Expenditure on drugs in the public sector (in billion Ug.shs. real terms)

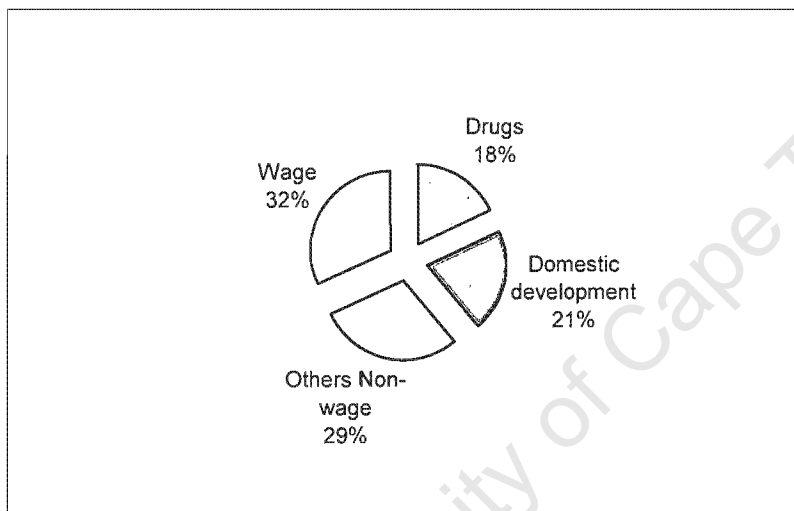
	2001/02	2002/03	2003/04
GDP	10232.00	11692.00	13215.00
Government expenditure on health	171.85	188.93	207.99
Government expenditure on health including donors	315.93	306.17	361.00
Public drug expenditure	27.20	38.23	47.50
% GDP spent on drugs	0.27	0.33	0.36
Health expenditure as a % of total government expenditure	8.9	9.0	9.6
% health expenditure on drugs	8.6	12.5	13.2

Source: Ministry of Health Annual Performance Reports (2002a, 2003a, 2004a); Ministry of Finance and Economic Planning Annual Budget Performance Reports 2002, 2003, 2004a)

Expenditure on drugs compared to other Inputs in the Public Sector

Various inputs are required to implement health system objectives. Public health funds are thus used to provide such inputs. Allocation of health sector budget for the FY 2003/04 is hereby shown in Figure 4. Though the 18% allocation on drugs appears to be the lowest compared to other key expenditure categories it nevertheless indicates a significant proportion of the total health expenditure.

Figure 4: Allocation of health sector budget by input



Source: Ministry of Health (2003a)

Drug expenditure by level of care

Table 5 shows a decreasing expenditure on drugs from the central level over the review period and increasing drug expenditure on vertical programs. In 2001/02, district health facilities received 25.9% of the drug funds second to the central level and this was reduced in 2002/03 by 6% and in 2003/04 by 14% relative to the baseline year. On average 18% of the public drug expenditure was used in national, referral and district hospitals within the review period (2001 –2004).

Table 5: Public drug expenditure by level of care (in billion Ug.shs. real terms)

Levels of care	2001/02		2002/03		2003/04	
	Share of total drug expenditure	% share of total drug expenditure	Share of total drug expenditure	% share of total drug expenditure	Share of total drug expenditure	% share of total drug expenditure
Ministry of Health General	10.53	36.7%	12.00	32.5%	23.74	29.7%
Hospitals	5.96	20.8%	8.10	22.0%	8.92	11.2%
District Health Centers	7.45	25.9%	7.25	19.7%	9.54	11.9%
NGO Facilites	3.27	11.4%	4.73	12.8%	5.32	6.7%
Vertical Programs	1.51	5.3%	4.79	13.0%	32.48	40.6%
Total public drug expenditure	28.72	100.0%	36.87	100.0%	80.00	100.0%

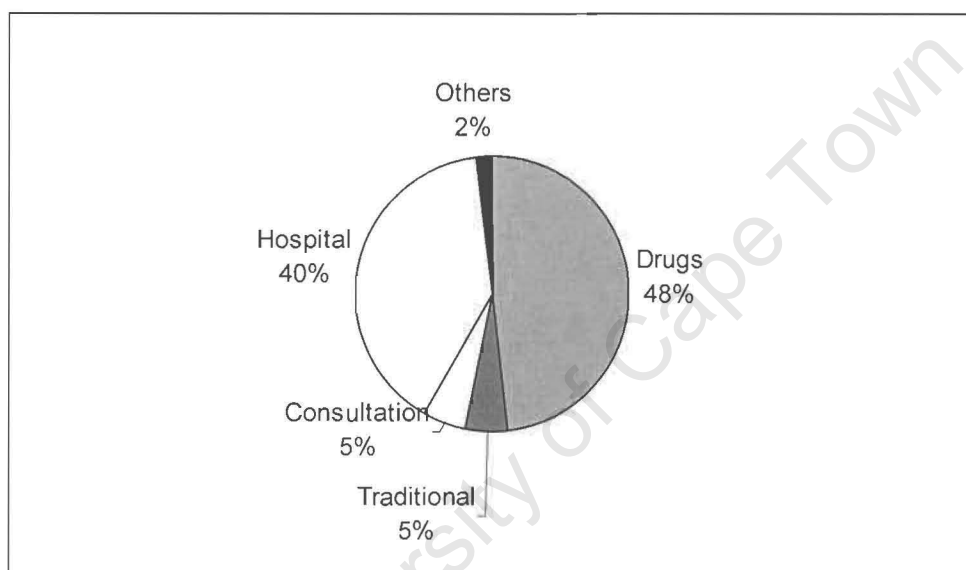
Source: Ministry of Health (2004c); Ministry of Finance and Economic Planning (2004a)

4.3.4 Expenditure on drugs in the private sector

Household expenditure on drugs

Household expenditure on drugs is based on the data collected from household surveys for the year 2003. Figure 5 shows the highest component of the total health expenditure to be drugs (48%), which translates into US\$1.9 per month per household (Uganda Bureau of Statistics 2003b).

Figure 5: Household expenditure on health



Source: Uganda National Bureau of Statistics (2003)

Health Insurance

Currently, approximately 0.1% of the population is covered by private health insurance and managed care (Interview data). This is a very small proportion of the total population that requires access to health care. Most of the insurance schemes cover essential drugs to a specified maximum above, which the member has to pay out of pocket. Some of the firms exclude high-valued drugs. A total of five firms that offer health insurance either as purely insurance

companies or Health Maintenance Organizations were visited. Table 6 shows that on average over 50% of the membership contributions are spent on drugs.

Table 6: Use of Membership contribution in Private Health Insurance
(Figures in billion Ug. shs. real terms)

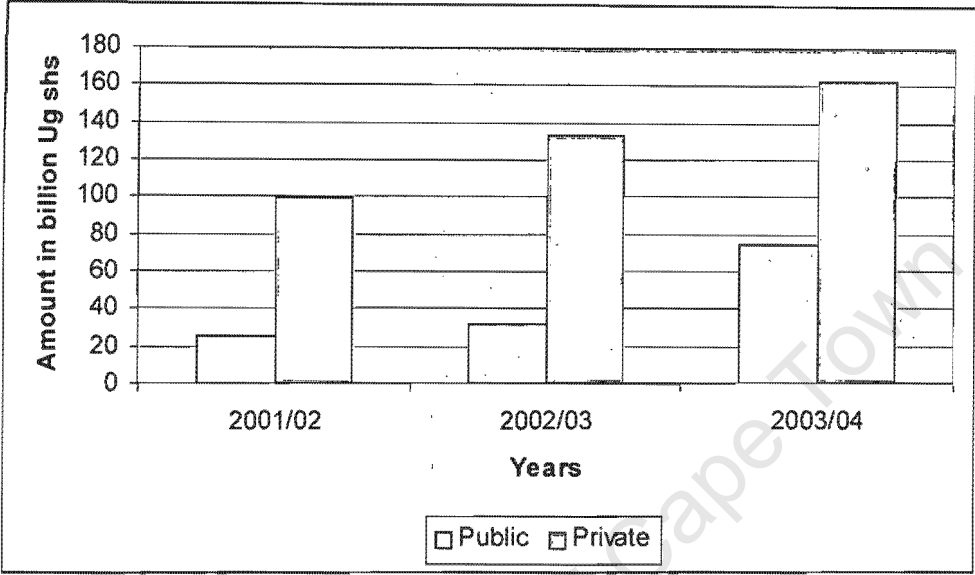
Year	Expenditure on health services	Expenditure on drugs	% of total health services spent on drugs
2001/2	1.7	0.96	56.5
2002/3	3.29	1.54	46.8
2003/4	3.9	2.28	58.5

Source: Private Health Insurance interview data (2004)

4.3.5 Comparison of public and private drug expenditure

Figure 6 shows that the private drug expenditure is much higher than the drug expenditure in the public sector. This scenario further illustrates the fact that provision of drugs in the pharmaceutical sector in Uganda is largely through the private sector. In both the public and private sector there was an increase in drug expenditure over the three-year review period (2001 – 2004).

**Figure 6: Comparison of drug expenditure in the public and private sector
(in billion Ug.shs.real terms)**



Source: Ministry of Health data (2002a, 2003a, 2004a, 2004c); Ministry of Finance and Economic Planning (2004a); Joint Medical Stores (2004); National Drug Authority drug Importation database (2004); Private Insurance Interview data (2004)

Summary

This section has outlined the sources of drug funding in both the public and the private sector. It has presented the flow of drug funds from the various sources through financing agents to the different levels of health care. The findings showed households to be the largest source of funding for drugs, which funding is eventually spent in the private sector. Drug expenditure in the public sector was compared and found to be lower than that in the private sector. The next section, 4.4 will present the findings on sustainability of resources available to finance the drug requirement in the National Minimum Health Care Package.

4.4 Sustainability of drug funding relative to the NMHCP drug requirement

This section presents an assessment of sustainability of available financial resources for drug financing and compares these resources with the drug requirement specified within the National Minimum Health Care Package.

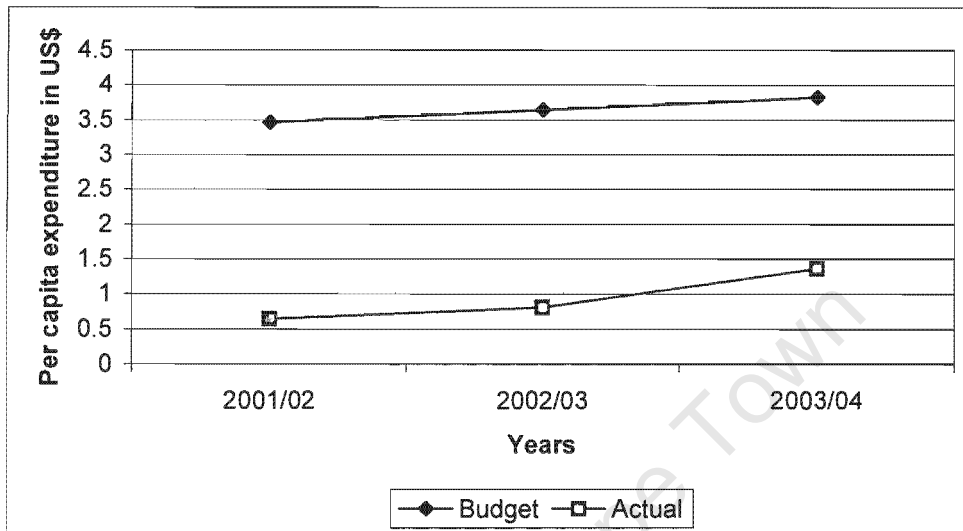
4.4.1 Costing and Financing of the NMHCP drug requirement

The National Minimum Health Care Package has been developed with the aim of efficiently meeting the basic health requirements of the population in the government and Private Not-For-Profit health facilities (Ministry of Health 2003a). The Ministry of Health carried out costing for drugs as a vital component of recurrent costs required for effective delivery of the minimum health care package at all levels of health care (Ministry of Health 2000). According to the Health Sector Strategic Plan (2000), "estimates of drug consumption were based on the national drug quantification exercise carried out by the National Drug Authority. Estimates were corrected for accessibility of the population to health facilities (estimated at 46%). An annual per capita drug consumption rate was calculated and based on the country population gave the national annual drug requirement. Drug costs were estimated basing on the output statistics and performance indicators from the inventory of health services in Uganda for the year 1996. The vaccine requirement was obtained from the Uganda National Expanded Program on Immunization (UNEPI) estimation". The cost of drugs in the National Minimum Health Care Package was predicted by the Ministry of Health to increase over a period of 10 years starting from the financial year 2001/02. The costs exclude Anti – Retroviral drugs and pentavalent vaccines that are likely to escalate the cost because of the associated high value.

The resources for drugs in the public sector that were used in the review period (2001 – 2004) to meet the National Minimum Health Care Package drug

requirements were not able to meet the target set out in the Health Financing Strategy as demonstrated in Figure 7.

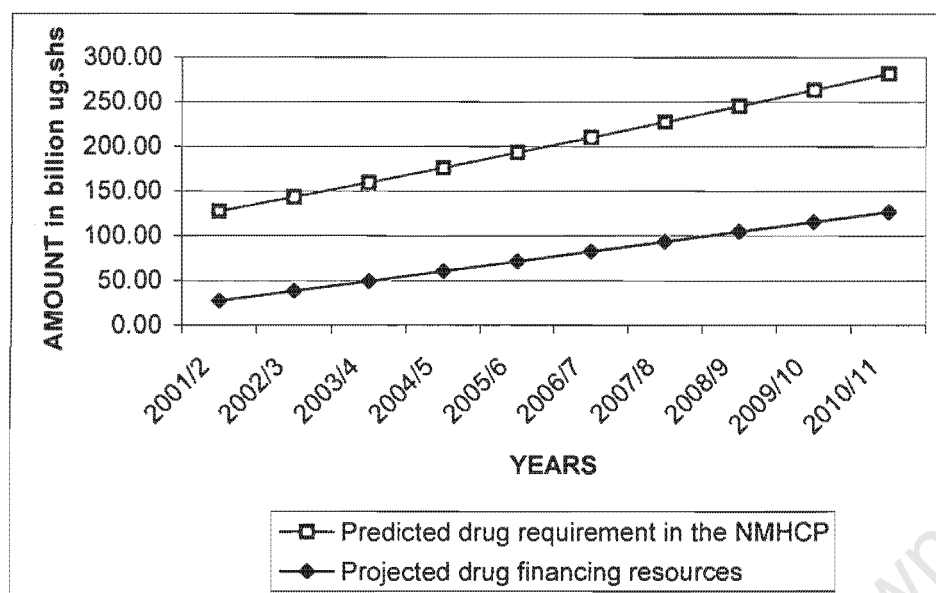
Figure 7: Financing gap for the NMHCP drug requirement



Source: Ministry of Health (2002d); The average exchange rate for 2001/02 is 1US\$ = Ug.shs.1754.6; 2002/03: 1US\$ = Ug.shs.1881.1; 2003/04: 1US\$ = Ug.shs.1936.2 (Ministry of Finance, Planning and Economic Development 2004b)

This reflects a large financing gap between the target set out in the NMHCP and the actual expenditure on drug requirements within the NMHCP. On examining the future trend of funding the drug requirement for the NMHCP, a projection was made to determine the funding that would be available in the next ten years in relation to the resources available in the review period. The projection is based on the growth rate of drug financing over the review period (2001 – 2004). Figure 8 shows the trend analysis, which still demonstrates a growing financial gap between the projected funds and the cost of the drug component within the NMHCP predicted by the Ministry of Health.

Figure 8: Financial trend for drug component in the NMHCP



Source: Ministry of Health (2003a); Ministry of Health (2002d)

4.4.2 Sustainability of drug financing resources

In order to assess sustainability of drug financing resources, various indicators were explored to determine the proportion of government expenditure on health and drugs. There was a growing commitment from the Ugandan government to spend more of its resources to the health sector. Table 7 shows that though public drug expenditure as a percentage of GDP increased over the review period (2001-2004), it nevertheless remained below 1%. The increase in percentage of government's health sector financed by tax revenue is apparent from 2001/02 to 2002/03 but later dropped to 57.61% in 2003/04. The government's health spending financed by donors initially decreased to 38.29% then increased slightly the following financial year, reflecting erratic support from donors. Government's drug spending directed towards primary care decreased over the review period.

The results in Table 4, section 4.3.3 give an idea about the rate of increase of drug expenditure in relation to that of GDP. The country's GDP increased at a

rate of 9.7% per annum while government's expenditure on health increased at a rate of 7% per annum. Public drug expenditure on the other hand increased at a rate of 50% per annum.

Table 7: Indicators of Financial Sustainability

	Public drug expenditure as a % of GDP	Public health expenditure as a % of total government budget	% of public health expenditure financed by tax revenue	% of public health expenditure financed by donors	% of public health expenditure spent on drugs	% of public drug expenditure directed towards primary care
2001/02	0.26	8.60	54.39	45.61	8.61	25.90
2002/03	0.33	9.00	61.71	38.29	12.49	19.70
2003/04	0.52	9.60	57.61	42.39	13.20	11.90

Source: Ministry of Health, Annual Performance Reports (2002a, 2003a, 2004a)

Comparing domestic and non-domestic resources shows that there is reliance on external sources of funding to support drug needs in the public and private not-for-profit sectors. Further comparison of public versus private sources of drug funding shows that the major source of funding is from the private sector in form of out-of pocket payments as shown in section 4.3. Out of pocket payments are a regressive form of financing drugs and would not favor the sick and the poor.

Sustainability also considers utilization issues including cost of drugs per patient, which are outside the scope of this study.

All key informants acknowledged government's role in ensuring sustainability of funding for drugs. The Senior Economist at the Ministry of Finance and Economic Planning cited health insurance as a strategy to facilitate financing of drugs in Uganda.

4.5 Summary

This chapter presented the major findings as specified in the objectives of the study, describing the different drug financing mechanisms in Uganda with an account of how they function. Uganda follows a pluralistic approach towards financing of drugs similar to that of health care financing in general. Sources of drug funds were identified and the flow of these funds to the various levels of health care providers was given.

The study findings revealed that households serve as the largest source of drug funding followed by the central government including budget support from donors. Global initiatives in the health sector seem to be a promising major source of drug funding although long-term sustainability cannot be ascertained.

The total expenditure on drugs in the health sector increased from 125 billion Uganda shillings in 2001/2 to 210 billion Uganda shillings in 2003/4 (excluding funds from the Global Fund) demonstrating a growth rate of 23 percent per annum over the review period. The average expenditure on drugs is 11.4% of the public health expenditure and comes second to expenditure on human resource. The study further showed that expenditure on drugs in the private sector is higher than that in the public sector. Finally an assessment of the sustainability of available drug financial resources required to meet the National Minimum Health Care Package drug requirement was made. The study findings show that neither the financial resources within the period under review (2001 – 2004) nor the projected drug financing resources are able to meet the predicted drug requirement within the National Minimum Health Care Package.

CHAPTER 5: DISCUSSION OF STUDY FINDINGS

5.1 Introduction

This chapter discusses the key findings of the study initially by providing key elements on the drug financing structure in Uganda. This is followed by an explanation of the observed drug expenditure trends in the health sector. Finally, a discussion on the sustainability of financial resources for drugs including sustainability of resources required for the National Minimum Health Care Package drug requirement is given. The study has mainly focused on drug financing and expenditure and implications for sustainability of financial resources. It did not detail out implications for equity and implications for institutional sustainability. The study is limited to a period of three financial years which is a constraint in determining the trend of drug financing over time.

5.2 Drug financing in Uganda

From the study findings presented in chapter 4, drug financing is perceived by the Ministry of Health as significant towards the delivery of appropriate health services in the country. This is envisaged in the policy documents that guide the sector in implementation of the Health Sector Strategic Plan. Within the same perspective, drug financing is part of the health care financing strategy.

Examining the public sector, the two funding mechanisms; central government tax revenue including donor funding and donor project support, are a principal source of funding for drugs especially for the public sector. The advantage with the central government tax revenue including donor funding is that it is relatively stable in terms of viability and reliability although the amount allocated to drugs is affected by the amount of revenue collected from taxes and the level of commitment from donors to support the government. On the other hand, public financing and distribution of drugs ensures equitable access and bulk purchases

help to deliver drugs at a relatively low cost (Bennett, Quick & Velasquez 1997). The government cannot deny its stewardship role in providing health services to the whole population of Uganda. However, with the limited resources available from public budgets, it focuses on providing health services including drugs to that segment of the population that cannot afford; that is the poor, free of charge. In this line funding for drugs from central government revenue is only channeled through the public health units, with the largest amount of funds managed from the central level.

Since it is the government's responsibility to ensure equitable access to drugs, it is important that it encourages domestic mobilization of funds to health services to all groups of the population. One of the strategies is to involve the private sector because it is seen as a vibrant sector and more efficient than the public sector. Private drug financing mechanisms including user fees, direct product purchase and private health insurance can only benefit a specific segment of the society because these mechanisms depend on an individual's ability to pay.

Despite the mix in financing of drugs from the private and public sector, there is still a large financing gap between the drug need and the supply of drugs to the whole population. The central key issue to this dilemma is the poverty and economic growth level in the country. Low employment levels and an economy mainly dependent on subsistence agriculture make reliance on foreign assistance imperative. Foreign assistance is extended to the government in form of grants, loans and aid. Essentially loans are supposed to fund development and capital costs. Unfortunately, the country has had to finance drugs, a recurrent cost item from such loans putting the country in a more precarious situation. Even with external foreign financing the funding gap cannot be filled up.

5.3 Health sector spending on drugs in Uganda

As illustrated earlier in section 4.3, the study findings show the major source of drug funding to be households followed by central government tax revenue including budget support from donors. Households contribute a significant amount of funds [66.5% (2001/2); 66.4% (2002/3); 57% (2003/4)] towards the total funding pool for drugs in Uganda. Households mainly purchase drugs in form of out-of-pocket payments to private facilities namely pharmacies; clinics and drug shops that offer such products at a higher cost than otherwise would be offered in public health facilities. The higher cost is attributed to profit mark up, which is not regulated in the country and depends on market forces. Out-of-pocket payments are a regressive form of financing health care including drugs because the burden of financing is placed on the sick and usually from low-income groups. Though technically efficient, private financing for drugs is therapeutically inefficient because suppliers give patients drugs at a seemingly low cost but of questionable quality and usually are either inappropriate or incomplete treatments. In addition, it implies that households need to make excessive savings and have to spend more of their household income to purchase drugs thus affecting their expenditure on other items like education, which are required to acquire a better standard of living and a more productive life. According to the National Household survey (2003), the proportion of health expenditure spent on drugs increased from 39% in 2000 to 48% in 2003 (Uganda Bureau of Statistics 2003b). On the other hand, the decreasing trend of household contribution towards total drug funding resources over the study period may be a result of the abolition of user fees at public health units that resulted into increased utilization of public health services offered free of charge and hence a reduction in out-of-pocket expenditure from households.

With this scenario, the government of Uganda has a big challenge to devise ways of ensuring that not only sufficient funds are available for drugs but also are sustained over time. The central government tax revenue including donor support

serves as a major financing source as well as a financing agent for drugs in the country. Over the three financial years considered for the study, the government contributed on average 21% of the total funding for drugs. The increase in budget allocation for drugs from the government can be explained by the following factors: First, the change to Sector Wide Approach towards health development in which all donors channel their funding through the Ministry of Finance and Economic Planning. This has led to an increase in budget allocation to the health sector and subsequently to drugs. Secondly, the Poverty Eradication Action Plan (PEAP) in 1997 and the establishment of the Poverty Action Fund (PAF) in 1998/99 was aimed at directing and protecting resources for PEAP priority areas including the health sector (Ministry of Health 2004b). This budget line to the health sector has increased over the review period and is disbursed as the Primary Health Care Conditional Grant in form of recurrent transfers for drugs from the central government to local government (districts) for implementation of the National Minimum Health Care Package in public and private not-for-profit units. When the government agreed with donors to use the Sector Wide Approach towards health development, the level of donor project funding declined as seen in the years 2001/2 (1.2%); 2002/3 (2.8%) but the dramatic increase in 2003/4 of up to 13.7% was brought about by the new wave of global initiatives that serve as a significant source of funding for drugs.

The Private Not-For-Profit organizations contributed 9% on average towards the total drug funding during the review period. The government perceives this arm of the private sector as a partner in delivery of health services. In accordance with the principle of public-private partnership, the government offered subsidies to Private Not-For-Profit organizations to purchase drugs without stipulating guidelines on how the funds may be used unlike that for the public sector facilities. Thus Private Not-For-Profit facilities are given the liberty to utilize these funds according to their priority drug needs.

The lowest source of funding for drugs in the health sector was obtained from employers. These mainly use private health insurance as financing agents; comprising only 1% of the total funding for drugs in Uganda. Although health insurance seems to be a preferable mechanism for funding drug needs; the rich subsidizing the poor and the healthy subsidizing the sick, it is not well developed in Uganda. Further mobilization of members into health insurance is required to increase coverage and make the schemes sustainable. The reason why there are low recruitment levels in the country is because not many Ugandans can afford the premiums set out by the health insurance companies and Health Maintenance Organizations. The level of employment in Uganda further explains the question of affordability. According to the Uganda National Household Survey (2003), only 11% of the employed population earns US\$ 100 per month (Uganda Bureau of Statistics 2003a). This scenario has challenging implications for the introduction of Social Health Insurance that mainly depends on the size of the formal sector, which is estimated to be 1.2% of the population (Berman et al 2001). On the other hand, despite the small formal sector, if the scheme is well implemented and managed, it would reduce the number of people accessing public health units so that the government is left to provide drugs for the very poor. Community based insurance schemes were piloted in some districts but have not been sustainable. The major problem associated with lack of sustainability was that contributions are very low and cannot meet the cost of medicines even with subsidies.

Spending in the health sector and macroeconomic stability

The total drug expenditure in the health sector increased from 125 billion Uganda shillings in the financial year 2001/02 to 210 billion Uganda shillings in 2003/04. The results reveal a growing expenditure on drugs in the health sector. In this regard government's expenditure on drugs increased considerably within the period under review. This was a result of relative increased economic growth together with the Ministry of Health's advocacy to increase more funding to the health sector and more specifically to drug funding. Abolition of user-fees in the

public health facilities was accompanied with increased utilization of health services. With the upsurge of people seeking medical care there was need for the government to ensure adequate and reasonable delivery of quality health services. Health services without availability of drugs meant a defeating battle against encouraging the population to seek health care. The ministry of health therefore had to advocate for more funding to avail drugs in the health units so as to create trust in the health services rendered.

Government has come up with a new approach towards macro economic stability. As Genberg (1993) argues, policy makers may have to take action in response to a current account deficit, either because there has been a permanent change in economic conditions, rendering full-scale financing unsustainable, or because the possibilities for international borrowing are depleted. Uganda is numbered among the Highly Indebted Poor Countries and as such has come up with macroeconomic stabilization policies to address the current account deficit. According to the Ministry of Finance and Economic Planning, all government sectors will have a ceiling beyond which any excess amount of funding will be put in the treasury. All sectors would have set their priorities and government would willingly fund these activities within a preset specified plan. This restriction on government spending is aimed to stabilize the economy of the country by reducing government spending, reducing inflation to an acceptable level and increasing the strength of the private sector. This is likely to have an impact on drug expenditure in two ways. First if government spending on health were cut it would mean a reduction on drug expenditure, which is vital for improving the health status of the population. Secondly, limited availability of foreign exchange will affect the cost of imported drugs by making them expensive and thus unaffordable. Uganda imports about 90% of its drugs from foreign countries (Interview data). On the other hand, if budget cuts are mainly in other areas like defense and not on social services then reduction on government spending will not have drastic effects on drug expenditure.

Drug financing is linked to availability of drugs. Availability of drugs depends among many factors on sufficient funding sources and is a key indicator towards determining access to drugs by the masses. Tremendous work has been carried out by the World Health Organization to improve access to drugs in developing countries (Pecoul et al 1999). This goes back to the era when the essential drug concept was developed and the establishment of essential drug programs in various developing countries. Governments have the responsibility to ensure that drug-financing mechanisms are managed in such a way as to achieve equity of access to essential drugs (Velasquez, Madrid & Quick 1998). Access to drugs can only be improved if the budget for drugs in the public health sector is sufficient to meet all the required drug needs. The scope of the study does not however look into the detailed accounts of equity in access to drugs. The study shows that in Uganda, budget allocation for drugs in the public health sector was far below the target despite the increments over the three-year period. This situation calls for government efforts to devise means to close the financing gap. As discussed in section 5.3 regardless of government's effort to implement health reforms geared towards health development the financial gap is only decreasing slightly. According to World Health Organization/ World Trade Organization (2001), for poor countries, of which Uganda is no exception, the level of economic growth and income limits domestic resource mobilization and strategies confined to ways of mobilizing domestic resources alone would be misdirected. Therefore, external assistance is critical to improving access to essential medicines.

In the private sector, access to drugs for the poor is undeniably very low. The reason being that direct purchase of drugs in this sector depends on the ability to pay. The poor are not able to afford the cost of drugs in the private market and therefore have to search for free health services in the public sector which impact greatly on the opportunity cost in terms of travel time and waiting time.

The different health insurance companies visited in the study did actually provide drugs to their members although some had different packages for high valued items like anti retrovirals. This means that basic low cost items may be available to members but the high valued items would depend on the individual's ability to meet the specified higher premium.

5.4 Sustainability of Drug Financial Resources

In order to achieve sustainability of financing mechanisms, the viability in terms of generating adequate resources and the reliability of the mechanism over a long term must be ensured (Newbrander, Quick & Waddington 1997). No one mechanism on its own can achieve this desirable status. The study reveals that Uganda is no exception in having different alternative forms of drug financing.

Examination of public drug financing in Uganda reveals that the sustainability of the government to provide funding for drugs will highly depend on the country's economic growth and generation of revenue. As the GDP of the country increased the government's commitment towards spending on drugs also increased at a higher rate. Although there was a corresponding increase in spending on drugs nevertheless, the resources were not adequate to meet the target set out in all the three years under review. This implies that new sources of funding have to be identified and strategies developed to implement them.

With the inadequacy of government funding, the role of donors in funding health services including drugs becomes significant. Donor funds come in large sums however their sustainability is not usually assured. The results show a decreasing proportion of government's dependence on donors through budget support to the health sector. Conversely, the emergence of new global initiatives brings to light a new dilemma for the government to rely heavily on their support to fund basic health services like immunization services. The financial

sustainability of global funds is assured over the medium term (2-3 years) but is uncertain over the long term (Interview data).

Domestic mobilization of funds could help to bridge the gap but may have unwanted effects in the long run. One such mechanism was the implementation of cost-sharing in public health units. Studies have shown the impact of user fees in public health units to be negative towards the utilization of health services. The results show that after the abolition of cost sharing in March 2001, there was increased utilization of health services and an increased demand for drugs in public health units. The increased need together with political interests prompted government to allocate more funds towards the purchase of drugs for public health facilities. It is a well-known fact that availability of drugs in health facilities builds trust in health service delivery among the population. It is therefore clear that user fees as a funding mechanism is only sustainable for that part of the population that can afford and hence cannot be relied upon by the government if it is to meet the needs of the whole population.

Exploring health insurance as another alternative mechanism of drug financing reveals interesting findings from Uganda. The health insurance industry in Uganda is rather small but growing though at a very slow rate. Only 0.1% of the population subscribe to private health insurance meaning that there is insufficient numbers to maintain sustainability. Apart from the high premiums set by the firms there is a lack of awareness of health insurance by the public, which explains the low subscriptions. In addition the quality of services offered by health insurance companies is no better than that offered in urban public health facilities making people opt for the latter. Further to this there is inadequate regulation of health insurance schemes and lack of organization of the health insurance sector. As such it is not a viable mechanism for generating and pooling resources for drug financing currently.

A large proportion of total drug financing comes from out-of-pocket expenditure by households. This can only be sustained by households that can afford to pay for their drug needs. The poor are left deprived of their household income and yet are the worst hit by ill health. The question is how to mobilize these out-of-pocket expenses in a manner that allows sharing of resources. One of the options is establishment of community drug financing schemes, which contribute to the sustainable financing of drugs. These include user fees, Bamako initiative type scheme, drug revolving funds, and health insurance schemes. The prerequisite for the success of such schemes include among others community awareness, ability to pay, strong membership base, adequate administrative structures and support from the government or donors. Although, community based drug financing schemes have been established in Uganda with little success; a well administered drug financing scheme supported by government may assist to assure continuity of financing for drugs.

5.5 Sustainability of resources for the NMHCP drug requirement

The study reveals that the level of funding identified within the review period is not able to meet the target set out in the National Minimum Health Care Package. From the review period (2001- 2004) and even for the projections in the next seven years the gap is only growing bigger and is not likely to meet the predicted targets. Given this large financing gap there is need to devise ways of improving the available financing mechanisms and also determine the most effective ways of financing the package.

Drug financing is inevitably linked to drug supply systems and therefore improvements in terms of efficiency of delivery systems can make a significant impact on the utilization of resources available for drugs. The change of delivery systems in the public health sector from a push to pull system certainly produced better utilization of drug funds by mainly avoiding wastages but created new challenges like inadequate drug management skills at the district levels. Despite

the switch from parallel project funding to budget support through Sector Wide Approach, there are several streams of flow of drug funding in the public sector making planning and implementation of drug management difficult and inefficient. Funds flowing through credit lines have shown better efficient utilization than those through recurrent transfers(Interview data). It is noted that individual parallel projects may procure drugs that are not a priority for the population and such drugs soon expire rendering them useless and thus wastage of scarce resources. Another challenge is the introduction of new expensive drugs required to treat endemic diseases like malaria. These products once added to the drug requirement in the NMHCP will push the per capita drug expenditure higher than the estimated US\$3.5 making it more difficult to bridge the financing gap.

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CHAPTER 6: CONCLUSION AND POLICY RECOMMENDATIONS

6.1 Introduction

The study gave an overview of the drug-financing situation in Uganda. The findings showed that not one single mechanism is sufficient to meet the drug needs in the country. Further to this that even with a combination of several mechanisms, the target drug need cannot be achieved so far. This section gives the main conclusions from the study and points out a number of policy recommendations to improve drug financing in Uganda.

6.2 Main study conclusions

The study revealed that financing of drugs in Uganda comes from both public and private sources. Different drug financing mechanisms serve different groups of people. Central government tax revenue is a significant source of financing which has been strengthened through the Sector Wide Approach to fund the health needs of the population more especially in the public sector. The study showed that donor funding in the health sector has steered increasing commitment of government to devote more financial resources to the health sector and subsequently for drugs.

From the study findings it is clearly evident that the largest source of drug funding is from out-of-pocket expenditure from households. There is relatively a large source of financial resources for drugs in the private sector that need to be mobilized in such a way that people are protected from paying for drugs at the point of service thus avoiding impoverishment of households.

The results show that health insurance forms a very small proportion towards the total drug funding pool in the country. The health insurance industry in Uganda is not well developed mainly because of the historical way of funding health care

through public provision and more importantly due to the high unaffordable premiums set by the firms. Government tax revenue is a better sustainable drug financing mechanism provided an appropriate tax base and efficient drug distribution system is maintained. The study shows the total drug funding to have increased progressively over the review period but is not yet sufficient to meet the total drug needs of the country.

The study also showed that the total public drug funding was not able to meet the drug requirement within the National Minimum Health Care Package within the review period (2001 – 2004). Projection of the financial resources also showed that the predicted targets for financing drugs in the minimum package would not be achieved within the next seven years.

6.3 Policy Recommendations

The study has revealed a number of issues regarding financing of drugs in the Ugandan health sector. The following below are suggestions for policy consideration so as to create a better financing climate so that drugs are more available to the masses and if used rationally lead to a healthy and productive population. This section addresses objective 4 in section 1.9.

1. Although the previous three years (2001 – 2004) under study have shown increasing government allocation to drugs, the amount expended is not sufficient to meet the quantified need. To ensure financial sustainability it will necessitate government's commitment to devote substantial amount of funds towards funding for drugs.
2. The several flows of drug funding in the public sector need to be streamlined and harmonized to avoid duplication of efforts and unnecessary waste of scarce resources. It is suggested that drug funds

from the central government including donor support be channeled to the different levels of care through one efficient system

3. A system of routine quantification of drug needs at national level should be established to determine the changing drug requirements over time. An appropriate drug procurement plan should be put in place for more efficient use of the available drug funds in order to obtain maximum output.
4. In the face of reforms within the country like fiscal decentralization system drug funds should be protected so that it remains a key priority within the health sector at all levels of health care delivery.
5. Considering the fact that government cannot provide all the health services to the population, the role of public-private partnerships is vital to build upon the strength of the private sector. The private sector could be encouraged in the drug distribution system but incentives have to be provided to encourage supply of drugs to rural areas where the ability to pay is quite low.
6. Shifting and mobilization of domestic resources in the private sector to the more equitable and established public health system would enable better sustained funding for drugs and improved drug access. Alternatively, the private health sector should be organized to offer health insurance coverage including drug benefits. Such arrangement would reduce out-of-pocket payments at the points of service.

6.4 Agenda for future research

This study has examined and reviewed drug financing, expenditure and implications for sustainability at a country level. There is also need to examine implications for equity on drug financing in Uganda by investigating the level of access to drugs by the different population groups.

Future research into the pricing of drugs is very crucial especially in the private sector where the cost of drugs serves as a barrier towards access and rational use of drugs. There is a need to investigate the hidden costs of drugs in the supply chain and determine at which points to intervene and reduce the costs of drugs to the patient.

Further exploration of the role of health insurance in improving access to drugs including provider payment mechanisms would enable investigation of possible ways of pooling resources and sharing costs over different population groups.

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APPENDICES

APPENDIX 1: DATA CAPTURE SHEETS

1. Drug expenditure in the public sector

	2001/02	2002/03	2003/04
Sources			
Government expenditure on health			
Total expenditure on health			
Total public drug expenditure			
Total private drug expenditure			
External sources of funding for drugs			

2. Funds flow for drugs in the public sector

Source	Government		Donor support	
Financing agent	Ministry of Health		Ministry of Health	Vertical Programs
	Allocated funds	Private procurement	Public supply	
2001/02				
2002/03				
2003/04				

3. Sources and uses of funds for drugs in Private Health Insurance Companies

	Sources					Uses		
	Membership contribution	Government subsidy	Donors	Private Out-of-pocket	Total	Health Services	Drugs	Total
Year								
2001/2								
2002/3								
2003/4								

4. Household expenditure on drugs

Year	Household expenditure			Total
	Health	Drugs	Non-health goods	
2001/02				
2002/03				
2003/04				

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APPENDIX 2: DRUG FINANCING INTERVIEW GUIDE – Ministries
(Ministry of Health, Ministry of Finance and Economic Planning)

Form No. _____

NB: The information provided will be treated with strict confidentiality

PARTICULARS:

Name of Organization: _____

Name of respondent: _____

Position of respondent: _____

Date of interview: _____

Location: _____

E-mail: _____

SECTION A: DRUG FINANCING POLICY

1. Is there a policy on financing health care in Uganda?
2. How does the policy cover aspects regarding drug financing?
3. How do you ensure linkage between health care financing and drug financing policy?
4. Do you have a separate policy on drug financing? What does it say?
5. Who is responsible for monitoring, evaluation and implementation of the drug financing policy in Uganda?
6. What are the key objectives of the Drug financing Policy? Are they being realized?
7. In your opinion, do you think targets for drug financing mechanisms have been achieved? How?
8. Is drug financing a major development issue within the current health system?
9. What are the key sources of financing drugs?
10. How are these drug funds allocated and in what form?

11. Does the Mid Term Expenditure Framework include drug financing performance indicators? What are they?
12. How are drugs budgeted for?
13. Have potential health sector program priorities that could impact on funds for drugs been foreseen in the budget allocation process?
14. Are there any planned health reforms underway in how priorities are set within national or financing partner budgets that would have important implications for drug financing?
15. Are there any planned changes in the financing strategy of financing mechanisms to fund the health system that are likely to have a positive impact on drug financing?
16. Are there any macroeconomic issues facing the country that are expected to positively affect the future of drug financing?
17. Is the requested budget consistent with the allocated budget to a level of at least 75%?
18. Are there any pending changes in the range of development partners that are likely to increase financial participation?
19. Is there an annual review of drug funding and expenditures by those responsible for the planning, budgeting and resource mobilization process within the health sector?
20. Has a formal plan been developed and endorsed by the Ministry of Finance detailing an increase in the government's share of funding for drugs?
21. Currently, is the drug budget adequate for meeting the National Minimum Health Care Package drug requirement?
22. If not, what are the plans for increasing drug funding?
23. How do you plan on increasing sustainability of drug financing?

SECTION B: GENERAL

24. Are new sources and mechanisms of internal and external funding being considered for future funding of drugs?
25. What plans do you have for sustainability of drug financing in the country/organization?
26. What actions could be taken to improve the drug-financing situation in Uganda?
27. Do you have any other comment on financing of drugs in Uganda?

Thank you for your cooperation!

University of Cape Town

APPENDIX 3: DRUG FINANCING INTERVIEW GUIDE – Donor Agencies

Form No. _____

NB: The information provided will be treated with strict confidentiality

PARTICULARS:

Name of Organization: _____

Name of respondent: _____

Position of respondent: _____

Date of interview: _____

Location: _____

E-mail address: _____

SECTION A: DRUG FINANCING POLICY

1. What does the policy within your organization on financing health care in Uganda entail?
2. How does the policy cover aspects regarding drug financing?
3. How have the impact of donor efforts been realized as far as financing drugs is concerned in the past three years (2001 - 2004)?
4. What are the main determinants for aid in the health sector?
5. Is there any conditionality for grants or loans extended to the health sector?
6. What are the potential health sector program priorities that could impact on funding for drugs?

7. Is drug financing a major development issue within the current funding priorities for your organization?
8. Please give a brief description of the resource allocation process?
9. Are there any planned changes in the strategy of financing the health system?
 - a. Are these likely to have a positive impact on drug financing?

SECTION B: GENERAL

10. Are new sources and mechanisms of internal and external funding being considered for future funding of drugs?
11. What plans do you have for sustainability of drug funding in your organization?
12. What actions could be taken to improve the drug-financing situation in Uganda?
13. Do you have any other comment on financing of drugs in Uganda?

Thank you for your cooperation!

APPENDIX 4: PRIVATE INSURANCE INTERVIEW GUIDE

Form No: _____

NB: The information provided will be treated with strict confidentiality

Name of Firm: _____

Name of Respondent: _____

Position of respondent: _____

Date of interview: _____

Location: _____

E- mail: _____

Type of Firm (circle one)

1 = State-Owned / Parastatal 2 = Private - for - profit

1. Please provide a brief description of your firm's activities
2. How many members are covered by your organization?
3. Who funds the health insurance scheme?
4. How are contributions collected?
5. Does the government or any other organization make a contribution to health care benefits provided by your firm?
6. What kind of membership do you have? Group or Company/ Individual/ Individual + Family
7. What types of health benefits do you offer to your members?

8. Which types of health care services are covered?
9. What exclusions do you have?
10. Which providers are paid for the health services?
 - Government of Uganda Hospitals
 - Private for profit Hospitals
 - Private Not for Profit Hospitals
 - Others
 - Reimbursement made directly to premium holder
11. How much was spent/reimbursed on health services in the years 2001/2 to 2003/4?
12. How much was spent/reimbursed on drugs in the years 2001/2 to 2003/4?
13. Do you have any other comment on drug financing and health insurance issues?

Thank you for your cooperation

APPENDIX 5: LETTER OF AUTHORIZATION TO ACCESS RECORDS

Ministry of Health
P.o Box 7272,
Kampala, Uganda

REF: 130/313/05

24/11/2004

TO WHOM IT MAY CONCERN

RE: RESEARCH ON DRUG FINANCING MECHANISMS IN UGANDA

This is to introduce to you Kate Kikule, a postgraduate student currently pursuing a Masters in Public Health (specializing in Health Economics) degree, at the University of Capetown, South Africa.

She is engaged in a study on drug financing mechanisms in Uganda.

For this purpose she needs your assistance in obtaining information by carrying out interviews and access relevant records.

Please accord her all the necessary cooperation

The Ministry of Health has authorized her to carry out the research.

DR. J. H. KYABAGGU
FOR: PERMANENT SECRETARY

APPENDIX 6: INFORMED CONSENT FORM

The study for which your participation is requested aims to evaluate drug financing mechanisms and expenditure in Uganda in both the public and private sector.

This study and your participation are for research purposes only and will not in any way have personal implications or any liability.

You will be requested to respond to some questions during a face-to-face interview.

Your answers to the questions and other information provided by you will only be used for purpose of the research and your name will be used for authentication purposes only. You are assured that your identity and the information given will be treated with strict confidentiality.

You have the right to refuse to participate or withdraw from the study at any point in time.

I have read and understood the above information. I consent voluntarily to take part in this study as a participant and have the right to withdraw form the study at any time without any consequences to my work or me.

Name:-----

Signature: -----

Date: -----

Name of Researcher: -----