Research Report No. 1

GOVERNING HEALTH SERVICE DELIVERY IN UGANDA:
A TRACKING STUDY OF DRUG DELIVERY MECHANISMS

RESEARCH REPORT

BY

ECONOMIC POLICY RESEARCH CENTRE

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Abbreviations/Acronyms

AG	Auditor General
ART	Anti Retroviral Treatment
ARVs	Anti-Retroviral Drugs
bn	Billion
CAO	Chief Administrative Officer
CIPLA	Chemical, Industries and Pharmaceutical Laboratories
CMS	Central Medical Stores
DHO	District Health Officer
DHT	District Health Team
FGDs	Focus Group Discussions
FY	Financial Year
GoU	Government of Uganda
HMIS	Health Management Information System
HSC	Health Service Commission
HSD	Health Sub-District
HSSP	Health Sector Strategic Plan
HUMC	Health Unit Management Committee
JMS	Joint Medical Stores
Km	Kilometre
LoGs	Local Governments
m	Million
MO	Medical Officer
MoFPED	Ministry of Finance, Planning and Economic Development
MoH	Ministry of Health
MoLG	Ministry of Local Government
MoPS	Ministry of Public Service
MP	Member of Parliament
MS	Medical Superintendent
MTEF	Medium Term Expenditure Framework
NCDs	Non-Communicable diseases
NDA	National Drug Authority
NDP	Nation Development Plan
NGO	Non-Government Organisation
NMS	National Medical Stores
OPD	Out Patient Department
ORS	Oral Rehydration Solutions
PAC	Public Accounts Committee
PEAP	Poverty Eradication Alleviation Plan
PETS	Public Expenditure Tracking Surveys
PHC	Primary Health Care

PNFP	Private Not-for-Profit
PPPs	Public-Private Partnerships
QCIL	Quality Chemical Industries Limited
RDC	Resident District Commissioner
RDTs	Rapid Diagnostic Tests
RTI	Respiratory Tract Infections
TBA	Traditional Birth Attendant
TRIPS	Trade-Related Intellectual Property Rights
UBoS	Uganda Bureau of Statistics
UCMB	Uganda Catholic Medical Bureau
UJAS	Uganda Joint Assistance Strategy
Ushs	Uganda Shillings
UNMHCP	Uganda National Minimum Health Care Package
UPMB	Uganda Protestant Medical Bureau
WTO	World Trade Organisation
US$	United Stated Dollars
WHO	World Health Organisation

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The National Validation Workshop was held on July 28, 2009 at the Economic Policy Research Centre, Conference Room in Kampala and was attended by stakeholders from government ministries, departments and agencies; World Health Organisation, and officials from the sampled districts of Apac, Hoima, Kamuli, Mubende and Rukungiri. This report has incorporated the outcomes of the Validation Workshop Discussions. The Centre is very grateful to all those that participated in the workshop.

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1. Executive Summary

Purpose and Study Objectives

1.1. The study set out to produce evidence that will help the Government of Uganda (GoU) and other relevant stakeholders understand (a) the challenges facing the health sector; (b) the obstacles that limit the efficient, effective and timely procurement, distribution and usage of medicines; and (c) what reforms (or changes) are needed to improve access to medicines to all Ugandans.

1.2. The study focuses on five issues. First, the viability of the institutional partnerships crafted between the different stakeholders in the medicines sub-sector. Second, the issue of procurement and disbursement of medicines and health supplies. The study tracks the flow of funds for, and the supplies of the drugs/medicines with a view to determining the pattern of expenditure allocation, and whether all resources allocated to the medicines sub-sector reach their intended beneficiaries. Third, the transportation of medicines from the District Health Office (DHO) and Health Sub-Districts (HSDs) to the lower heath centres is highlighted. Fourth, the management of stocks at the facility level, the problem of drug stock outs, and the perception of service users based on the Focus Group Discussions (FGDs) and exit interviews covering 252 patients are documented. Fifth, the challenges encountered in the acquisition, distribution and utilisation of the medicines are discussed. Finally, the conclusions and recommendations are presented.

Rationale of the Study

1.3. The rationale for this study is three-dimensional. First, the dramatic rise in the health needs of Uganda's population, which is growing at a rapid rate of 3.2 percent. Uganda's population will rise to 32 m in 2010 and to 43.9 m by 2020. Thus, in 10 years, the health system must cater for an additional 12 m people. The population below 18 years of age is over 50 percent of the national population and has health needs that must be catered for.

1.4. The second concern of the study was the apparent mismatch between Uganda's high health needs and the small budget allocated to the health sector. Public health-sector spending was US$8.2 per capita in 2007/2008, which is equivalent to 9.6 percent of government total expenditure. In fact, health expenditure as a proportion of government's discretionary expenditure has stagnated at this level (9.6 percent) since 2000/2001. This falls below the Abuja Declaration target of 15 percent. Health sector funding is inadequate to provide the Uganda National Minimum Health Care Package (UNMHCP) in all facilities. The per capita cost was roughly US$41.2 in 2008/09 and will rise to US$47.9 in 2011/12 (MoH, 2009b). Yet, the Medium Term Expenditure Framework (MTEF) estimation was US$12.5 in 2008/09, signifying a shortfall of about US$29 (MoH, 2009b). At the time of the field research, government was contributing only 20 percent of the drugs, which covered 50 percent of the health needs. The third parties including development partners were contributing 80 percent of drugs (in terms of value). Donors are the main funders of anti-malarials (mainly coartem) and Anti-Retroviral Drugs (ARVs). This high degree of donor dependence is unsustainable.

1.5. The third justification for this study is the apparently high level of inefficiency and wastage in the medicines sub-sector. While the low level of health sector financing is

deplorable, the inefficiencies in the system are inexcusable. The Office of the Auditor General (AG)'s Report to Parliament covering FY2006/2007, outlines several flaws in the flows of medicines. It is reported that government allocated Shs19.6bn to the National Medical Stores (NMS); but NMS delivered drugs and medical supplies worth Shs13bn, making a shortfall of Shs6.2bn (see Monitor 16 January 2009, page 1). The MoH was also accused of diverting to overseas travel the sum of Shs410.6 m that was meant for the purchase of drugs. This reallocation from item No. 224001 (Medical Supplies/Drugs) was allegedly done without proper authorization. These cases suggest that money for essential drugs are wasted or diverted to selfish ends. While government is urged to step up the level of health sector financing, all officials and all implementing units within the health system must utilize the funds efficiently and effectively. In other words, they must demonstrate value for money.

Analytical Framework

1.6. The analytical approach adopted by this study is the "framework of accountability relationships" that was articulated in the World Development Report of the World Bank (2004) entitled: *Making Services Work for Poor People*. This analytical framework has five cardinal principles of effective service delivery, namely: delegation, financing, performance, information and enforceability. All these must work together to maximize service delivery. For example, decentralization in Uganda resulted in the *delegation* of duties from the central MoH to Local Governments (LoGs). However, decentralized health services can only work if there is (a) adequate *financing* (for staff, drugs, and equipment); (b) clear *performance* measurements (e.g. at the health facility level); (c) proper *information* flows (hence the importance of the Health Management Information Systems (HMIS); and (d) effective supervision, inspection and *enforcement* of performance standards. The performance standards have to be enforced by MoH, the DHOs, local politicians, the HSDs, the Health Unit Management Committees (HUMCs) or even the police (as in situations where medicines or Primary Health Care (PHC) funds are stolen). In cases where all or most of these accountability variables work well, satisfactory services are provided. Where all or most of these factors are lacking, poor services result.

Methods and Data

1.7. The methods of data collection were largely – but not exclusively – qualitative. The study started with a comprehensive review of both published and unpublished literature. Of crucial importance were the Acts of Parliament, the Health Sector Strategic Plans I&II (HSSP I, II) and the sector specific (MoH) guidelines. Critical analyses of the institutional partnerships crafted between different stakeholders (e.g. NMS and third parties; central agencies, LoGs; and NGOs) were conducted. The aim was to establish whether or not these partnerships are viable for improved delivery of medicines. In-depth interviews were conducted with top officials of MoH, NMS, NDA, and Quality Chemicals Industries Limited (QCIL). In all cases, what works, what does not and why, were assessed.

1.8. Field visits were then carried out in five districts – Apac, Hoima, Kamuli, Mubende and Rukungiri. Within the districts, field observations were made, stock cards examined, and the key officials in the different health facilities, that is, the regional referral hospitals, district hospitals, and the health centres ranging from HC IV down to HC II were interviewed. In all

cases, the district referral hospitals were purposively selected. To gain deep insights into the drug delivery mechanisms, a total of 10 government health facilities were randomly selected in each sampled district. These health facilities were selected by stratifying the health care system to select a mix of urban, peri-urban and rural facilities. Also covered were purposively selected NGO health facilities. The aim was to compare the functionality of public health facilities vis-à-vis those run by faith-based NGOs. Overall, a total of 50 in-charges were interviewed, one per health facility, giving a total of 45 in-charges from the health centres and 5 from the referral and district hospitals. In addition, Focus Group Discussions (FGDs) and exit interviews with service beneficiaries were conducted. The aim was to assess the level of drug delivery (satisfactory or unsatisfactory), and establish the degree to which local communities hold elected politicians as well as technical/medical workers to account for their actions or inactions.

1.9. Within the national and local governance structures of health services, the challenges faced by NMS in drug procurement and disbursement were investigated; and the delivery of drugs (in money terms) from the national level to the DHOs and HSDs were tracked. From the DHO to the lower health centres, the degree to which the credit line medicines delivered by NMS and received by the DHO reach the intended beneficiaries in a timely manner was assessed (via interviews, field observations, and critical analyses of records). The focus was on the last three disbursements during May 2008 to April 2009. A similar approach was followed for medicines under PHC. However, the reference period was on medicines procured from July 2008 to March 2009 (FY2008/09). Analyses of the health-related auxiliary infrastructure (e.g. the local road networks, the tooling of the DHO, and the telephone and IT penetration rates) were done to contextualize the challenges of drug delivery within the districts and HSDs. Finally, FGDs, field interviews and observations were used to assess the role of the HUMCs and health sector NGOs in the delivery of medicines. The data collection instruments included structured questionnaires, key informant interview guides, FGD guides, and a camera.

Highlight of Major Findings

1.10. *Medicines versus underlying determinants of health:* Medicines undoubtedly offer a simple, cost-effective solution to medical ailments, provided they are available, affordable, and properly used. However, evidence from this study shows that neither the flow nor the usage of medicines can be boosted unless the underlying determinants of good health are addressed. The supportive/auxiliary infrastructure (e.g. staff housing; solar power; phone network coverage; the quality of roads; water and sanitation; and the quality of schools) was found to be inadequate. During fieldwork it was observed that the 'hard-to-reach' areas are hard to reach precisely because of poor auxiliary infrastructure. Government needs to invest in auxiliary infrastructure as a matter of urgency.

1.11. *Stock outs of medicines:* A top HSSP II policy target was increasing the percentage of health facilities without any stock outs of first line anti-malarial drugs, measles vaccine, Depo Provera, Oral Rehydration Solution (ORS) and cotrimoxazole from 40 percent in 2003/04 to 100 percent in 2009/10. This policy target has not been attained. The in-charges of the public health facilities reported (in nine out of every 10 cases) that they experienced stock outs of anti-malarials and basic medical supplies – such as gloves within the six months that preceded the visits. This is worse than the MoH report that "72 percent

of government health units experience stock outs of at least one indicator medicines". Some dissatisfied patients who were being asked to purchase medicines and medical supplies satisfied from private drugs shops alleged that health workers were diverting public medicines to their private clinics/drug shops. No concrete evidence of this was found. What is clear is that drug stock outs are a huge obstacle that must be overcome if people's access to medicines is to improve dramatically.

1.12. *Decentralised health delivery system:* Uganda currently has a complex decentralized health system. It consists of the district health infrastructure consisting of Village Health Teams/Health Centre I (VHTs or HC Is), HCs II, III and IV plus general district hospitals. Beyond the district, the health system has Regional Referral Hospitals and National Referral Hospitals. Such a complex system calls for proper coordination, support supervision and inspection. Health facility in-charges reported that while MoH was doing a commendable job in policy formulation, and provision of nationally coordinated services such as epidemic control, more serious support supervision and inspection were needed. Weak inspection was reported to be a top factor in explaining why credit line and PHC medicines do not always reach the beneficiaries. The CAOs, DHOs, DHTs and HSD medical officers particularly need to increase the scale, scope and regularity of support supervision in their areas of jurisdiction.

1.13. *Proliferation of districts:* The proliferation of districts is placing more responsibility for support supervision and monitoring on the MoH. Yet the MoH budget is not necessarily increasing proportionately to cater for the rising need for more field staff, vehicles and time. Within the newly created districts, the weak institutional and human resource capacities have compromised the procurement, distribution and use of medicines. For example, VHTs are important in deepening health awareness and promoting the use of health services. However, only 30 of the over 80 districts have trained VHTs. New districts dominate the list of districts with untrained VHTs or weak HUMCs. Uganda needs to put a break on the proliferation of districts. The MoH should also create health districts that combine several political districts. Smaller political districts should, from the health perspective, become HSDs.

1.14. *Physical access versus actual access:* Government investment in HCs (II- IV) dramatically improved physical access to the health facilities. Today, 72 percent of households live within 5km of a health facility (public or NGO). The challenge is that while physical access improved, effective access to medicines has not. Evidence shows that utilization is limited because of inadequate medicines and health supplies, worsened by the low functionality of wards at HC IVs, the shortage of qualified health workers, and the de-motivation of the few that exist.

1.15. *Shortage/low motivation of health workers:* Inadequate human resources have constrained the ability of Uganda's health sector to fulfil its mandate. In November 2008, 51 percent of the approved positions in the public health service were filled (MoH, 2009b). Moreover, wide variations exist among districts. For example, Pader had 35 percent of the posts filled. Butologo HC II in Mubende district (a difficult to reach area located 25 miles from Mubende town), had only one nurse (Elizabeth Iripo), who was observably overworked. Shortages of critical staff such as nurses, doctors, nutritionists, and anaesthetic and laboratory workers, have greatly constrained the provision of medicines and health

services in general. Some districts (such as Rukungiri) are more able than others (such as Hoima, Kamuli and Mubende) to advertise vacant positions, fill them, and cause their health workers to access the payroll. According to an interviewee, Rukungiri recruited even when there was a ban on recruitment, and their health workers accessed the payroll. In Rukungiri, support staff such as guards and cleaners, were on government payroll. In Kamuli, nursing assistants were observed mopping the floor of health facilities (there was no money to pay cleaners). In Hoima, a night guard at Kikuube HC IV had stopped working because his monthly salary of Ushs40, 000 (which was paid from PHC funds) was in arrears for four months. At the time of fieldwork, the solar panel at the health facility had been stolen.

1.16. *Government must address one key challenge*: Health workers operate under de-motivating terms and conditions of service. A fresh medical officer in a public health facility, for example, earns less than Ushs800,000 per month (or US$400). The nurses and midwives each earn about Ushs350,000 (or US$175) per month. Many of the health workers who are trained with Ugandan taxpayers' money are migrating to other countries where they are paid substantially higher rates. Government needs to motivate health workers (and other public servants).

1.17. *The role of NGOs:* The NGO or faith-based health facilities (Private-Not-for-Profit Organizations (PNFPs) play a key role in health. The facility-based NGOs account for 41 percent of the hospitals and 22 percent of the lower health facilities. With government's financial support, the NGO sector operates 70 percent of the health training institutions. This is an important contribution. Yet, the NGO health centres (such as the Catholic-based Nyakibale Hospital) charge user fees. While community members predominantly rated the services of faith-based hospitals as being better than public hospitals, many found the user fees to be unaffordable, given the high levels of rural poverty. The challenge for government is to simultaneously boost people's accessibility to medicines and address the affordability issue. An added challenge is that faith-based health facilities typically emphasize clinical work for which they charge fees. This carries the risk of neglecting public health education. Yet, 75 percent of Uganda's disease burden can be overcome through health education promotion and prevention. This calls for rethinking of the role of the NGO sector vis-à-vis the public health sector in Uganda.

1.18. *Guidelines versus conditionality:* The credit line funds (for buying medicines) are given to NMS to procure medicines and health supplies; while the PHC funds are decentralized to the districts. Under the MoH guidelines, 50 percent of PHC funds should be spent on medicines to supplement those procured by NMS. The study has established that this arrangement is subject to abuse. Drug stock outs were more common among districts (such as Hoima) that take PHC guidelines as *mere* guidelines in comparison with districts (such as Rukungiri) that take the MoH guidelines as rules, and strictly spend 50 percent of PHC funds on medicines. This, points to the need for standardization and enforcement across different districts.

1.19. *Health Management Information Systems (HMIS):* Health facilities are required to compile financial summaries, on a monthly basis, indicating funds received and funds spent in the categories of PHC wage, PHC non-wage, PHC development, local governments, credit lines (medicine), donor projects, and others (to be specified). In the management of medicines, health facilities are supposed to use stock cards to track the movements and

balance of all medicines in the health unit and the extent of (monthly) stock outs. However, a problem of incomplete or irregular data was found. Use of data for planning purposes was found to be low. Most of the health facilities visited did not complete the sections on medicines stock outs, health facility management and funds received and used. This problem was largely attributed to low motivation and under-staffing.

1.20. *Institutional weaknesses:* One of key observation was that the flow of funds from MoFPED to NMS through MoH breeds avoidable inefficiencies. There was no justifiable reason why credit-line money was not transferred directly from MoFPED to NMS. It is suggested that the proportion of PHC funds being decentralized to districts to supplement NMS medicines should be given to NMS to procure drugs. As NMS gets adequate and timely financial resources, the MoH should strengthen its supervisory capabilities and exert pressure on NMS to deliver its mandate. A problem regarding coordination of third parties was also observed. Each party comes with its interests. For example, DANIDA provides funds directly into budget support whereas USAID does not. Instead USAID brings its own medicines and has its own supply chain. Third parties need to be effectively coordinated to serve national interests.

1.21. *On the local manufacture of medicines:* The recent partnership between GoU, QCIL, and Chemical, Industrial and Pharmaceutical Laboratories (CIPLA) of India, presents a unique opportunity for the state-of-the-art technology transfer from India to Uganda. It presents a rare opportunity for the local manufacture of medicines. The challenge is to ensure that foreign pharmaceutical giants do not suffocate local pharmaceutical firms to death – for example, via the 'donation of free' drugs. Government must not let this happen. It must also ensure that the quality of local medicines remains high. People's negative perceptions that locally manufactured medicines are of poor quality need to be corrected with verifiable evidence of high quality locally manufactured products. The National Drug Authority (NDA), the Government Chemists and MoH have a key role to play in ensuring that locally manufactured medicines are safe, effective and affordable.

1.22. *Health Unit Management Committees (HUMCs):* The HUMCs are "voices" of the final beneficiaries of medicine. They are supposed to witness the arrival of medicines and ensure that the medicines actually reach the community. Members of HUMCs do not earn a salary. Some health facilities in some districts have more effective HUMCs than others. The challenge for government is not to abolish HUMCs, but to make them more effective. Government may wish to document the good practises and spread them elsewhere in the country.

1.23. *Inadequate laboratories, Rapid Diagnostic Tests (RDTs) and other essentials:* Drug stock outs were less serious in some districts (such as Rukungiri) that have laboratories and diagnostic kits for malaria than districts (such as Hoima, Kamuli, Mubende), which lack these facilities. The illegal stocking and subsequent abuse of drugs by households, together with the rising resistance to medicines, were less serious problems where diagnostic facilities existed. The challenge for government is to mobilize resources for investing in laboratories and rapid diagnostic kits across the country. These, as indicated in Chapter 3, are affordable. [For example, a microscope – which is an important facility in laboratories – costs less than US$300]. The MoH and the DHOs also need to improve the functionality of theatres at all HC IVs and other health facilities. There is also need for improving the supply

of gloves and syringes; increasing investments in ambulances; streamlining of the referral system; and continuously equipping health workers with new knowledge.

Conclusions

1.24. The main conclusion is that the flaws in the flow of medicines can be overcome. What is needed is greater determination in improving the governance of the health sector; the mobilization of adequate financial, logistical and human resources; and the effective coordination of the different institutional actors in the health system. The challenge is big but not insurmountable. Key actions highlighted:

1.25. Money for medicines (both credit line and PHC) should be transferred directly from MoFPED to NMS. This will involve two reforms. First, stopping the decentralization to districts of the 50 percent PHC funds meant for medicines. [This money should now go straight to NMS]. Second, the credit line fund should stop going through MoH to NMS. A valid concern has been raised, namely that this reform will effectively put the medicines and the money together as was the case during the days of the Central Medical Stores (CMS). This will not be a problem if a third initiative is embarked on, namely, strengthening the supervisory capability of MoH. A strong inspection department in the MoH will ensure proper utilization of the money by NMS. Should this require revision of the NMS Statute, then it should be done expeditiously. Exceptions to this proposal would be hospitals (both referral and district hospitals) to which MoFPED should directly transfer money for medicine. The condition here should be that they purchase medicines from either the NMS or JMS only. Any money for medicines that is not utilised should be returned to the MoFPED at the end of the financial year.

1.26. The line MoH should hold NMS managers personally accountable for what goes right or wrong in NMS. Tough measures must be put in place (by MoH, MoFPED and the President) to punish NMS management (a) if essential medicines (like anti-malarials) are inadequate; (b) if NMS delivers medicines that are not requested by clients; (c) if NMS dumps onto lower health facilities drugs that have less than three months' shelf-life; or (d) if NMS delays to deliver medicines on time. The aim of these tough interventions is to improve efficiency in delivery of medicines.

1.27. To overcome the widespread problem of drug stock outs, NMS should be given adequate capitalization to enable it procure 100 percent of the drugs requested by clients. Once NMS has financial autonomy and adequate capitalization, there should be zero tolerance to NMS's perpetual problem of non-availability of medicines. The NMS must purchase the medicines requested for from the market, including JMS and/or other private pharmacies in line with national procurement guidelines. In other words, NMS should be given an expanded mandate of procuring and distributing all medicines.

1.28. The abuses of drugs by individuals/households together with the associated problem of rising resistance to medicines were less serious where diagnostic facilities existed. Government must invest in laboratories and rapid diagnostic kits across the country. These are important and affordable.

1.29. Evidence shows that high quality auxiliary infrastructure matters. Government, in collaboration with its development partners, should invest in staff housing, solar power,

improved IT and telephone connectivity, quality roads, water and sanitation, among others. These play a fundamental role in the attraction and retention of health workers in any specific locality. A dramatic improvement in auxiliary infrastructure will eradicate the problem of 'hard-to-reach' areas.

1.30. A framework for coordinating donors in the health sector needs to be worked out expeditiously to avoid disruption of NMS activities. One way of doing this is by NMS creating a special unit to handle medicine supplies by "third parties". A clear procurement and distribution calendar of medicines supplied by third parties is necessary.

1.31. Operational funds for various levels of health units should be determined *a priori* and transferred from the MoFPED to the MoH and then directly to beneficiary health institutions, which include the Office of the DHO, the health sub-district (HSD) and lower level health centres (HC IIs, HC IIIs and HC IVs). At the district level, the district health inspection system should be strengthened to ensure proper utilization of operational funds in lower level health centres. The MoH should not allow health units to pay wages for any category of workers from operational funds. All workers should be recruited and their wages paid directly by the Ministry of Public Service (MoPS).

1.32. At the district level, the CAOs must ensure that medicines reach the beneficiaries. Additionally, the DHO, the HSD medical officer, the in-charges of lower level health centres and very importantly, the police, ISO and DISO and GISO have an important leadership role to play in inspecting, monitoring or even evaluating the availability of medicines. Together, they can ensure that medicines and medical services are available to people. Then, and only then, the diseases of the poor would be overcome.

1.33. The PHC funding is spread so thinly across the lower health levels leading to unintended inefficiencies. It is proposed that government should improve and strengthen infrastructure at HC IIIs with the aim of reducing the burden on higher health facilities. This should enable the referral hospitals to focus on their mandate. This also calls for revisiting the referral system between HC IIs and HC IIIs.

2. Introduction

2.1. Over the last few decades, health has attained worldwide recognition as a crucial component of human development and poverty eradication. This recognition springs, in part, from the realisation that one third of the world population lacks access to essential medicines. This critically contributes to further poverty, mortality, morbidity and indebtedness (WHO, 2004). The 2009 Report of the Special United Nations Rapporteur on the Right to Health, for example, observes that the diseases of the poor – that is, communicable, maternal, prenatal, and nutritional diseases – still account for 50 percent of the burden of disease in developing countries (nearly 10 times higher than in developed countries). Second, improving access to medicines alone could save 10 m lives a year – four m in Africa and south Asia. Third, the right to health is an inclusive right, which extends not only to the timely delivery of medicines, but also the underlying determinants of health. These include things like sanitation and access to clean water; proper nutrition; the availability of highly motivated health workers; and auxiliary infrastructure such as housing for health workers, access to roads, and solar equipment to keep vaccines in rural health centres at the right temperatures. In this study focus is made on the delivery mechanisms of medicines in Uganda. But the underlying determinants of good health are not forgotten.

2.2. During FY2008/09 Government allocated UShs.628.5 bn to the health sector which was an increase from UShs.428.26 bn in the previous financial year. In FY2009/10, sector funding will be further increased to consolidate past achievements and execute strategies for obtaining even better results. Specifically, government increased the allocation to PHC from UShs.130.6bn in FY2007/08 to Ushs. 157.6bn in FY2008/09 and the increase will be sustained in FY2009/10. Public spending per capita was US$ 8.2 in 2007/2008 for the health sector, which is equivalent to 9.6 percent of government expenditure. While spending more on health is a welcome development, Uganda is yet to achieve good health outcomes. This is evident from Uganda's inability to achieve health-related policy targets as highlighted in the Poverty Eradication Action Plan (PEAP) (2004) and the various HSSP (I & II).

2.3. Uganda has a high burden of disease. Malaria, malnutrition, Respiratory Tract Infections (RTI), HIV/AIDS, (with average prevalence of infection of 6.4 percent), dysentery, diarrhoea, and TB are the leading causes of morbidity and mortality (MoH, 2009). These are essentially *diseases of the poor* as they are more prevalent among the poor compared to the rich (UBoS, 2007). Indeed, a direct relationship exists between poverty and the incidence of these common diseases. By implication, therefore, poverty eradication is an important factor in the struggle against diseases.

2.4. The diseases of the poor have recently been compounded by the rise of non-communicable diseases (NCDs), which are predominantly 'diseases of the rich'. The NCDs are an emerging challenge and include hypertension, cardiovascular diseases, diabetes, cancer, and mental illness. The increase in NCDs is attributed to multiple factors such as the sedentary life of emerging elite class; use of expired or counterfeit imported medicines; increased exposure to radiation (associated with mobile phones, TVs, etc); and the metabolic side effects linked to life-long AIDS drugs. Uganda's governance flaws exacerbate the situation. The governance related flaws include weak regulation or poor enforcement of regulations on harmful substances such as alcohol/methanol that recently killed 19 people

and left 27 hospitalized in the first week of September 2009 (Monitor 5 September 2009; New Vision, 5 September 2009).

2.5. Uganda's high burden of disease calls for intensive, focused and well coordinated interventions. The MoH (2009) reports that 75 percent of the disease burden in Uganda can be prevented through health education promotion and prevention. If this does not happen, the budget for medicines will necessarily go up.

Rationale for this Study

2.6. The delivery of the UNMHCP is premised on at least one assumption, that is, an efficient and effective flow of medicines in the health system. Yet, the Ugandan media suggest that there are important flaws in the flow of medicines. For example, *The Monitor* lead story of 16 January 2009 entitled: 'Govt spent Shs6 bn on ghost drugs…' raises two key issues. First, it highlights the Office of the Auditor General (AG)'s report to Parliament covering the 2006/2007 financial year, in which the AG reveals that government had allocated Shs19.6bn to the NMS. However, NMS delivered drugs and medical supplies worth Shs13bn, making a shortfall of Shs6.2bn. This became a subject of investigation by the Public Accounts Committee (PAC) of Parliament. Was the money for essential drugs being diverted to selfish ends? Second, MoH was being accused of diverting to overseas travel the sum of Shs410.6 m that was meant for the purchase of drugs. This reallocation from item No. 224001 (Medical Supplies/Drugs) was allegedly done without proper authorization.

2.7. Such anomalies in the drugs/medicines sub-sector constitute the major rationale for this study. This study is important to the people and Government of Uganda (GoU) in several ways. First, it provides evidence and designs policy messages that will be used to improve the delivery of medicines. Second, efficiency, effectiveness and timeliness in the use of health-sector resources are addressed.

2.8. The study follows closely the accountability relations in the public service delivery framework, which was developed in the World Development Report of the World Bank (2004), entitled "*Making Services Work for the Poor*". The study also employs the Public Expenditure Tracking Surveys (PETS) tool to understand the flow of medicines in the health system in Uganda. For example, the study seeks to investigate the proportion of medicines - in money terms- that actually reach the health facility vis-à-vis what was released. Several PETS have been undertaken in Uganda with the aim of improving flow of funds. The most widely publicized is on capitation grants to schools on which basis the Ministry of Finance, Planning and Economic Development (MoFPED) started publishing funds in newspapers (see Reineika and Smith, 2004). Another study by Lindelöw *et al*. (2003) focused on drug stock outs at health facilities and user perceptions; but the study did not examine the medicine delivery systems. In other words, Lindelöw *et al*. (2003) did not track medicines from the national level to the frontline health facilities. Nor have the previous studies included the beneficiaries or addressed the relevant institutional linkages. This present study tracks the flow of funds for medicines as well as the medicines to the lowest health facility. It also examines the perceptions of beneficiaries and seeks to understand the relevant institutional arrangements.

Purpose and Objectives of the Study

2.9. The purpose of this study is to deepen understanding of the system of delivering medicines in Uganda. More specifically, the study focuses on the following issues: First, it examines the viability of the institutional partnerships forged between the different stakeholders in the drug delivery system. Of particular importance are the partnerships between NMS, Joint Medical Stores (JMS) and third parties; between central and local government agencies; and between relevant NGOs and the local governments in their areas of operation. Second, the study seeks to investigate the challenges faced by NMS in the procurement and disbursement of drugs, and in what ways these challenges can be overcome. The study tracks the flow of funds for, and the supplies of, drugs/medicines with a view to determining the pattern of expenditure allocation, and whether all resources allocated to the medicines sub-sector reach their intended beneficiaries. Third, the transportation of medicines from the District Health Office (DHO) and Health Sub-Districts (HSDs) to the lower-level heath centres is highlighted. Fourth, the management of stocks at the facility level, the problem of drug stock outs, and the perception of service users based on the Focus Group Discussions and exit interviews are documents. Fifth, the challenges encountered in the acquisition, distribution and utilisation of the medicines are discussed. Finally, conclusions and recommendations are presented. The task at hand cannot be effectively realized unless health is located in the broader context of public service delivery. This is the focus of the next section.

Context of Health Service Delivery in Uganda

2.10. The history of public service delivery in Uganda is a history of ups and downs. From the 1960s to the mid-1970s, Uganda had one of the most effective public service systems in sub-Saharan Africa. The country's civil service in general and the health system, in particular, was one of the finest. Uganda's health sector used to work efficiently. There was an effective referral system from the village dispensaries and district hospitals to the national referral hospital (Mulago). During the 1970s and early 1980s, many of these institutional systems collapsed, resulting in substantial deterioration of the health outcome indicators. While several reforms have been undertaken in the health sector, with a view to improving health outcome indicators, progress has stagnated since the late 1990s. Nonetheless, GoU remains committed to improving the delivery of medicines and medical services. What is not clear is why the wish to improve the flow of medicines is not effectively translated into improved practices. Hence the importance of the present study.

Reforms within the Health Sector

2.11. Since 1986, government has implemented several sector-specific reforms. In the health sector, the reforms started with the establishment of the Health Policy Review Commission (1986–1989). This was followed by several other reforms but this study focuses its discussion to those reforms directly related to drug/medicines.

2.12. It is worth noting that the GoU provides free health care to the people including availing them with essential drugs for common illnesses like malaria. The rationale of government is that drugs offer a simple, cost-effective solution to many health problems, provided they are available, affordable, and properly used. Second, improving the availability and affordability of essential medicines of assured quality is central to increasing

access to healthcare and improving health outcomes for the poor. Two institutional actors play a key role in the procurement and/or distribution of medicines in Uganda – the NMS and Joint Medical Stores (JMS). The former is required to procure essential medicines and health supplies for public health facilities; the latter procures medicine mainly for faith-based health facilities. The JMS is the second call after NMS as regards utilisation of the PHC budget, which represents a strong partnership between the public and private sector in the procurement of medicines and health supplies.

a) From Central Medical Stores to National Medical Stores

2.13. The NMS was established by the National Medical Stores Statute, which came into effect on December 03, 1993. The NMS replaced the Central Medical Stores (CMS), which was a department within the MoH. The main concern, then, was that the functionality of CMS was constrained by lack of autonomy. Second, the fusion of money and medicines in one institution – the MoH – was widely associated with inefficiency, lack of accountability and the absence of institutional checks on the flow of pharmaceuticals and medical supplies. As a major outcome, essential drugs/medical supplies were not reaching the people at the right time. Nor were they being delivered in the right quantities via a supply-driven approach.

2.14. To overcome the anomalies associated with the old supply-driven CMS regime, government created NMS in 1993. Through the NMS statute, the MoH delegated its drug supply function to NMS. Drug supply involves the identification of therapeutic needs, quantification of the current and future needs, procurement, distribution and use. Like CMS, the NMS operates under the national health policies defined by the line MoH. Unlike CMS, however, NMS works in the context of the national drug policy that is enforced by the NDA. The NDA was created by the National Drug Policy and Authority Act, 1993, and came into effect on the same day as the NMS. In line with its mandate of enforcing the national drug policy, the NDA oversees the quality-related operations of pharmacies including the NMS. The NMS is also different from CMS in that it is an autonomous corporation created in the principal of demand (pull system) for medicines as opposed to the supply (push system) under the CMS regime. This autonomy signifies the separation of money from the medicine. But as demonstrated in the subsequent chapters, there was limited value addition in changing from CMS to NMS. Thus, one of the key recommendations is that the best aspects of the CMS system should be resuscitated.

b) The rise of Joint Medical Stores (JMS)

2.15. The JMS was founded in 1979 as a joint venture between the Uganda Catholic Medical Bureau (UCMB) and the Uganda Protestant Medical Bureau (UPMB). The aim was to supply quality medicines, medical equipment and related health care and training services to the people of Uganda at an affordable price *and* to the glory of God. JMS was initially set up to supply medical relief to the health facilities owned by the Protestant and Catholic churches. With time, however, JMS evolved into a not-for-profit wholesale enterprise, procuring, storing and selling over 2000 products. These products include pharmaceuticals, medical and surgical sundries, medical equipment/instruments and laboratory supplies. JMS has expanded its regular customer's base to include church founded health facilities, national and international NGOs, government health units, private clinics and hospitals, private pharmacies and schools.

Health Sector Strategic Plan (HSSP)

2.16. The overall development goal of the HSSP I was *the attainment of a good standard of health by all people in Uganda, in order to promote a healthy and productive life* (MoH, 2005: 8). This is consistent with Uganda's National Health Policy (MoH, 1999). The program goal of the HSSP I was *Reduced morbidity and mortality from the major causes of ill-health and premature death, and reduced disparities therein.* Both the development and the program goals were to be attained through universal delivery of the UNMHCP, whose key components were: (a) control of communicable diseases, particularly malaria, STI/HIV/AIDS and tuberculosis; (b) integrated management of childhood illness at all health facilities and households; (c) sexual and reproductive health promotion putting emphasis on essential ante-natal and obstetric care, family planning, adolescent reproductive health, and violence against women; and (d) other public health interventions such as immunization, health education, school health, epidemics and disaster prevention, and improved mental health. The main policy elements of HSSP I relevant for the present study are as follows:

- Preferentially allocating resources to PHC and in favour of lower levels of care. The aim was to increase availability of essential health system inputs particularly vaccines, drugs, human resources, medical equipment and health infrastructure;
- Paying greater attention to health promotion, disease prevention and empowerment of individuals and communities to play an active role in heath development;
- Equitable distribution of health services throughout the country, giving priority to further decentralization of the health care delivery system. The aim was to ensure effective access by all to the UNMHCP;
- Improving access to health care by increasing health infrastructure and abolishing user-charges in all government facilities except the private wings of hospitals. User-charges were formally abolished in 2001;
- Up-scaling the struggle against the leading killer diseases – Malaria, HIV/AIDS and Tuberculosis; and
- Deepening immunization (via an Expanded Program on Immunization).

Conclusions

2.17. The study focuses on some of the above drug/medicines related policy elements of the HSSP. A mapping of these and other health indicators suggests that certain districts are doing better than others, notwithstanding the fact that the same line ministry supervises all districts. All districts operate under the same national policy framework. They all receive credit-line medicines and decentralized PHC funds. So what explains the variations in the health performance indicators across districts and in what ways can the poor performers learn from the top performers?

2.18. This study argues that the challenges of delivering drugs in Uganda are closely associated with (a) the institutional partnerships forged in the delivery of drugs; (b) the effectiveness of NMS in drug procurement and disbursement; (c) the effective or ineffective usage of funds meant for drugs under credit-line, third parties and PHC; and (d) the quality of district-level drug acquisition and delivery mechanisms. The rest of this study is devoted to highlighting these issue-areas.

2.19. The rest of the study is structured as follows: The analytical framework and methodology that guided the research are presented in the next chapter. Chapter Three presents a discussion of the institutional partnerships in the delivery of medicines. The procurement, disbursement and tracking of medicines are the subject of Chapter Four. Perceptions of the beneficiaries and in-charges of lower health facilities are discussed in Chapter Five. Chapter Six focuses on the challenges in the acquisition, distribution and utilisation of the medicines. Finally, conclusions are presented in Chapter Seven.

3. Analytical Approach and Methods

Analytical approach

3.1. The analytical approach adopted by this study is the "framework of accountability relationships" articulated in the 2004 World Bank World Development Report entitled: *Making Services Work for Poor People*. Studies that have adopted this framework to understand decentralized service delivery have yielded fruitful findings – for example in India (World Bank, 2006).

3.2. The analytical framework (Figure 1) has five cardinal principles of effective service delivery, namely: delegation, financing, performance, information and enforceability. These must work together to maximize service delivery. For example, decentralization in Uganda resulted in the *delegation* of duties from the central MoH to local governments (LGs). Theoretically, decentralization brought services closer to the people. But the practice may be different, depending on several context-specific dynamics.

3.3. Decentralized health services can only work if there is: (a) adequate *financing* (for staff, drugs, and equipment); (b) clear *performance* measurements (e.g. at the level of health units and districts); (c) proper *information* flows (hence the importance of the health management information systems (HMIS); and (d) effective supervision, inspection and *enforcement* of performance standards by MoH, the DHO, local politicians, the HSD, the health unit management committees (HUMCs) or even the police (as in situations where medicines or PHC funds are stolen). In cases or countries where all or most of the accountability variables work well, satisfactory services are provided. Where all or most of these factors are lacking, poor services are found.

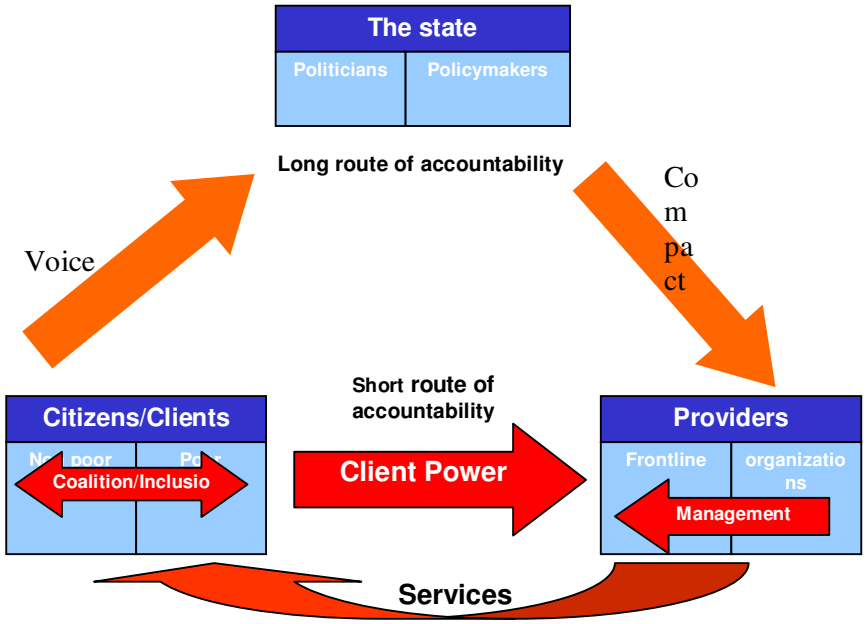
3.4. But that is not all. Evidence shows that the accountability variables are necessary, but not sufficient predictors of the quality of services provided. The governance structure, that is, the way the service delivery *system* is organized, matters a lot. It is within this governance structure that strong accountability relationships must be forged between policymakers, service providers and beneficiaries.

3.5. Policymakers determine the level and quality of services to be provided. They formulate the relevant strategic plans, sectoral policies, and control mechanisms or laws and determine the level of resource/budgetary allocation. Service providers deliver the services, professionally or otherwise, while beneficiaries assert their rights as voter-citizens (effectively or otherwise). Effective service delivery is most likely if all the three parties play their roles well.

3.6. The accountability framework has a variety of stakeholders with varying degrees of responsibilities and voice. These include the patients or service-users (who may be citizens); policymakers (e.g. politicians and technocrats at central and LGs); the service providers (e.g. medical superintendents); and finally, frontline staff (doctors and nurses). These stakeholders relate to each other through: client power, compacts, management and voice. Figure 1 depicts the direction and strengths of the relationships in an ideal situation, while Figure 2 illustrates the "real world" situation with reference to the flow of medicines in Uganda. The shift from Figure 1 to Figure 2 signifies a shift from the conceptual (or general)

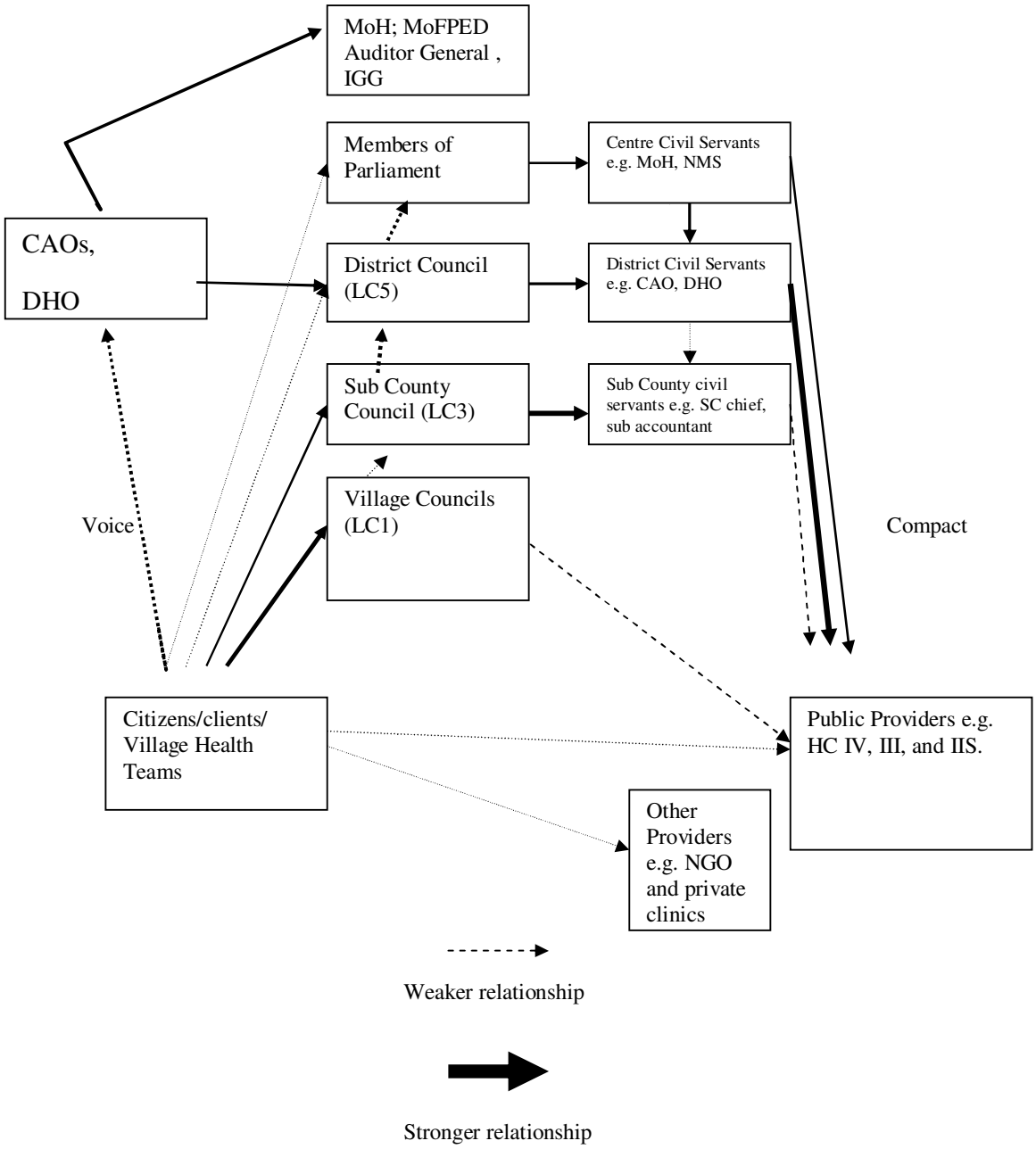
framework to the empirical dynamics in the drug/medicines sub-sector. Figure 2 clearly shows that the accountability relationships between the Ugandan citizens (or service users) and the public health providers are weak. The 'voices' of the citizen vis-à-vis the local government and central government officials are also weak. These 'weak links' as will be discussed later need to be strengthened.

Figure 1: Ideal Accountability Relationships in Public Service Delivery
Voice-politics (between citizens and the state)
Compact (between the state and producers)
Client power (between citizens/ consumers and producers)



Source: World Development Report (WDR), 2004

Figure 2: Accountability Relationships in the Ugandan Medicines Sub-sector



Data and Methods

3.7. The research methodology was primarily based on qualitative work but also drew on secondary sources for quantitative data, where applicable. It also combined desk based literature review including review of policy documents and field visits in five sampled districts of Apac, Hoima, Kamuli, Mubende and Rukungiri. Three of these districts were covered in the study commissioned by the World Bank entitled "Human Development Pillar of the PEAP: Opportunities and Challenges[1]". The study comprised key stages but closely interlinked.

3.8. A comprehensive review of the readily available literature as well as the Government of Uganda (GoU) Acts and policy documents related to delivery of medicines was carried out. Critical analysis of the institutional partnerships crafted between different stakeholders (e.g. NMS and third parties; central agencies, LGs and NGOs) was conducted. The aim was to establish whether or not these partnerships are viable for improved medicine service delivery. In-depth interviews were conducted with top health sector officials as well as the middle-level institutions and officials.

3.9. Field visits were then carried out and in-depth interviews conducted with government and non-governmental units responsible for the management of medicines at different health units – the regional referral hospitals, district hospitals and health centres ranging from HC IV down to HC II. The status of health infrastructure as it relates to drug delivery was documented. A contrast was then made between the improved health infrastructure and the level of drug availability, the number of professional health workers in the health facilities and the level of "tooling". The conduct of health workers (professional or unprofessional) was also investigated via field observations and FGDs with service beneficiaries. FGDs and interviews with community leaders were also carried out to establish the degree to which local communities hold elected politicians as well as technical service providers to account for the level of drug delivery (whether satisfactory or unsatisfactory).

3.10. Within the national and local governance structures of health services, the challenges faced by NMS in drug procurement and disbursement were investigated; the delivery of drugs (in money terms) from the national level to the DHO and HSDs was tracked. From the DHO to the lower-level health units, an assessment was done (via interviews, field observations, and critical analyses of records) on the degree to which the credit line medicines delivered by NMS and received by the DHO reach the intended beneficiaries in a timely manner. The focus was on the last three disbursements during May 2008 to April 2009. A similar approach was followed for medicines under PHC. However, the reference period was on medicines procured from July 2008 to March 2009 (FY2008/09). Analyses of the health-related auxiliary infrastructure (e.g. the local road networks, the tooling of the DHO, and the telephone and IT penetration rates) were done to contextualize the challenges of drug delivery within the districts and HSDs. Finally, FGDs, field interviews and observations were used to assess the role of the HUMCs and NGOs especially faith-based in the delivery of medicines.

[1]. This study was commissioned to EPRC by the World Bank Uganda Country Office.

3.11. To gain further insights into the drug delivery mechanisms, a total of 10 government health facilities (see Appendix 1) were randomly selected in each sampled district. A public district hospital was also selected in addition to the government health facilities. Health facilities were selected by stratifying the health care system to select a mix of urban, peri-urban and rural facilities. A total of 50 in-charges were interviewed, one per health facility, giving a total of 45 in-charges from the health centres and 5 from the referral and district hospitals.

3.12. The field instruments (see Appendix A) included among other things structured questionnaires administered at the district and service delivery points (hospitals and lower health facilities). Both qualitative and quantitative information were collected. The information gathered included: management, distribution and supply of medicines; supervision; utilisation of PHC funds; delivery of consignments to the facilities; and stock handling in the facility stores and training among others. A number of quantitative indicators were also applied to collect information on consumption of essential medicines, stock outs, stock levels, inventory control, reporting accuracy and product losses and expiries.

4. Institutional Partnerships in the Delivery of Medicines

4.1. This chapter examines the viability of the institutional partnerships forged between different stakeholders that are involved in the delivery of health services in general and medicines in particular. Inspiration is drawn from the recent studies that have demonstrated that 'institutions matter' (Chang, 2002; 2007). That, institutions play a fundamental role in determining the level of economic development is no longer debatable. That cross-national differences in public services are shaped by the quality of institutions is not debatable either (Kiiza, 2007). What is worth documenting here is the link between institutional partnerships and the delivery of medicines in Uganda.

4.2. In the sections that follow, the meaning of institutions is outlined. Then the health sector institutions in Uganda contextualised. In the third section, Uganda's health system is described. In the fourth section, the dominant role of the public sector in the provision of health services is noted. The fifth section zeroes down to the most important concern of this chapter: the importance of public/private partnerships. In the sixth section, the sector-specific partnerships that impact the delivery of medicines in Uganda are documented. The final section makes concluding remarks.

Meaning of Institutions

4.3. The research team's conceptualization of institutions shows no desire, on their part, to reinvent the wheel. The widely accepted definition of institutions as the formal and the informal 'rules of the game', laws and regularized patterns of behaviour that determine outcomes in an 'organizational' setting was adopted (Van Arkadie, 1990). The idea of 'organization' with reference to (a) the health system that delivers medicines, efficiently or otherwise; and (b) the concrete institutions or organizations that are involved – such as MoH, NMS and JMS is used. It is appreciated that some institutions are formal (such as NDA) while others are informal – for example the *trust* put in Ms Elizabeth Iripo (In-Charge of Butoloogo HC II, Mubende) by the community that benefits from her patriotic service and dedication. The focus in this study is on the *formal* institutions. The research team argue that collaborative institutional partnerships are important in a complex sector such as health where a multiplicity of institutional actors exist.

Uganda's Institutional Actors in Context

4.4. Uganda's health sector has different institutional actors, including the public, the private, the NGOs, and the community-based initiatives. The rise of these different actors needs to be understood in context. In the pre-colonial era, traditional health practitioners (such as local herbalists and Traditional Birth Attendants (TBAs) were the main health service providers. The advent of colonialism in the late 19th Century saw the rise of (a) faith-based hospitals and (b) public health facilities. Organized at the national, regional and community levels, both the missionary and the public health systems advocated a more modern or 'professional' approach to the delivery of medicines. Many were hostile to the traditional health practitioners who were labelled 'pagan' (read 'unchristian'). However, neither the faith-based nor the public health providers succeeded in uprooting the traditional herbalists. The reason, it would seem, is because the herbalists mastered the art of psychology. Herbalists also charged affordable rates and were readily accessible to the community.

4.5. Over the last few decades, policymakers in Africa have upgraded traditional herbalists from unwanted 'pagans' to 'complementary' medical practitioners. However, interviewees reported that government typically finds it difficult to distinguish between genuine traditional healers from the *bicupuli* (or fake) herbalists. Press reports suggest that *bicupuli* herbalists exploit their patients psychologically, financially, or even sexually as in situations where male herbalists rape their female 'clients'. Some traditional healers advise their clients against modern laboratory tests in preference for herbal concoctions. However, this practice is also reported among modern 'pastors' of the Pentecostal Christian Revival Movement.

The Health System in Present-Day Uganda

4.6. The health system in Uganda is operated on a six tier infrastructure of service provision, including the national referral hospitals (Mulago and Butabika); the regional and district referral hospitals; the HCs (II-IV); and the community-based initiatives commonly known as the alternative medical practitioners. Across this health system, one finds four distinctive categories of institutional actors – the public, the private or *for-profit* actors, the faith-based or NGOs, and, the 'alternative' medical practitioners (such as the TBAs) who complement but often *complicate* the formal health delivery mechanism. These actors operate under the policy and institutional framework set by the line MoH under the relevant laws and the associated health sector strategic plans.

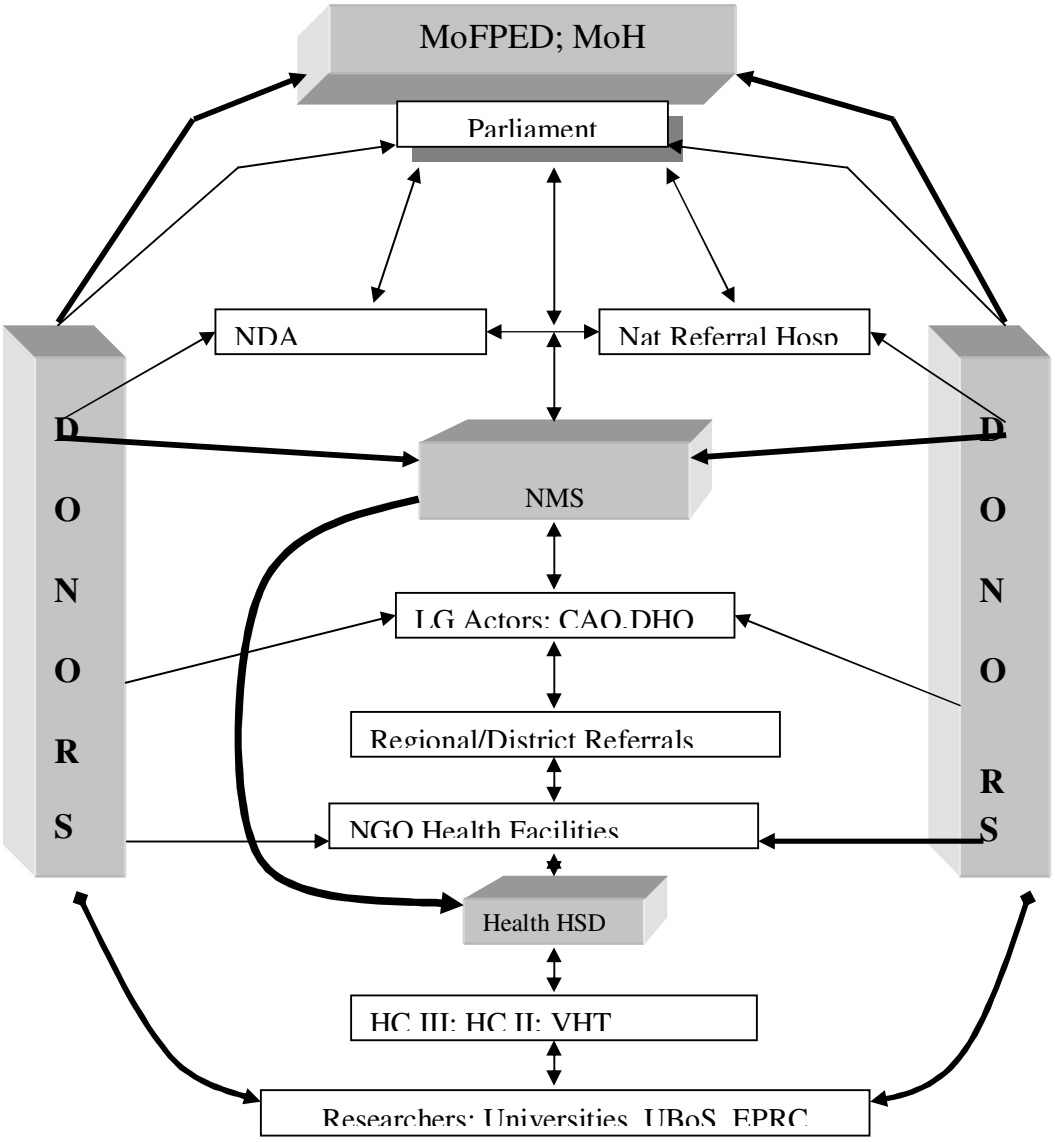
4.7. Other important institutional actors (see Figure 3) are: The MoFPED (which is responsible for health financing); the donors, who play an extremely important role in the health sector[2], and QCIL. This company owns an ultramodern factory in Luzira. The factory was a product of a partnership that the company recently forged with GoU (which contributed the land for factory premises) and the Indian pharmaceutical giant CIPLA (which agreed to transfer manufacturing technology to Uganda). The factory produces ARVs and ACTs, which MoH purchases for distribution through NMS. One strategic importance of the company is the transfer of technology from CIPLA to QCIL. This would, in the long run be beneficial to Uganda as the country would become the regional hub as regards the production and distribution of ARVs and ACTs.

Important Role of the Public Sector

4.8. It is worth noting that up until the 1980s, the public sector has been the major provider of health and other public services in Uganda. By public sector is meant the central government departments (such as MoH); inter-governmental agencies (such as WHO); statutory agencies (such as NMS); national health institutions (such as Mulago); and local government authorities (such as the DHO). The public sector became a dominant player because of its constitutional mandate to operate at the national, international, regional and community levels. The last two decades, however, have been associated with the erosion of the public state sector. This erosion is associated with the wide-ranging economic and institutional reforms of the 1980s and 1990s (Kiiza, 2006). The claim was that provision of public services suffered important problems of resource scarcity, weak managerial expertise, and weak incentives for public bureaucrats (who work in the *non-market* sector) to provide goods and services efficiently, effectively and sustainably.

[2] . At the time of undertaking the study, donors' budget support to national budget was about 30 percent. Additionally, all ARVs and Coartem drugs were financed by donors: government was virtually absent in these areas.

Figure 3: Key Institutional Players in Drug Delivery in Uganda



Source: Adapted from Kiiza, et al, 2006

Notes:

MoFPED	Ministry of Finance, Planning and Economic Development (most dominant ministry)
NPA	National Planning Authority (Semi-autonomous, under supervision of MoFPED)
UBoS	Uganda Bureau of Statistics (Responsible for government data collection)

4.9. Figure 3 shows the key institutional players in the drug delivery in Uganda. Some of the players are institutions directly under the MoH (e.g. hospitals, national level health institutions, and district level health institutions), others are donors, and yet others play a facilitative role in the delivery of medicines (e.g. MoFPED, Parliament). Missing in Figure 3 are private sector institutions including JMS and Private Not-For Profit (PNFPs). Facilitating institutions, which include the MoFPED and Parliament, appropriate the public budget for

the health sector. Parliament also exercises an oversight function particularly through its committee on social services.

4.10. Less ideologically driven researchers acknowledge the challenges of the public sector (such as limited financing). They contend, however, that the private sector, too, has fundamental challenges. For one thing, the private sector in Uganda is still embryonic and, therefore, insignificant. Second, it is driven by the profit motive, not public service. Third, private health institutions are predominantly in the urban centres (where a market for their products exists). They are largely inaccessible to the rural dwellers - the majority of Uganda's population. Official statistics indicate that over 80 percent of Ugandans live in the rural areas primarily as smallholder agriculturalists. In such an agrarian economy, private provision of health may lead to the exclusion of the rural *and* the urban poor.

The Rise of Public-Private Partnerships

4.11. The realization that both the public and the private sectors suffer important constraints has given credence to public–private partnerships (PPPs) as important institutional innovations. Partnership exist where there is mutual trust, backed by a guiding policy framework; shared norms and values; common goals or pursuits; a code of conduct; and a general agreement on the rules of engagement. According to North (1990) and Nkya (2000), partnerships are institutional arrangements that constitute rules defining the relationships, roles, responsibilities and accountability mechanisms (both formal and implied) of different collaborating actors. The overriding goal of PPPs is to meet public needs that would have been difficult to realize without collaborative efforts.

4.12. The literature on PPPs suffers one important problem, namely, the failure to clearly spell out what constitutes the *private* as opposed to the *public* in the public–private partnerships. An influential World Bank study conducted by Marek (2003) argues that *'private sector providers are understood as any service providers who are not from the public sector. In particular, they include private for-profit providers, traditional healers, NGOs, community groups and informal drug vendors'*. This is an important conceptual mistake. Private sector actors are those, and only those, that are driven by the goal of profit maximization. Traditional healers, NGOs and community-based actors are not part of the private sector. The aforementioned conceptual errors have fuelled the popular but flawed categorization of health providers into the public providers, the private *for-profits* and the so-called *private-not-for profits* (PNFPs).

4.13. The point of departure by the research team is that the public, the private and faith-based health providers all serve the public, in the true sense of the word. Thus, the simplistic question of whether a service provider is 'public' or 'private' is avoided. Instead, the partnerships forged and whether they are effective or ineffective in meeting public needs are examined. In the complex health sector, a useful way of distinguishing between the different actors is to investigate their sources of funding and their accountability relationships with the service users. Public health providers use public finance, public employees and public facilities to provide health as a public service, that is, in the interest of the public, defined as the taxpayer or the voter-citizen. Public health providers are also answerable to the public (for example through the District Councils that are responsible for monitoring service delivery in Uganda's local governments). Private-for-profits use private capital and are accountable to both shareholders and clients. Faith-based practitioners get

funds from charities and are answerable to God and humanity. However, faith-based hospitals such as Nyakibaale in Rukungiri district receive grants from the GoU. Interviewees, however, suggested that no strict mechanisms exist to hold faith-based hospitals to account for the funds they receive. Fortunately, service users predominantly have a positive rating of faith-based hospitals vis-à-vis public health facilities.

4.14. Regarding the PNFPs, important controversies exist. Influential studies have categorized the faith-based hospitals (such as Lubaga Hospital in Kamuli and Nyakibale in Rukungiri or even Kitovu Hospital in Masaka) as PNFPs. Interviews with these hospitals suggest that they are definitely *not* private companies. Nor are they necessarily *not-for-profits*. A health worker at Lubaga Hospital in Kamuli district stated as follows:

Much as profit-making is not our primary goal, we would not be hurt if we made some profits for ploughing back into the health system. This would enable us to improve the quality of our services to God's people. The problem is that medicines and equipment are expensive. And we charge below-market rates for our services and medicines. Our community has lots of poor people who would be excluded if we charged commercial rates. Luckily, we get funding not just from user-fees (which are below market rates) but also from Government. We have an unwritten partnership with the community (which pays user-fees) and with Government, which gives us funds. Government funding has been very helpful. But we would be appreciative if Government started paying the salaries of our employees as well (Interviews, Lubaga Hospital, Kamuli, March 2, 2009).

4.15. The clearest definition of faith-based health providers, and the incentives that drive them, was perhaps given by a senior official of St Joseph's, Madudu HC III in Mubende (see Box 1). This is a faith-based, Catholic-owned health facility.

Box 1: – Understanding the Motivators of Faith-Based Health Service Providers

Historically, we are missionaries. Our calling is to preach the Gospel of the Good Lord in whatever we do, say or plan. The Church historically ventured into health and education services because we understood these to be central to holistic service to God and humanity. It was realized that the Gospel we preach would be incomplete unless we helped God's people get released from bondage to ignorance, disease and sickness. These seriously affect the day-to-day lives of God's people. Our gospel about the loving God becomes more meaningful if we relate it to the challenges that God's people face in their day-to-day lives.

It is worth emphasizing that ours is missionary work. We are driven by the religious norm of service beyond self. We are also guided by the norm of total obedience. For that matter, there are no hard-to reach areas for us. When our leaders post us in what you are calling 'hard-to-reach-areas,' we go without question. We obey because we see that as God's calling upon us to serve His people, wherever they may be. Of course we are human and often face great challenges. However, we are socialized to serve beyond self. Whatever we cannot endure, we tolerate. Whatever we cannot tolerate, we endure (*Interview with Senior Official, Madudu HC III in Mubende, 2009*).

Sector-Specific Partnerships that Impact Delivery of Medicines

4.16. In this subsection, the sector-specific partnerships that impact the delivery of medicines in Uganda are examined. Particular interest is made in the partnerships for health financing; for the local manufacture of medicines; and for drug distribution and use. The collaboration between government and faith-based NGOs; the partnership between NMS and the DHO; the LG health infrastructure (that is, the DHO, HSD and lower health centres); the role of HUMCs; and the role of laboratories and rapid diagnostic tests (RDTs) in overcoming drug stock outs and drug abuse are highlighted. But first, the rules of the game that contextualize the partnerships are highlighted.

a) On the Rules of the Game

4.17. Binding 'rules of the game' are needed to ensure predictable behaviour. The rules and regulations; the laws and bylaws; and the guidelines that regulate the health sector are set by Parliament (via the Acts of Parliament) and other relevant bodies (such as District Councils that make district ordinances). Article 169 of the Constitution established the Health Service Commission (HSC), which has powers (under Article 170(1b) to appoint health workers and confirm, discipline or remove them from office. The Commission is also mandated to review the health workers' terms and conditions of service, the standing orders and the workers' welfare with a view to making recommendations to government (Article 170(1c).

4.18. The field findings indicate that health workers in Uganda operate under de-motivating terms and conditions of service. A fresh medical officer in public health facilities, for example, earns less than Ushs800,000 per month (or US$400). Medical officers and clinicians overwhelmingly argue that no doctor can be effective without nurses. Yet the nurses and midwives earn only about Ushs350,000 (or US$ 175) per month. Many of the health workers who are trained on Ugandan taxpayers' money are migrating to Rwanda where they are paid substantially higher rates. The HSC and other relevant health-sector institutions need to address the plight of Ugandan medical professionals. This is important for motivating health workers, boosting the retention and staffing levels, and improving the delivery of medicines to service users.

4.19. The Health Service Act, 2001 (under Part IV) spells out the Code of Conduct for all health workers in Uganda. Under Section 30 of this Act, a health worker is obliged to take the health, safety and interest of patients to be of paramount importance at *all times* and in *all circumstances*, and to ensure that no health worker's action or omission is detrimental to the patient. Section 30(7) makes it illegal for a health worker to ask for, or accept, a bribe; while Section 30(9) provides that a health worker shall not abandon a patient under his or her care.

4.20. The National Drug Policy and Authority Act (CAP 206) spells out Uganda's drug policy and establishes the NDA. Under Section 5 of the Act, the NDA is, among other things, charged with the following duties:

- Licensing and regulation of the pharmacies in the country;
- Licensing of health clinics that dispense medicines

- Approval of the national list of essential drugs, which may be reviewed from time to time, as need arises. [The list is prepared by the Committee on Essential Drugs (Section 6)];
- Controlling the quality of drugs, which includes the importation, exportation, and sale of pharmaceuticals;
- Promoting local production of medicines; and
- Promoting the rational use of drugs through appropriate professional training.

4.21. The NDA raises funds for its activities mainly through licences and fees. Inadequate funding of the NDA was identified as a bottleneck to meeting its mandate. Established as a public enterprise, the NDA has no budget allocation for operations from government, yet the amount of money it collects in form of fees and licences is inadequate when it comes to enabling it to meet its mandate. Accordingly, inadequate inspection of clinics and hospitals to ensure that medicines being dispensed are not expired is one major challenge the NDA is facing.

b) Partnerships for Health-sector Financing

4.22. The financing of medicines in Uganda is done under three institutional arrangements – the credit line; PHC, and third party arrangements. Credit-line funds are released from the MoFPED to NMS through the line MoH. Officials from NMS and MoH (whom were interviewed) reported that the current flow of funds for medicines has important in-built inefficiencies. The MoFPED releases funds to MoH, which advises NMS how much credit NMS has with MoH for procurement of drugs. Guided by the budget ceiling (and the needs of clients), the NMS, then, procures medicines from suppliers on credit. Study respondents reported that NMS is financially constrained. In addition to procurement, the NMS manages the storage, packaging and distribution of medicines to the districts. The NMS then picks the delivery notes and presents invoices to MoH for reimbursements. Interviewees at NMS reported that 1-3 months typically elapse before NMS receives payment. According to a key informant interviewee, *'The PPDA [The Republic of Uganda's The Public Procurement and Disposal of Assets, 2003] rules legislate that we shall receive payment after the delivery of medicines. While the PPDA rules were well intentioned, they constrain our functionality. The rules were premised on the highly optimistic assumption that NMS is highly capitalized. This is not the case. Second, our trucks used to deliver medicines once in two months, as stipulated in the law. Now we deliver monthly. But we are being constrained by persistent delays by MoH officials to honour our invoices'* (NMS Interviews, May 2009).

4.23. The second major institutional arrangement for financing medicines is PHC. The PHC funds are decentralized to districts (to supplement NMS's procurement efforts). According to MoH and MoFPED, the principle aim of the PHC funds was to increase availability of essential health system inputs particularly vaccines, drugs, human resources, medical equipment and health infrastructure. The PHC funds are disbursed directly from MoFPED under the votes for conditional transfers or grants to (a) the DHOs; (b) district hospitals; and (c) NGO hospitals. The MoH guidelines to the DHOs/Medical Superintendants (MSs) on the procurement of medicines state the following:

- Fifty percent of PHC funds received by a district must be spent on procurement of medicine, and the other 50 percent on general management of health facilities. The district hospitals are expected to spend 40 percent of the PHC funds on medicines;

- All credit line medicines must be procured from NMS on credit, upon placement of an order for medicines by the district (DHO) for specific health facilities in the district; and
- Regarding the procurement of PHC drugs, the first point of call is NMS. If NMS is not able to meet the request, NMS shall give a "certificate of non-availability" to the DHO, which empowers the DHO to try the second point of call – the JMS. In case JMS cannot meet the request, the DHO is then free to purchase the medicines in question from any registered private pharmacy.

4.24. The MSs, who are the vote controllers of the district hospitals, manage the PHC transfers. While transfers to the district health offices are managed by the DHOs, medical officers manage transfers to HSDs. The PHC funds are not only used to purchase drugs but also to carry out general administrative activities associated with management, infection control and health education in the district hospitals and/or health centres. There are government guidelines on the PHC allocations across the components. The guidelines were introduced to improve the efficiency of financial resources. However, the accounting officers have taken the guidelines as an incentive to abuse the PHC funds either through misallocations and misappropriations. Put differently, the PHC allocations are taken as guidelines but not as a condition (see detailed discussion in Chapter 4). As will be discussed later in Chapter 4, the fieldwork shows that districts (such as Rukungiri) that follow this guideline have a considerably less serious problem of drug stock outs than those (such as Hoima) that take the guideline as a mere guide. In other words, the accounting officers have taken the guideline as an incentive to abuse the PHC funds either through misallocations or misappropriations. A strong recommendation is made on this later.

c) Partnerships between Government and the Donors

4.25. At the time of doing research, Government and the donors were the main providers of funds for medicines in Uganda. This research indicates that procurement of drugs by the "third parties" is unpredictable and does not follow a definite calendar; it has no linkages with the calendar for the NMS. Uncoordinated procurement of drugs between NMS and "third parties" has resulted into both distribution and storage problems. The NMS prefers to first store and distribute "third party" medicines because of its direct payment as opposed to supply on credit of medicines procured by it. This incentive could partly explain the delays in procurement and distribution of credit line medicines. The rush for distribution of "third party" medicines is sometimes on account of little time left to expiry of the medicines. For example, in July 2007, NMS rejected drugs from third parties that had only one month to expire. In terms of value, government contributes 20 percent of the drugs, which cover 50 percent of the medicines needed. By contrast, in value terms, the "third parties" contribute 80 percent of drugs. At the time of research, donors were the main funders of anti-malarials (mainly coartem) and ARVs – all expensive drugs. This overdependence on foreign sources to finance the health sector is dangerous.

4.26. In fact, the fieldwork established that the problem of drug stock outs was more serious for donor-funded medicines (especially coartem) and less common for those procured by NMS. The suspension of the Global Fund partly impacted on the supply of anti-malarials. The high dependence on donors as regards the procurement and distribution of medicines has overarching implications on the country's health system. First, donor interventions do not necessarily target Uganda's unmet health needs. Second, many of the

donor agencies operating in health and other sectors *do not* want to be coordinated. They typically decide, independent of Central or Local Governments, which part of the country to cover with their medical interventions. [Some donors have even refused to be part of the Uganda Joint Assistance Strategy (UJAS)]. Thus, certain parts of the country (particularly the lakeshore regions and other hard-to-reach areas) tend to be under-covered. This suggests that the governance of health service delivery is highly influenced by "third parties" and to a lesser extent by national priorities. The poor coordination of the multiple stakeholders operating in the health sector (central government agencies, district authorities, lower local governments, private sector players, NGOs and donor agencies) negatively affects service delivery.

d) Partnership between Government and Private Pharmaceutical Companies

4.27. The QCIL best illustrates the working partnership between the GoU and private pharmaceutical companies to manufacture medicines locally. This company is a new initiative that came about to mitigate the negative effects of trade-related intellectual property rights (TRIPs) of the World Trade Organization (WTO). The TRIPS were put onto the agenda of the WTO by developed countries in 1995. The aim was to grant monopoly powers to the pharmaceutical companies (which are predominantly located in the developed countries). Those who support patents and other 'intellectual property rights' argue that the protection of innovators is necessary for motivating firms to invest in risky Research & Development (R&D). Critics argue that patents prioritize the right of pharmaceutical companies to profit over patients' rights to life. In other words, patents sacrifice patients' right to life on the altar of corporate greed.

4.28. The case of QCIL makes sense in the above context. QCIL is not a pure *for-profit* private company. It is a partnership between GoU, CIPLA pharmaceutical giant of India, and Ugandan entrepreneurs. The partnership sprung from the realization that about 80 percent of the world's malaria patients and roughly 60 percent of people infected or affected by HIV/AIDS live in Africa. Yet, less than 2 percent of the drugs are manufactured in Africa. This suggests that Africa has the patients; other countries produce the medicines. Second, CIPLA (which was established in 1935) was identified as a potential partner. The company manufactures generics of virtually all medicines, but its largest strength is in Anti Retriviral Treatment (ARTs) particularly ARVs. CIPLA typically gets samples of branded or patented medicines (old and new), conducts reverse engineering and produces new, cheaper and oftentimes better quality medicines. CIPLA sells its generic ARTs at one-hundredth of the price of brands. For example, the cost of ARVs was Ushs 3 m per doze per month. When generics came in, the price declined to Ushs 20,000 per doze per month. By implication, then, CIPLA would be a great partner in Uganda's struggle against the diseases of the poor.

4.29. Thus, in 2004 QCIL officials and GoU officials visited CIPLA. CIPLA indicated that it was facing a key challenge, which Uganda could use to its advantage. India had ratified the TRIPS. Prior to the ratification of the TRIPS, India used to patent processes. Under the TRIPS, India was going international and would patent molecules, etc. With effect from 2007, new patented molecules would not be sourced from India. Moreover, India would face great constraints in manufacturing generic copies of patented medicines. But, under the flexibilities that were built into the TRIPS, Indian pharmaceutical companies would be permitted to transfer technology to developing countries (such as Rwanda and

Tanzania). [These actually tried to outsmart Uganda in attracting CIPLA. Rwanda was offering US$50m to have the CIPLA plant in Rwanda; while Tanzania wanted to provide all the money needed using NSSF money. But CIPLA decided to partner with Uganda].

4.30. According to a senior official of QCIL, GoU played a key role in causing the partnership to materialize. A small local company like QCIL 'would not have succeeded without strong government support' (*Interviews, 11 June 2009*). The government contributed 20 percent of the initial capital. It donated land where the Luzira factory is located. Government also guaranteed a market for the pharmaceuticals manufactured by QCIL (such as the ARVs). The absence of effective development banks in Uganda at the time caused QCIL to borrow from Barclays Bank at the high/commercial interest rates of 8-9 percent on the dollarized loans. [Today, 16 percent of QCIL out-turn goes to repay loans. The company pays US$5.5m a year for the principle plus interest]. However, government gave a 7-year take-off guarantee, that is, the period of paying back the loans that QCIL obtained from the bank (*QCIL Interviews, 11 June 2009*].

4.31. The contribution of CIPLA to the partnership is also substantial. The company transferred intrinsic technology, that is, the knowledge of how to manufacture drugs (i.e. the molecules). CIPLA brought in engineers/technicians who built the state-of-the art factory at Luzira. The plant was designed to meet the latest world standards. Initially, expatriates were imported to do the technical work. Later on, CIPLA established that Uganda has well-trained mechanical and electrical engineers, biochemists, pharmacists, and other skills. The number of expatriates has been cut from about 40 to 12 (who are now training Ugandans). The complex infrastructure at Luzira cost US$32m but CIPLA's most important contribution to Uganda was the formula to make drugs, which would probably cost US$100m. By giving Uganda the state-of-the art Luzira factory (which is one of its kind in sub-Saharan Africa), CIPLA is giving Uganda an immense opportunity. The Luzira factory would become a hub for the African region. Within the next two years, it will bring in about US$200m in foreign exchange earnings from the sales to Tanzania (estimated at US$45m); Sudan (US$45m) Kenya (US$45m), DRC (US$40m), Rwanda (US$15m); Burundi (US$10m). Over this period, the sales in Uganda might total US$30m (*QCIL Interviews, 11 June 2009*].

e) Partnerships between Government and Faith-Based NGOs

4.32. Another important form of collaboration in the delivery of medicines is the Government/NGO partnership. The field findings established that government/NGO partnerships are collaborative in some cases and parasitic in others. In Kamuli (Lubaga Hospital), the partnership is collaborative. [Between 2006 and 2008, government was the main source of grants to Lubaga Hospital. These grants exceeded the money raised by the hospital via user fees]. In other cases (such as Madudu HC III in Mubende district), the sorry state of government health facilities forced service users to flock to the faith-based health facilities, which end up being overloaded. A similar situation was reported at Kyangwali HC III where the German NGO called Action Africa Hilfe (AAH) runs a more effective health facility than the government HC III in the vicinity. AAH top ups allowances for public health workers at the Kyangwali HC III. The only ambulance that serves both the NGO health facility and the public HC III is also provided by AAH. This has had one negative effect. Exit interviewees have the perception that foreign NGOs care, Ugandan government does not. Press reports suggest that people in Northern Uganda predominantly have a similar negative perception of the government. This needs to be corrected.

4.33. The partnership between government and NGOs appears to have reached interesting proportions in Rukungiri. In this area, no government hospital exists at district level. The government literally off-loaded its responsibilities to two faith-based hospitals – Nyakibale Hospital (under the UCMB) and Kisiizi Hospital (under the UPMB). These faith-based hospitals receive government grants and are perceived to be in partnership with government. Indeed, they have done a lot for government in terms of doing clinical work and training nurses for public health facilities.

4.34. Interviewees reported that faith-based hospitals closely supervise their employees and typically attain more health deliverables than their counterparts in government health facilities. It was reported that nurses/midwives in faith-based hospitals each earn a monthly salary of about Ushs250,000 compared to about Ushs350,000 for public sector nurses/midwives. But because of strict supervision, those in faith-based NGO health facilities are more productive. Study participants reported two key challenges. First, the faith-based hospitals tend to focus on financially rewarding activities – such as clinical work, thanks to the importance of user-fees. This leads to the neglect of primary health education and outreach activities, which are less financially rewarding. Second is the problem of user-fees. While faith-based health facilities charge subsidized rates (e.g. Ushs20,000 for normal delivery), sections of the local population cannot afford to pay. An FGD participant at Nyakibale Hospital argued that '*the absence of a government hospital at district level has denied us the free medical services, which Ugandans in other parts of the country ordinarily enjoy'* (Interviews, 2009). The evidence in Rukungiri district leads to one key recommendation. Government needs to upgrade at least one of its HC IVs into a district hospital.

f) The Local Government Health Infrastructure

4.35. The field observations and critical review of documents indicate that a dense health infrastructure exists at local government level. The local level institutions that play key roles in the acquisition, distribution and utilization of medicines include the Chief Administrative Office (CAO); the DHO, the HSD Medical Officer; the regional referral hospitals (which are self accounting units); all health facilities (ranging from district hospitals and the HC IVs to HC IIs); and the HUMC.

i) Role of the CAO

4.36. The CAO is the accounting officer for all district financial resources, whether they are raised locally or disbursed from the central government under Uganda's decentralization policy. The health budget is controlled by the CAO. All expenditures must be approved by the CAO. Moreover, payments to suppliers for all district supplies (including medical supplies) are made under the CAO's signature. Additionally, the CAO manages the district-specific technical teams (such as health professionals). The health budget at the district is, therefore, part of the district budget for decentralized functions. While the CAOs had clear understanding of the provided framework for the procurement of medicines and management of the health systems, some lacked full understanding of the reality on the ground. They would benefit more from a detailed analysis of the situation on the ground.

ii) Role of the DHO

4.37. The DHO is the administrative head of health services in the district (with exception of a regional referral hospital, where it exists). The DHO takes major decisions on the management of the district health budget and reports to the CAO. The DHO receives financial releases for PHC from MoFPED for both medicines and operation expenses for all health units in a district. The CAO manages the funds while the DHO plans for utilization of the funds. Regarding the budget for credit line medicine, the DHO receives communication from the MoH and/or NMS on the money available, after which he/she decides on its utilization in collaboration with the district health team (DHT). All requests for procurement of medicines in the district are approved by the DHO for onward submission to NMS in respect of credit line medicines, and direct purchase from JMS and other pharmacies in case of PHC medicine. Furthermore, the DHO ensures observance of MoH guidelines as far as delivery of health services at the district level is concerned. Once the DHO has received supplies of credit line medicines from NMS, he/she ensures that the medicines get distributed to the lower level health centres either by taking the medicines there or calling in-charges of health facilities to collect their medicines form the district headquarters. In case of PHC medicines, the DHO together with the district health team, decide on the distribution criteria for the medicines, following the MoH guidelines in this respect. However, practices in this regard vary. A key finding as regards the Office of the DHO is centralisation of health delivery system at that level, the existence of lower lever health units notwithstanding. A big proportion of PHC operation budget is retained at that level ranging from 10-40 percent. Lower level health units fail to meet operation expenses such as car repair, payment of electricity bills and others simply because of inadequate releases when a portion of the resources is retained at the district level.

iii) Role of HSD In-charge

4.38. In-charges of HSDs report to the DHO. The MoH recognizes the HSDs as key administrative units in the delivery of health services. Each county is a health sub-district, with a health facility either as a hospital or HC IV. The services at a HC IV should include theatre services, in-patients, maternity, and Out Patient Department (OPD). The HC IV is a referral health facility for lower level health centres. Accordingly, a Medical Officer (MO) presides over a HSD. Where a hospital exists within a county, the functions of HSD are in the hospital. In addition to managing the HC IV or hospital, the in-charge of the HSD presides over all medical services in his/her county or hospital. The in-charge of a HSD coordinates procurement of medicines in his/her area of jurisdiction and submits orders for his/her area to the DHO. In addition to managing the health facility at the HSD, the MO is expected to undertake support supervision of health facilities in the area under his/her control. Hardly any MoH guidelines exist on the coordination and the procurement of credit line medicines by the HSD in-charge. Consequently, practices vary as will be emphasized later. Guidelines on the acquisition and distribution of PHC medicines were not readily available at district or HSD to lower level health centres. Invariably, however, the DHO (together with the HSD in-charges) uses the broad guidelines on the use of PHC funds as a frame of reference but with great variability. This calls for the health sector stakeholders to consider developing clear guidelines to minimize harmful variations across different districts. Health sub-districts retain a portion of PHC recurrent budget ostensibly to facilitate operation of the health sub-districts. Coupled with the portion of resources retained at the district, the resources retained at the health sub-district further reduce operational resources for HC IIs and HC IIIs.

Moreover, the lower level health centres take the residual of what is left after the DHOs office and the health sub-districts have retained what they decide without participation of in-charges of lower health centre.

iv) Role of Lower Health Centres

4.39. Lower level health facilities (HC III and HC II) are expected to play a role in the acquisition and utilization of both credit line and PHC medicines. HC IIIs are sub-county level health facilities whose ranges of services include OPD, laboratory services, and maternity. Ideally, a Clinical Officer heads a HC III. HC IIs are parish-level (Muluka) health facilities whose services are limited to OPD. In exceptional circumstances, some HC IIs also provide maternity services. Rarely do HC IIs offer laboratory services but could have rapid diagnostic facilities for testing of malaria. The in-charges of these lower HCs report to the DHO through the HSD in-charge. Each facility at these two levels is expected to participate in procurement of medicine, through making orders for medicines in response to the burden of disease in specific places. The MoH has not provided guidelines on the form such participation should take. Accordingly, as will be discussed later, practices vary from district to district, in procurement of both credit line and PHC medicine, with far-reaching consequences on the quality of health services received by final beneficiaries. What is clear is that the lower level health facilities typically play a role in the collection of medicines from the district or HSD. Inadequate funding, inspection, and staffing render the quality of health services at these levels poor. Consequently, the referral system fails to work as expected, as patients prefer to visit hospitals as their first point of call when they fall sick. Lower level health centres are poorly manned. From fieldwork it was established that most health workers in lower health centres report very late for work (sometimes as late as 11:00 am) and retire very early; by the afternoon, the health centres are closed.

v) Role of Health Unit Management Committees (HUMCs)

4.40. The HUMCs are recognized institutions that represent the “voice” of the final beneficiaries – at least in theory. At HC IIIs and HC IIs, the committees serve as a link between the management of a health facility and the beneficiary community. They are expected to ensure a harmonious relationship between the health workers and the community. Furthermore, members of the HUMC are expected to witness arrival of medicines and ensure that the medicines actually reach the community. Members of HUMCs do not earn a salary. They are volunteers who nevertheless draw sitting allowances (each member receiving between Ushs3,000 to Ushs5,000 per sitting) from PHC operational funds whenever they sit to deliberate on issues pertaining to their local health facilities. Hospitals have boards of management that play a role comparable to that of HUMCs. Field findings indicate wide variations in the effectiveness of HUMCs as voices of the people. Government needs to decide whether or not HUMCs should continue being volunteers, in which case not much should be expected from them.

vi) Role of Laboratories and Rapid Diagnostic Tests (RDTs)

4.41. The field observations indicate that Rukungiri has a greater incidence of laboratories at HC IIIs and rapid diagnostic facilities than most other sampled districts. Most importantly, the problem of drug stock outs was less serious in the health facilities that have

laboratories and diagnostic kits for malaria. The stocking and subsequent abuse of drugs by individuals, together with the associated problem of rising resistance to medicines, were less serious problems where diagnostic facilities existed. By implication, then, government needs to invest in laboratories and rapid diagnostic kits across the country. These are important *and* affordable investments. [For example, a microscope – which is an important facility in laboratories – costs less than US$300].

vii) Supports for Health Service Delivery

4.42. The field findings have established beyond reasonable doubt that the effective delivery of medical services calls for substantial investments in auxiliary infrastructure. Auxiliary infrastructure –the *supports for health service delivery* – include things such as staff housing; solar power; phone network coverage; the quality of roads; water and sanitation; and the quality of schools (for educating the children of health workers). These play a key role in the attraction and retention of health workers in particular areas. Field observations indicate that the hard-to-reach areas, which, by definition, have difficulties in accessing medicines and health services in general are largely 'hard-to-reach' and hard-to-live-in' because of the poor quality of auxiliary infrastructure. Government needs to invest auxiliary infrastructure as a matter of urgency.

viii) The Health Management Information System (HMIS)

4.43. This system is important in lubricating the partnerships. It is important in ensuring that the different institutions and officials operating in the health sector communicate to one another in pursuit of a common objective –improving health service delivery. Evidence shows that Uganda has adopted a modern HMIS. But the system does not seem to be working as expected. While there is general agreement that information is a powerful instrument of health sector planning, a substantial proportion of health facilities do not complete the very basic Form 105. Anecdotal evidence suggests that some players in the health sector are not interested in letting the HMIS work. The tentative hypothesis is that the HMIS is being resisted by unscrupulous health-sector officials for fear that if the system works it will detect their mal-practices. This hypothesis should be refined and tested in a future study specifically dedicated to the understanding of the obstacles to the adoption of an effective HMIS in Uganda.

Conclusions

4.44. This chapter on institutional partnerships in the delivery of medicines has shown that an elaborate institutional framework for delivery and distribution of medicines exists but institutional partnerships are weak. Weaknesses in institutional partnerships exist at the national, district, and lower level health institutions. The inherent institutional weaknesses and partnerships have fundamental implications on efficiency in the delivery of medicines at all levels and ultimately on availability of medicines in lower level health centres.

4.45. While the reforms that were implemented in the health sector were partly intended to increase availability and relevancy of medicines in lower level health centres through institutionalizing a "pull" or "demand" system for medicines based on disease burden in specific geographical areas, the institutional partnerships have rendered this

objective hardly achievable. Malaria and HIV/AIDS related ailments were found to comprise the highest proportion of the country's disease burden. But the supply and distribution of anti-malaria medicines and ARVs, which are supplied exclusively by "third parties" or donors, is based mainly on the "push" principle as opposed to the "pull" principle. Furthermore, the NMS that is expected to supply "essential" medicines on credit is not responsible for the procurement of anti-malarials and HIV/AIDS medicines that address the highest proportion of the country's disease burden. The flow of medicines is, therefore, weak in response to the disease burden of specific geographical areas.

4.46. At the national level, the high dependence on donors for procurement of anti-malarial and HIV/AIDS medicines has tended to reduce the efficiency of the NMS. Donors pay cash to NMS for the storage and distribution of "third party" medicines. Once donors have procured medicine, the attention of NMS turns to storage and distribution of those medicines, with reduced attention on the procurement and distribution of "essential medicines", which NMS is required to do on credit basis. Coordination of donors in the health sector was reported to be a big challenge that has rendered functionality of the entire health system weak. The partnerships between donors, the MoH, and NMS remain weak with adverse effects on the flow of medicines from the national level to the districts and hospitals.

4.47. Partnerships between district and lower level health institutions are extremely weak, clarity of the provided framework notwithstanding. HC II and III hardly know their entitlements in terms of budgets for medicines and operations. For PHC, they depend on what the Office of the DHO and the HSD decide to pass on to them. The HC IIs and IIIs are highly starved of operational funds and PHC medicines hardly flow to those health centres. Furthermore, there is weak inspection to ensure efficient delivery of health services in HC IIs and HC IIIs.

4.48. The district health referral system is hardly functional partly due to duplication of roles in district and lower level health centres, and also due to poor health services especially in HC IIs. Patients prefer to go to district hospitals as their first point of call, where they expect better services. Attendance at HC IIIs and HC IVs is also reasonable; but it is poor in most health centre IIs. Medical personnel in HC IIs first attend to their gardens and report for duty at about 11:00 a.m. By the afternoon, most HC IIs are closed.

4.49. Turning to PPPs, they have been very important in the delivery of health services, especially through faith based health institutions. The JMS established to meet the demands of medicines of faith based health institutions has assisted public sector intuitions immensely in terms of selling to them medicines that the NMS is not able to supply. Once the NMS has issued a certificate of non-availability for specific medicines to a public health institution (usually hospitals and DHOs), the guidelines provide that the first point of call is the JMS. This partnership has worked well and should be promoted. In case, the JMS cannot supply the medicine, then a hospital or Office of the DHO is free to procure medicines from private pharmacies.

5. Procurement, Disbursement and Tracking of Supplies of and Funds for Medicines

5.1. This chapter presents results and discussions on the medicines and health supplies budgets, procurement, disbursement and tracking supplies of medicines. The chapter borrows from a review and analysis of national drug budget to strengthen the information gathered during the field visits. Specifically, practices and issues in medicines delivery mechanism are discussed. An overview of the national budget for medicines is presented in section one. In section two, focus is made on issues of procurement, disbursement and tracking funds meant for medicines. Tracking is done through the system from the budget development stage all the way through the final use of funds. The main purpose is to determine the pattern of expenditure allocation and whether all resources reach their intended beneficiaries.

Overview of the National Budget Allocation for Medicines and Health Supplies

5.2. During FY2008/09 the national budget estimates for medicines amounted to Ushs354.8bn (Table 1). There are three key messages that emerge out of the budget analysis: First, GoU contributes about 30 percent while the development partners provide 70 percent to the total medicines budget. Of the estimated budget of Ushs106.0bn about Ushs76.1bn is spent at the national level and Ushs14.4bn at the district level through PHC budget. Mulago National Referral Hospital, takes almost twice the budget of the ten regional referral hospitals plus Mbarara and Butabika Hospitals combined. On a positive note, government released nearly 99.8 percent of the budget meant for medicines. The releases were on time.

5.3. The key point to note is that medicines are distributed to health facilities through three modes (Chapter Three): credit line medicines, PHC medicines and third party where funds are released to third parties – mainly by the development partners to purchase medicines. Table 1 further reveals that the budget allocation for medicines and veterinary supplies of Ushs76bn constitutes funds for credit line medicines. The budget for credit line medicines is expended at the national level. It constitutes 72 percent of the GoU contribution to the medicines budget. The rest of the government contribution to the medicines budget is decentralized to districts and hospitals as PHC funds.

5.4. Budget estimates inform donor support to the health sector, the HSSP II and the global fund for AIDS, TB and Malaria. The Ushs76.4bn (Table 1) for the support to the health sector, is expected to supplement the credit line budget for medicines. It is important to note that the Global Fund for AIDS, TB and Malaria medicines component, the medicines are sourced outside Uganda, yet they constitute about 43.2 percent of the entire medicines budget. Based on interviews with key informants, GoU has little input in the manner in which the medicines are procured and whatever is procured is distributed through the NMS and JMS. This demonstrates that government has little control of the procurement mechanism of the major medicines and in particular the anti-malarials.

5.5. Second, while the NMS statute no. 12 of 1993 mandates NMS to procure and distribute essential medicines nationwide, it only controls and manages a small proportion of the budget earmarked for medicines and health supplies. Combining estimates in Table 2 that

have NMS and JMS in the allocation, it is estimated that the two institutions taken together are responsible for the purchase and distribution of medicines worth Ushs8.972bn. This is about 11.8 percent of the government allocation and 2.5 percent of the overall medicines budget. Under the current arrangement, development partners are supposed to match the GoU contribution - reflected as "donor support to health sector" in Table 1. Even when this matched development partner contribution is considered, the NMS will control and manage less than 6 percent of the national budget for medicines and health supplies. By implication, the NMS would seem more as a distributor rather than a procurement and distribution entity as envisaged in the NMS 1993 statute.

Table 1: National Budget Estimates on Medicines, FY2008/09

Source of funding	US$ *	Ushs (bn)	Percent
Government allocation			
Medicines and veterinary supplies		76.143	21.5
Primary Health Care**		14.355	4.0
Mulago Complex		9.990	2.8
Butabika		1.002	0.3
Regional Referral Hospitals		4.551	1.3
Sub-total (A)		106.041	29.9
Development Partners			
Donor Support to Health Sector	38,183,500	76.367	21.5
Health Sector Support Program II	9,467,200	18.934	5.3
Global Fund for AIDS, TB & Malaria	76,706,400	153.413	43.2
Sub-total (B)		248.714	70.1
Total (A + B)		354.755	100.0

Source: MoFPED, MTEF (2008/09)
Notes: * US$ =2000Ushs;
**Primary Health Care Budget – 40-50 percent; PHC medicines referrals to lower health facilities at district level.

5.6. Third, worth noting is the government initiative to promote large-scale local manufacturing of medicines as presented in Table 2. This initiative is meant to have sustainability of medicines supply in the country. And it takes about 79 percent of the GoU budget allocation for medicines channelled to the QCIL for anti-malarials and ARVs.

Table 2: Budget Allocations of the Funds for Medicines and Health Supplies, FY2008/09

Description	Allocation (Ushs, Bn)	Percent
ACTS & ARVs (QCIL)	60.000	79.0
Essential drugs (NMS/JMS)	6.472	8.5
Vaccines (Immunization - UNICEF)	5.000	6.6
Pentavalent (UNICEF)	2.000	2.6
Reproductive Health Supplies [NMS/UNFPA]	2.400	3.2
Rabies vaccines [NMS/JMS]	0.100	0.1
Total	75.972	100.0

Source: MoH, Accounts Department

Procurement, Disbursement and Tracking

5.7. While the framework for procurement, disbursement and acquisition of medicines and health supplies by public health facility level is fairly well defined, practices vary from district to district. This sub-section outlines and discusses practices and issues that were identified in field visits in the five sampled districts and links the same to the quality of health services. The discussion looks at credit line medicines separately from PHC medicines as the processes in each respect differ.

a) Credit Line Medicines

i) Tracking flow of funds

5.8. As already alluded to, credit line medicines are meant for essential drugs. Again, it is credit line because hospitals and districts do not receive cash but have credit upon which they can order for medicine. The MoFPED channels the credit line funds through the MoH, on a timely basis. Table 3 shows the funds that were committed for the supply of credit line medicines and health supplies between May 2008 to April 2009 to districts and hospitals. By April 2009, NMS had supplied drugs and health supplies worth Ushs11.6bn, representing 85.8 percent of the total commitment from the MoH. By implication, 14.2 percent of the committed funds were unspent on time as expected. However, it was not clear whether the remaining balance from the three cycles would be supplied in addition to new commitments. These delays introduce inefficiencies in the system as discussed in details later.

Table 3: Committed Funds to NMS by MoH, May 2008 to April 2009

Period	Amount, Ushs
January -April, 2009	4,135,005,495
September - December, 2008	4,170,964,842
May-August, 2008	5,222,682,081
Total	13,528,652,418

Source: MoH, Administrative data sources
Notes: The funds are for supply of medicines and health supplies under credit line

5.9. Next the disaggregated analysis at lower levels is considered. With the exception of Mulago and Butabika national referral hospitals, Uganda has 11 regional referral hospitals, which are semi-autonomous. At national level, the share of unsupplied medicines and health supplies vary according to facility level: regional referral hospitals registered 24.9 percent, 30.4 percent for district hospitals and 7.3 percent for districts (Table 4). Put differently, the highest contribution of unsupplied medicines comes from district hospitals and least with district lowers health facilities. How does this picture portray itself in the sampled districts and health facilities therein?

a. Referral hospitals

5.10. Considering the three cycles (Table 3), Hoima Regional Referral Hospital received medicines worth 77.5 percent of its expected commitment. The picture is not different for the other regional referral hospitals (Table 4).

b. District hospitals

5.11. Relative to referral hospitals, the absorptive capacity is lower at district hospital level. The absorption capacity ranges between 58.3 percent (for Apac hospital) to 70.9 percent (Mubende Hospital). The figure for Apac Hospital is well below the national average of 69.6 percent (Table 4). From the discussions with NMS, this is largely because of NMS's inability to stock enough medicines due to supply constraints. Specifically, there was lack of funds to have sufficient stocks due to the fact that payments are on the basis of reimbursement.

c. District lower health facilities

5.12. The lower health facilities levels registered higher supplies of drug and health supplies as a proportion of their committed funds by MoH (Table 4). By end of the three cycles, districts had received nearly 93 percent of medicines and health supplies nationwide. Turning to the sampled districts, Rukungiri district had received 63.6 percent of the commitment; and the other sampled districts had received drug and health supplies well above their drug budget allocations by MoH. The oversupply to some lower facilities has to be interpreted with caution. According to NMS officers, this is a result of unfulfilled orders in the previous period.

5.13. Broadly speaking, it is evident that public health facilities at all levels were not able to procure 100 percent of the credit line medicines as per MoH committed funds to NMS. The plausible explanations include: bureaucracy in procurement, non-availability of drugs at NMS, low capacity at both NMS and district level, unintended delays between ordering and delivery of medicines, to name a few. For instance, lower health facilities: are not aware of their budget allocations under credit line; their system of ordering drugs remains ad hoc in nature; and are unable to quantify required medicines vis-à-vis disease burden in their localities.

Table 4: Credit Line Medicines and Health Supplies Funds, May 2008-April 2009

Facility level	Amount (Ushs)		%supplied
	Committed	Supplied	
Regional referral hospitals			
Hoima Hospital	80,066,310	62,026,055	77.5
Others	1,345,531,440	1,008,766,981	75.0
Sub-total (A)	**1,425,597,749**	**1,070,793,037**	**75.1**
District hospitals			
Apac Hospital	67,683,637	39,446,693	58.3
Kamuli Hospital	67,683,913	46,870,879	69.2
Mubende Hospital	78,177,726	55,408,194	70.9
Others	2,709,896,919	1,892,768,324	69.8
Sub-total (B)	2,923,442,195	2,034,494,090	69.6
District lower health facilities			
Apac	148,613,117	192,651,513	129.6
Hoima	127,017,352	127,903,163	100.7
Kamuli	177,106,022	221,9 67,370	125.3
Mubende	144,987,762	165,295,471	114.0
Rukungiri	111,194,915	70,753,836	63.6
Others	8,470,693,306	7,729,557,991	91.3
Sub-total (C)	**9,179,612,474**	**8,508,129,344**	92.7
Total (A + B + C)	13,528,652,418	11,613,416,471	85.8

Source: The committed funds are from MoH records; and data on actual deliveries are from NMS records last accessed April 2009
Notes:

b) Procurement and Disbursement

5.14. At the time of undertaking this research, money for medicines/medical supplies would flow from MoFPED to MoH. MoH would then advise NMS how much credit it had for delivery of medicines. The NMS would then embark on the procurement, storage and distribution of pharmaceuticals/medical supplies and, later, present its invoices to MoH for reimbursement. This system unnecessarily keeps the money in MoH and, in the process, starves NMS of the funds needed to efficiently and effectively procure and distribute medicines to the users. The direct transfer of money for medicines/medical supplies from MoFPED to NMS is, therefore, recommended as will be emphasized later.

5.15. Regardless of facility level, there was evidence of poor communication in the process of ordering and communication: First, while it was understood that all health facilities are communicated to their budgets for credit line medicines at the beginning of every financial year, the reality on the ground was different. The communication is to DHOs and through DHOs to in-charges of HSDs. Lower level health facilities get communication in this regard from DHOs or from in-charges of HSDs, either verbally or in rare circumstances

written. In some districts, this communication is done when the in-charges of HC IIs and HC IIIs come to the district headquarters to do the ordering. In this manner, the in-charges rarely benefit from existing documentation on medicines stock. Failure to retain copies at this level makes it difficult to verify the delivered orders. Once the ordering is done, in most cases the in-charges do not retain a copy of the order. Differences in practices imply differences in efficiencies while placing the orders for medicines both in terms of timeliness and the right quantification. Invariably, only the DHO and the HSDs had knowledge of the budget for credit line medicines for health facilities in a district.

5.16. In others, participation of lower health facilities takes a different form that involves the staff of lower health centres. In such districts, in-charges of HSDs write to in-charges of lower health centres informing them of the money available for medicines for their facilities. The in-charges at lower level are required to assess the medicines needs at their centres and place orders for onward submission to the HSD. Thereafter, the onward procedure for handling the orders remains the same.

5.17. It emerged from field visits that different practices produce different performance of health personnel in lower health facilities. In some health facilities, almost all medical personnel at a facility know the entire process of acquisition and utilization of credit line medicines and in others only the in-charge of a health facility knows.

5.18. Regardless of the form participation by health facilities take in ordering for medicines, invariably not all the medicines ordered for from NMS get delivered at health facilities. On average, about 85 of credit line medicines ordered from NMS get delivered to health facilities (Table 4). However, none of the health facilities visited had a record on the discrepancy between what was ordered and what was received – an issue of record management. In addition, none of the health facilities could explain what happens to the balance allocated.

b) Primary Health Care

5.19. Unlike the acquisition of credit line medicines that does not involve money, acquisition of PHC medicines involves cash. The MoFPED releases PHC money (for both medicines and operational expenses) to districts. The government allocated Ushs28.71bn towards PHC including and non-wage recurrent for FY2008/09. Assuming that the PHC guidelines are adhered to – the regional hospitals take up to 20.8 percent, district hospitals 19.6 percent and districts 59.6 percent of the total PHC allocated to medicines (of Ushs17.6bn for the period July 2008 – March 2009 - Table 6). By extension, Table 6 further shows that at the time of undertaking this study about 42.2 percent of the total PHC drug budget was spent at all levels. Medicines and health supplies under PHC can be procured either from NMS, JMS or the private. According to guidelines, procurement from JMS or the private pharmacies should occur when such medicines are not available at NMS. In the subsequent sections utilization of the PHC funds by health facility level is discussed since the guidelines differ.

a. Referral hospitals

5.20. Referral hospitals independently manage and account for funds released for medicines and non-wage recurrent under PHC. At the time of conducting field visits (end of March 2009), the MoFPED had released 80 percent of the approved allocations to the

referral hospitals. By end of May 2009, they had received 100 percent releases. However, the study discussion focuses on the releases made by end March 2009. The MoFPED had released Ushs8.5bn out of Ushs10.6bn required in FY2008/09 (Table 5). The releases to the referral hospitals are made directly to respective hospital accounts to enable smooth and uninterrupted operations. It is evident from Table 5 that the budget allocated to medicines range from 37.5 percent to 49.4 percent of the total PHC budgets for the referral hospitals.

Table 5: Primary Health Care Releases to Referrals Hospitals- July 2008-June 2009, Ushs

Hospital name	Medicines	Non-wage, recurrent	Total	% share of Medicine
Arua	335,400,000	461,788,618	797,188,618	42.1
Fort Portal	404,200,000	510,270,450	914,470,450	44.2
Gulu	350,025,000	453,730,000	803,755,000	43.5
Hoima	345,525,000	473,785,220	819,310,220	42.2
Jinja	492,829,000	655,722,000	1,148,551,000	42.9
Kabale	362,750,000	437,255,613	800,005,613	45.3
Masaka	424,171,000	662,966,540	1,087,137,540	39.0
Mbale	452,000,000	766,681,030	1,218,681,030	37.1
Soroti	357,896,000	441,477,110	799,373,110	44.8
Lira	382,000,000	488,122,660	870,122,660	43.9
Mbarara	644,025,000	710,626,607	1,354,651,607	47.5
Total	4,550,821,000	6,062,425,848	10,613,246,848	42.9

Source: MoFPED , Releases to referral hospitals (Recurrent Non-Wage) FY2008/09

5.21. The PHC amounts spent on drugs and health supplies at the regional referral hospitals are shown in Table 6. Hoima Regional Referral hospital was allocated Ushs345.5m for the procurement of drugs. By end of April 2009 records from NMS, JMS and private pharmacies, reveal that the hospital had procured medicines and health supplies worth Ushs226.4m, which is about 66 percent of their medicines budget release. However, Hoima Hospital procured more medicines, in value terms, from JMS than NMS (Table 7). The other regional referral hospitals had procured medicines and health supplies worth Ushs1,847.6m (excludes medicines procured from private pharmacies), which is about 44 percent of their budget release for medicines. Again here, the value of purchases from JMS was well above those from NMS.

5.22. Overall, regional referral hospitals taken together procured medicines and health supplies worth Ushs2.1bn, which is nearly 46 percent of the PHC budget release. Broadly speaking, the regional hospitals generally procured most of their medicines and health supplies from JMS. The data reveals that regional hospitals procured 8.3 percent of their medicines and health supplies from NMS (Table 7). This poses a fundamental question whether NMS is respected as the first point of call for public procurements. According to the DHOs, JMS is more efficient than NMS – in terms of timely delivery and fulfilment of orders. In addition, it was observed that JMS had systems that seemed to work better and it was operating on a cash basis. For instance, every quarter JMS convenes a meeting of experts to review the disease pattern and recommend on appropriate levels of stocks of medicines, which NMS does not do.

Table 6: PHC Funds on Drugs and Health Supplies during July 2008-March 2009, Ushs

Facility level	Releases	Expenditure on medicines	percentage
Referral hospitals:			
Hoima	278,643,000	226,374,574	65.5
Others	3,502,143,000	1,847,558,440	43.9
Sub-total (A)	3,789,786,000	2,073,933,014	45.6
District hospitals:			
Apac	76,444,132	30,055,423	39.3
Kamuli	76,444,445	57,118,926	74.7
Mubende	88,296,504	29,073,508	32.9
Others	3,077,895,598	2,073,626,902	67.4
Sub-total (B)	3,319,080,679	2,181,907,951	65.7
District lower health facilities:			
Apac	169,038,713	71,396,521	42.2
Hoima	137,006,874	37,793,038	27.6
Kamuli	198,551,488	85,673,357	43.1
Mubende	148,561,313	77,316,912	52.0
Rukungiri	129,673,851	122,593,588	94.5
Others	9,696,722,721	6,331,459,828	65.3
Sub-total (C)	10,479,554,960	6,533,124,064	62.3
Total (A+B+C)	17,588,421,639	10,788,965,029	42.2

Source: Column 2 is based on the total releases from MoFPED and calculated based on the PHC guidelines from MoH; Column 3 NMS/JMS/Hospital/districts.

Notes: Notes: a) By April 2009, referral hospitals had received 100% of the releases for medicines.

(b) Actual expenditures on drugs for other district lower health facilities/referral hospitals /district hospitals do not include purchases from private pharmacies.

c) District lower health facilities also include municipalities

d) The figure for Mubende Hospital was recorded as Ushs21,243,508 based on hospital records. It was difficult to establish the source of discrepancies.

Table 7: Source of Medicines by Facility Level, July 2008 – March 2009, Ushs

Facility level	Source			Total
	NMS	JMS	Private	
Regional referral hospitals:				
Hoima	0	36,461,762	10,226,000	46,687,762
Others	152,614,768	1,694,943,672	na	1,847,558,440
Sub-total (A)	152,614,768	1,731,404,434	10,226,000	1,894,246,202
District hospitals:				
Apac	0	30,055,423	0	30,055,423
Kamuli	27,114,926	8,900,000	21,104,000	57,118,926
Mubende	0	21,243,508	7,830,000	29,073,508
Others	294,506,394	1,779,120,508	na	2,073,626,902
Sub-total (B)	321,621,320	1,839,319,439	28,934,000	21,898,874,759
District lower health facilities:				
Apac	27,172,490	44,224,031	0	71,396,521
Hoima	0	37,793,038		37,793,038
Kamuli	85,673,357	0	0	85,673,357
Mubende	41,496,912	0	35,820,000	77,316,912
Rukungiri	0	122,593,588		122,593,588
Others	1,400,643,811	4,930,816,017	na	6,331,459,828
Sub-total (C)	1,482,558,136	5,050,565,929	35,820,000	6,533,124,064
Total (A+B+C)	1,596,793,224	8,611,289,802	74,980,000	10,617,245,025

Source: Column 2 – NMS records; column 3 – JMS records accessed on April 2009.
Notes: *na – means that the research team was not able to get information on private suppliers for districts not covered in the sample

b. District hospitals

5.23. The district hospitals also receive medicines under the PHC. They are self-accounting institutions and report to the DHO Office. The PHC funds are released to the respective district accounts, and thereafter transferred to the hospital accounts with the approval of DHO and CAO offices. During the period FY2008/09, GoU's budget as conditional releases to the district hospitals was Ush10.7bn. However, as of March 2009, Ushs8.2bn had been released, indicating a 78 percent performance (Table 6). And records from MoFPED indicate that by end of May 2009, all the district hospitals had received 100 percent releases. Therefore, the claims made by hospital accounting officers that there are delays in releasing funds from MoFPED do not arise since the releases are timely. Instead, delays occur at the districts. According to the guidelines, the hospitals are required to spend 40 percent of the PHC funds on medicines and the rest on operations, health education and infection control at DHO offices or at particular health facilities. However, information obtained from Apac and Mubende district hospitals indicate that the PHC guidelines were not adhered to. Specifically, Table 8 reveals that Apac Hospital and Mubende Hospitals spent 77.1 percent and 50 percent respectively of the PHC funds on re-current expenses.

5.24. By the end of March 2009, district hospitals had procured medicines worth Ushs2.182bn from NMS and JMS. However, it could not be established whether the

remaining budget release of Ushs4.3bn would possibly be spent in the one or two months to the end of the financial year or had been used to procure medicines from the private pharmacies. In the sampled districts, Mubende Hospital had procured medicines and supplies from JMS and private pharmacies worth 32.9 percent of its budget release for medicines. The corresponding figure for Apac Hospital was about 42.2 percent and nearly 43.1 percent for Kamuli Hospital. The hospitals of Apac and Mubende never procured PHC medicines from NMS (Table 7). On average, NMS only managed to supply 22.7 percent of medicines and health supplies to the districts on PHC funds. Certificates of non-availability of medicines were not very common even in the sampled districts to permit them to procure from other sources.

Table 8: PHC Releases and Actual Expenditures to Districts, July 2008 to March 2009, Ushs

		PHC non-wage recurrent		Actual expenditure on Drug	Actual balance retained at DHOs	% in total release	
Facility level	Releases by MFPED [A]	Allocations as per guidelines [B}	Actual expenses [C]	[D]	[E]	Non-wage [F=C/A]	Drug [G=D/A]
Hospitals:							
Apac	191,110,330	95,555,165	147,476,881	30,055,423	13,578,026	77.1	39.3
Kamuli	191,111,113	111,666,667	103,436,527	57,118,926	30,555,660	54.1	29.8
Mubende	220,741,260	110,370,630	117,285,322	29,073.508	74,382,430	53.1	13.1
Total (A)	602,962,703	317,592,462	368,198,730	116,247,857	118,516,116	61.0	27.4
Lower health facilities							
Apac	338,077,426	169,038,713	106,488,034	71,396,521	160,192,871	31.4	21.1
Hoima*							
Kamuli	397,102,977	198,551,488	148,839,584	85,673,357	162,590,036	37.4	21.5
Mubende	297,122,626	148,561,313	98,842,043	77,316,915	171,739,043	33.2	26.0
Rukungiri	259,347,702	129,673,851	106,341,506	122,593,588	30,452,247	52.7	47.2
Total (B)	1,291,630,731	645,825,365	460,511,167	356,980,381	524,944,187	38.9	28.9
Total (A+B)	1,894,593,434	963,417,827	828,709,897	473,228,238	643,490,303	49.9	28.1

Source: Districts documents, MoFPED

Notes: *The research team was unable to get concrete information on lower health facilities in Hoima district.

c) **District lower health facilities**

5.25. Another vote that is allocated to the district health facilities is the conditional transfers to PHC (non-wage). These are funds allocated for drugs and recurrent expenditures in lower health facilities. Fifty percent of PHC money is expected to be used for the procurement of medicines and health supplies in line with MoH guidelines. The other 50 percent is for meeting administrative and operational expenses at the health facility such as cost of utilities, compound maintenance, transportation, etc. As with district hospitals, a portion of the PHC funds remains in the DHO office to facilitate office operations. Similarly, HSDs also retain a portion of PHC funds to facilitate office operations. However, it was difficult to establish the proportion of money retained at DHO office.

5.26. Government approved Ushs28.7bn as PHC non-wage for 80 districts and 13 municipalities' health centres for FY2008/09 (Table A 1, last row). As of end of March 2009

Ushs20.9bn had been released accounting for 73 percent of the releases. And by end of May 2009, 95 percent of the approved allocations had been released to the districts and municipal councils. The MoFPED releases PHC funds almost monthly to enable the uninterrupted operations of the health facilities. However, PHC releases to lower health units hardly follow any pattern. As already alluded to, the DHO office is the accounting officer (assisted by HSDs) on these funds. While the MoH guidelines on utilisation of PHC funds are in place, it was established that officials in the sampled districts treated the allocation criteria as a guideline (with freedom to vary the proportions) not a condition. And most of them used this as an incentive to misallocate or misappropriate the funds meant for PHC drugs. Consequently, in some districts such as Kamuli, Hoima, and Mubende as much as 60 to 70 percent of PHC resources get utilized for operational and administrative expenses, leaving a paltry 40 to 30 percent for the acquisition of medicine. However, the practice was different in Rukungiri district where the health authorities adhered to MoH PHC guidelines by disbursing 52.7 percent of the PHC funds released to the purchase of medicines (Table 6).

5.27. Findings from the field visits reveal large variations in the management and the utilisation of the PHC funds. The DHO plays a major role in deciding on the distribution of PHC operational funds among health facilities in a district. In some districts (e.g. Hoima) as high as 15 percent of PHC operational funds are retained at the office of the DHO and another 15 percent are retained at the office of the in-charge of a HSD. Then a formula is worked out to distribute the remaining amount among the different levels of health facilities in a district, with HC IIIs getting higher allocation compared to HC IIs because of their perceived relatively bigger workload.

5.28. For some the disbursement of PHC recurrent expenditures was being transferred to facilities' accounts directly from the district account (and this proved the most efficient mechanism) and for others the health facilities could draw cash from the HSDs. In particular, Rukungiri, Hoima and Mubende are among the sampled districts that channel the money meant for general administrative activities to respective health units' accounts. This practice has yielded better outcomes, although the percentage releases tend to vary from district to district as discussed in the subsequent sections. Some lower level health centres expressed concern about bank charges, which were reported to take up to as high as 30 percent of releases – this is in relation to the size of the transfer and charges to operate the account.

5.29. The ordering of the PHC drugs is centrally done by the DHO office upon receiving all orders from the lower facilities. Complete information on PHC allocations and disbursements to all lower health facilities were obtained in Apac, Mubende, and Rukungiri districts.

5.30. In addition to a small PHC budget for medicines in some districts, lower level health centres are hardly involved in ordering for PHC medicine. In Apac and Rukungiri districts, the DHOs involve lower level health centres in preparing orders for PHC medicine. In Hoima, Kamuli and Mubende districts, the practice is different – the DHO working with the in-charges of HSDs makes orders for PHC medicine. Unlike credit line medicines that are delivered at the district earmarked for particular health centres, the distribution of PHC medicines to lower health centres is at the discretion of the DHO, sometimes with participation of in-charges of HSDs.

5.31. It emerges, therefore, that lower level health centres have no information about their entitlements as regards the budget for PHC medicine; they just receive whatever the DHOs allocate to them. In most cases, lower level health centres are required to collect the medicines from the office of the DHO. The cost of collecting medicines is borne by the lower level health centres from their PHC operational funds, which in some districts are indeed inadequate.

c) Third Party Medicines with focus on QCIL

5.32. Malaria remains the leading killer disease in Uganda. The children below five years of age, the pregnant mothers and the people infected with HIV/AIDS are the most vulnerable. As a result of resistance to chloroquine, fansidar and a combination of both chloroquine and fansidar, the government changed its treatment policy for malaria making coartem (ACTs) as the first line treatment of the disease. Although anti-malarial medicines are part of the essential medicines, they are not procured directly by NMS as is the case with other essential medicines. Instead, the funds for ACTs and ARVs are allocated to QCIL to supply GoU. The QCIL delivers the ARVs and ACTs at the NMS and JMS for distribution to the public health facilities and PNFP units. In this regard, coartem and ARVs are considered as third party drugs –focusing on tracking the former. Coartem is distributed to the public health facilities in four sub-types which are differentiated by colour for different ages (Table 9). Table 9 further shows the number of doses of coartem by type that had been distributed to the public health facilities in Uganda by end of May 2009.

5.33. The results clearly indicate that coartem brown was supplied in small quantities while yellow in large amounts. In total, government provided free treatment of malaria through QCIL to approximately 6.4 m doses. This appears rather too little given that the population of Uganda is approximately 30 m people. This means that treatment of malaria was only available for only 21.4 percent Ugandans both children and adults. Of all the children less than five years in Uganda only 15 percent could receive free treatment from the health facilities. Children in the age bracket of 7 to 12 years only 1.4 percent were provided for and 5 percent for the adults. This means that children and adults each get malaria once in a year which is not the case in most parts of the country. Therefore, the rampant stock outs of anti-malarials are a result of insufficient supplies of the drugs. Measured in money value, a total of Ushs16.2bn was spent on the procurement of anti-malarial medicines (coartem). By implication, of the Ush60bn for the supply of ACTs and ARVs (Table 2) only 27 percent was spent to anti-malarial medicines yet it is the number one killer disease in Uganda. QCIL was the major supplier of ACTs in FY2008/09. Other supplies were savings from the Global Fund in FY2007/08.

Table 9: Distribution of coartem by type, July 2008 – May 2009

Type of coartem	Target population by age (years)	Total doses	Amounts US$	% of population (30millon)
Yellow	< 2	3,175,435	2,032,279	10.6
Blue	2 – 7	1,334,871	1,641,892	4.4
Brown	7 – 12	419,630	805,690	1.4
Green	>12	1,503,578	3,608,588	5.0
Total		6,433,514	8,088,447	21.4

Source: MoH supplies from QCIL
Notes: 1US$=2000 : Ushs16,176,894,600

Conclusions

5.34. It is evident from the analysis that there are challenges in the drug delivery mechanisms in Uganda. The three drug delivery modalities – credit line, PHC and third parties – seem not to have led to improved delivery of medicines. Overall, bringing the findings under credit line and PHC medicines, some observations do emerge. First, the performance under the two delivery systems varies across and within districts. There are supply constraints and failure to adhere to the written guidelines. There seem to be an incentive to misappropriate PHC funds with limited supervision of the DHO and MoH; and NMS is rarely taken as first point of call as per PHC guidelines from MoH. Comparison across districts, for example, revealed that Rukungiri performed better relative to the other districts in following the set out PHC guidelines. Apac performed least on both credit line and PHC medicines. Within district, performance varied by facility level and source of funds for medicines. Second, there was failure to provide full accountability. For instance, not all money allocated for medicines are spent on a timely basis and on the set purposes – introducing inefficiencies in the system. Broadly speaking, failure to procure medicines 100 percent under credit line and 100 percent utilisation of PHC funds for medicines raises fundamental questions. Some district officials argued that funding for PHC non-wage recurrent is well below their operations requirements resulting into reallocating PHC drug funds to operations. While this might sound a genuine explanation, failure to provide evidence on total accountability for all PHC funds is questionable.

5.35. The institutional partnerships discussed in Chapter Three in part impacts on the delivery mechanism. However, performance varies across districts and within districts performance varies by facility level. It is also evident that performance varies by modality of delivery. Records management and flow of medicine-related information between the DHO office and lower facilities need to be strengthened. To sum it up, there is generally poor culture of accountability at different levels.

6. Health Facilities and the People --'Responsiveness' to the Drug Delivery Systems

6.1. In this chapter the perceptions from in-charges at lower health facility level and from beneficiaries in the sampled districts are presented and discussed. The information from the field visits is supplemented with information from secondary data especially from household surveys conducted by the Uganda Bureau Statistics (UBoS). This chapter begins by discussing the management of drugs, drug stock outs at health facilities based on interviews with a sample of in-charges of health facilities at all levels. The voices from the beneficiaries regarding the drug delivery mechanisms –availability of drugs, the perceptions of the beneficiaries are also discussed.

Management of Health Facilities with Focus on Drugs

6.2. This sub-section presents field findings on the management of health facilities with a focus on drug. Specifically issues around storage, stock management and distribution, ordering, timeliness and challenges are discussed. The discussions draw heavily on interviews held with the in-charges in the respective health facilities.

6.3. Ideally, ordering of the drugs and health supplies at facility level should be in line with the disease burden and population in communities served by the health facility. The in-charges reported malaria as the most common disease among the patients that seek care from their facilities followed by cough and diarrhoea. In addition, 32 percent of the in-charges reported HIV/AIDS related illnesses. Yet ordering of drugs is hardly based on the burden of disease as the supply of medicines for treatment of malaria and HIV/AIDS is left largely in the hands of "third parties" or simply outside the system of credit line drugs. This suggests, therefore, that the system of credit line drugs is not addressing the disease burden challenge adequately.

a) Management of stocks

6.4. The availability and proper maintenance of management tools facilitate better monitoring of consumption patterns and regular supply of medicines and health supplies at facility level. Regular drug stock card update is important not only for knowing whether there are stock outs but also avoiding them. There are still challenges in the management of stocks at lower health facilities. While the primary role of the in-charge is to diagnose diseases and treat patients, they are also responsible for managing the stock of medicines in their facilities. For example, Butologo HC II, Mubende district, which is a hard-to-reach area, had only one member of staff.

6.5. In the management of medicines, health facilities have stock cards to track the movements and balance of all commodities stored at any place in the health unit. In as far as medicines stock outs are concerned, the stock cards provide useful information to know whether stock levels are sufficient, and whether the medicines are used properly. Health facilities are expected to complete information on the extent of stock-out monthly. However, not many health facilities report and those that report do not complete all sections. For example, most of the health facilities visited did not complete sections on medicines stock-out, health facility management and funds received and used. If this information was complete, it would be possible to follow up and assess the flow and use of medicines and funds. Even in facilities where cards were filled in, there were information gaps at the verification process. For instance, nearly 18 percent of the in-charges did not fill

in information on quantities and nearly 30 percent did not include information on losses and adjustments. The challenges in filling the stock card especially at lower health facility levels cannot be overemphasised. Capacity gaps in filling in/updating the cards were noted in various health facilities. Some of the in-charges did not have the capacity to complete the cards and in other cases might be lack of commitment. Failure to fill in the stock cards would impact on the information to be reflected in the Health Management Information System (HMIS) 105 as discussed below.

6.6. In Uganda Logistical Management Information System (LMIS) is included in the HMIS 105 section 5 on the 'Essential Drugs, Vaccines and Contraceptives'. Appropriate use of the HMIS has the potential to improve the acquisition and distribution of medicines, its management, and management of the PHC funds. Under the current arrangements, health facilities are supposed to use information collected on HMIS forms to effectively manage resources - including buildings and equipment, human resources, finance, medical and other supplies. Health facilities are required to compile financial summaries on a monthly basis indicating funds received and funds spent in the categories of PHC wage, PHC non-wage, PHC development, local governments, credit line medicines, donor projects, and others. Health facilities are expected to complete this form every month. The data collected are supposed to inform the higher authorities on the state of stock at a given facility highlighting stock at hand, quantities used of each medicine and losses and adjustments, if any. It was noted that the HMIS 105 Section 5 was never completed in Kamuli district; partly filled in Mubende, Rukungiri and Apac. For Kamuli district and some of the sampled health facilities in other districts, leaving this section empty would imply no drug stock outs. While 71.8 percent of the in-charges reported submitting monthly reports to district level, there was no hard evidence to demonstrate that this happens. These forms were only access at the DHO office. It was observed that information on stock management and accountability of PHC funds was rarely filled in. While filling in the HMIS 105 would give a clear picture on disease burden and stock outs of commonly used drugs, the failure to dully complete the sections of medicines, funds received and used, and management of this form raises concerns. No convincing explanation was obtained on why these particular sections are almost never completed.

b) Quantification of drugs at facility level

6.7. The in-charges were requested to indicate who determines the quantities of medicines ordered. Of 46 in-charges that responded, the majority (84.8 percent) reported that health facility determines this. Others reported that this is done at higher level (either district level or Health Centre IV). The subsequent ordering also varies across levels. For instance, some 62.8 percent reported that they do use a formula. However, there was no evidence on the formulae used, because none of them could easily give their minimum and maximum stock of any of the medicines used at facility level. Other In-charges use *ad-hoc* means to determine their drug needs. The lack of clear method of quantification of medicines ordered at facility level greatly contributes to the stock outs of essential medicines. As a result, there is either over or under quantification of medicines. Over quantification of some drugs would utilize funds that would be used in procuring relevant medicines. This introduces inefficiencies in the system. Cases were also noted where lower facilities had more medicines than the higher ones. For example, in Kamuli district, a HC II had more medicines than what it had ordered. The health centres was found to supply medicines to HC IIIs (*Interview 03 March 2009, Kinu HC II supplying to Bulopa HC III*).

6.8. A few practical issues arose on how quantification of medicines is done, the manner in which the quantification is done and the record management at the health facilities. It was found that in Kamuli, Mubende and Hoima in-charges are given short notices to come and do the ordering at the district office. They do not consult the stock cards, they instead use intuition and experience. Upon ordering, they are expected to retain a copy of the order at the health facility to cross check whether the medicines they ordered are the one that have been delivered. Rarely do they pick their copy. Their copy remains at the district for completion of the ordering procedure. It is expected that the in-charges should pick their own copy – which rarely happens. It could not be established whether these practical issues are responsible for some facilities having stock out while others have more medicines than they need.

c) Transportation of medicines

6.9. Transportation of medicines remains a challenge, especially from the district to the lower health facilities. NMS has made transportation to district headquarters easy. Every two months, it transports medicines – although with more than 80 districts now, this may also become a logistic challenge.

6.10. Medicines reach health units through any of the following means: DHO transports to health facilities or health facilities go to pick the medicines. It could be by public means in situations where the facilities do not have transport of their own. This would not be a major challenge had the health facilities had sufficient funds to undertake this process. Of the 45 in-charges, 53.3 percent reported drug delivery by the office of the DHO, and for the rest delivery was done by the facility – using public means, private vehicle, motorcycles, bicycles or by foot. Although the extent to which this contributes to stock outs of medicines could not be established, this arrangement raises matters of concern.

d) Delivery of medicines

6.11. Of the 42 in-charges, 76.2 percent reported that it takes more than 30 days to receive their orders. In addition, orders are not fully honoured. This partly reflects poor procurement planning and inability by to forecast future demand by drug suppliers in particular NMS. However, it was difficult to corroborate this information from the in-charge's records to NMS.

Extent of Availability of Drugs

6.12. This section discusses stock outs of the essential drugs and health supplies at facility level. Table 10 shows stock management of various drugs based on the observations of the Research Team. The information included whether the facility had a stock card and if so, was it up to date. It is clear in the second column that not all the 50 facilities visited had stock card for monitoring the various medicines. It should also be noted that not all those facilities that had stock card had been up dated as expected. Of those with up dated stock cards, stock outs were commonly for anti-malarial - coartem. Yet it is the first line treatment for malaria. High stock outs are observed for quinine tablets, which is the second line treatment for malaria. The duration of stock outs illustrates the delays in re-supply of medicines. By implication, patients are less likely to get prescribed medicines. It is evident that the delays in re-stocking is more severe for anti-malarial – which are procured under third party.

6.13. The stock outs were less common for painkillers. This is consistent with the information reported by the patients as presented in the next section. Health Centre IVs and district hospitals, which among other things offer Anti Retroviral Treatment (ART) were well stocked with ARVs but experience stock outs of most of the essential medicines. Stock outs were higher for those medicines where NMS is not in control. By implication, NMS as a national institution would be made to perform better if given a chance – to supply more drugs than under PHC and be responsible for anti-malarials stock outs. It should also be given more autonomy.

Table 10: Stock Management in the Main Stock Rooms at Health Facility Level

Type of drug	Stock Card		Stock outs in last 6 months (out of facilities in (c))	Duration of stock outs, days (only facilities in (c))		
	Available (b)	Updated (c)		Min	Max	Average
First line anti-malarials:						
Coartem yellow	37	28	13	0	225	67
Coartem blue	26	19	16	0	225	81
Coartem brown	15	12	12	6	300	161
Coartem green	24	19	18			124
Other anti-malarials:						
Fansidar	41	28	9		180	46
Quinine tablets	24	16	11			90
Quinine injectable	39	29	3			128
Pain killers:						
Panadol	40	30	5			31
Aspirin	31	23	7			18
Antibiotics:						
Septrin	41	32	6			41
Amoxicillin	45	37	7			69
De-worming:						
Albendazole	27	17	4			54

Source: Author's compilation from stock cards at the sampled health facilities.
Notes: i) Availability column refers to stock card relating to the study reference period.
ii) Information gathered at the time of the survey

6.14. Other anti-malarial medicines in form of injectables were among the category of medicines reported as being in acute shortage most of the time or totally out of stock. Antibiotics are very important in the treatment of RTI of which cough is one of the symptoms. In Uganda the most common antibiotics in the treatment of RTI are septrin and amoxicillin. Septrin is also used as a prophylaxis among the HIV/AIDS patients to delay progression to AIDS. Therefore a stock out of the antibiotics does not only affect people with RTI but also those under chronic care. The stock outs of the antibiotics were not common with only 14.3 percent and 15.6 percent of the facilities with up dated stock cards

for septrin and amoxicillin respectively. These findings corroborate with those of UBoS (2008). The stock outs for septrin and amoxicillin lasted on average 41 and 69 days for septrin and Amoxicillin respectively. Most of the health facilities visited lacked gloves and syringes; patients are required to buy such items to enable medical personnel to examine or treat them. Lack of gloves poses health risks for the medical staff.

6.15. Albendazole is one of the common medicines for the treatment of intestinal worms in both adults and children. Further it is used during immunisation and child days. Albendazole is used as one of the components mainly for de-worming purposes. The stock out of this medicine was not common, with only 12.5 percent of the facilities that had up dated stock cards had had stock outs 6 months prior to the survey. The duration of the stock outs was on average 54 days.

Perceptions of Beneficiaries

6.16. To supplement information from the in-charges, exit interviews were conducted covering 252 patients and FGDs. Nearly 66 percent of the patients that participated in the exit interviews were females and about 98 percent had received a prescription from the health workers. It is common in Uganda to have a greater proportion of women than men seeking care in public health facilities. The reverse is true for private health facilities.

6.17. One way of improving the quality of health service is improving communication between the patient and the health workers. In other words, health workers are expected to explain to patients the drugs prescribed and how to administer them. Only 16.9 percent of the patients received such information. This low figure is consistent with the findings based on the UNHS 2005/06. The analysis revealed that of the pregnant women that received anti-malarial drugs with last birth, 33 percent were not aware of the type of medicines given to them. This creates a knowledge gap among patients especially when drugs are not available at the public health facility and patients have to buy them from private pharmacies/drug stores.

6.18. On availability of medicines at health facility level, 52.8 percent reported to have received all the prescribed medicines[3] and the rest had either received some or no medicines at all. Of those that received some or no medicine, 53 percent were told to buy medicines elsewhere, 36.8 percent were told that there were no medicines and the rest never received response from the health workers. Information from secondary sources also points to cases of lack of free drugs. For instance, analysis based on the National Service Delivery Survey (NSDS) of 2008 data, reveals that of those who sought treatment in public health facilities 15.5 percent paid for drugs. Out of whom 27 percent reported that health workers demanded for money. Furthermore, while level of satisfaction in public health facilities improved during 2004 to 2008, 21 percent of the households reported that drug availability worsened during same period (UBoS, 2008).

6.19. Receiving prescribed medicines at facility level is a lengthy process. More than half of the patients reported long waiting time. The delays are partly due to low

[3] The respondents also reported that there are required to purchase exercise books in which to write prescriptions since the health facilities lack stationary – medical form 5.

staffing levels. For instance, in lower health facility level, the health worker diagnoses and at the same time dispenses the medicine. Most of the respondents reported using the same facility whenever they are feeling unwell. And for the times they have used the same facility, 33.2 percent of the respondents indicated receiving all prescribed medicines.

6.20. Findings from focus group discussions revealed much dissatisfaction by final beneficiaries of health services, especially at the lowest level health facility (i.e. HC II). The beneficiaries reported the inefficiencies in the delivery of health services. Stock-out of medicines was cited as a major problem whenever they visited a health facility to seek treatment. There was lack of stationary (medical form 5) on which to write prescriptions for patients; patients are, therefore, required to purchase exercise books in which prescriptions are written for them. This was a rampant problem in most health facilities that were visited. And inadequate equipment to work with e.g. gloves; syringes; laboratory equipment; and dental equipment was also cited. Patients are required to buy syringes to enable medical personnel to administer intra-venal treatment on them. Lack of medical equipment also demoralizes medical workers; one dentist at a HC IV in Mubende district reported that due to lack of medical equipment she was applying less than 3 percent of her professional skills and was demoralized. Stock outs of medicines and lack of supportive infrastructure contribute to low morale of the medical personnel. While many patients reported that medical workers attend to their duties, they also noted that the medical workers were demoralised.

6.21. Poor health services, especially the intermittent supply of medicines keep away the sick that would have otherwise sought treatment from those facilities. The situation is much more pronounced in lower health facilities, especially HC IIs. Consequently, when people fall sick, they prefer to go directly to larger facilities within their localities (HC IVs and hospitals). Experience has taught them that they receive relatively better treatment from higher level health facilities. They reported better diagnosis and treatment at HC IIIs and hospitals because of functional laboratories, which are not available at HC IIs and some HC IIIs. This finding highlights a breakdown in the referral system. It is a common practice for people to seek treatment from referral hospitals even for diseases such as malaria that could be managed at lower health facilities.

6.22. Attendance at HC IIs improves only when medicines have been delivered at those facilities. Once people within a parish learn that medicines have been delivered at the HC II within their area, they rush to the health centre, fake sickness especially malaria, and obtain medicine, which they keep for use just in case they fall sick when medicines are not available at the health facility. Such behaviour partly contributes to stock-out of medicines, especially in lower level health facilities.

Conclusions

6.23. The analysis brings out important issues that need immediate attention in order to improve the drug delivery system. More importantly, the analysis highlights inefficient practises including the ordering of medicines, delays, poor record management, shortage of medicines/inadequate stock control procedures, poor storage practises of medicines, low staffing and, to a less extent, transportation of drug from the district headquarters to lower health facilities. It also comes out that shortage of medicines at HC IIs

has resulted into underutilisation of these facilities despite the good intention to bring services closer to the people. These facilities are bypassed for better services at higher level. This leads to wastage of resources, both financial and human resources at HC II level. Drug quantification in comparison with disease burden in the communities remains a big challenge. Streamlining records management at all levels and allowing for effective flow of information between levels need not to be overemphasized.

6.24. The field findings have established that the flaws in the health system have resulted in stock outs or non-availability of essential drugs and medical supplies in health facilities at all levels – national, regional and local. The medicines and supplies in question include coartem, condoms, oral rehydration salts and gloves, all of which are extremely important to people's health. The high stock-out of anti-malarials is exacerbated by lack of laboratories – which seem to have introduced an incentive for people to fake sickness. Anti-malarial stock outs were less prevalent in those health facilities where such diagnostic facilities were available.

7. Challenges in Acquisition, Distribution and Utilisation of Medicines

7.1. This chapter builds on the previous three chapters. It outlines the challenges encountered in the acquisition, distribution and utilization of medicines in Uganda. All that is needed is greater determination in improving the governance of the health sector; the mobilization of adequate financial, logistical and human resources; and the effective coordination of the different institutional actors in the health system. The research identifies the following key challenges:

Rapid Population Growth, Depressing Demographics

7.2. Uganda's population has grown at a rapid rate of 3.2 percent per year. It is expected to rise to 32 m by 2010 and to 43.9 m by the end of the second National Health Policy period (in 2020). This suggests that in 10 years, the health system must cater for an additional 12 m people. The population below 18 years of age constitutes over 50 percent of Uganda's population and has health needs that must be catered for. The Newborn Mortality Rate was 33 per 1000 live birth in 2000. It decreased marginally to 29 in 2006 and accounts for 40 percent of infant mortality today. Teenage pregnancy, which was about 25 percent in 2006, is among the highest in sub-Saharan Africa and significantly contributes to overall maternal mortality rate in Uganda (UBoS, 2007). In short, Uganda's rapid population growth and depressing demographics are key challenges for the financing, procurement and distribution of medical services, in general, and medicines, in particular.

Medicines versus the Underlying Determinants of Health

7.3. Evidence shows that medicines offer a simple, cost-effective solution to many medical ailments so long as they are available, affordable, and properly used (World Bank, 1994: p67). This suggests that the provision of the right quantity and quality of medicines, at the right time, is important in the pursuit of people's right to health. However, evidence from this study shows that neither the flow nor the usage of medicines can be boosted unless the underlying determinants of good health – particularly sanitation and access to clean water; proper nutrition; the recruitment and retention of a highly motivated health workforce; and the establishment of auxiliary infrastructure are addressed. Such infrastructure includes housing for health workers, access roads, and solar equipment that is needed to keep vaccines in rural health centres at the right temperatures. A key challenge for Uganda is that the underlying determinants of good health are still poor. Greater investments in these areas are urgently needed.

Diseases of the Poor

7.4. Another key challenge is that the diseases of the poor – that is, communicable, maternal, prenatal, and nutritional diseases – still account for a substantial proportion of the burden of disease in Uganda. Malnutrition, for example, is a major factor in over 50 percent of under-five deaths! Morbidity and mortality rates from other common childhood illnesses are also high, thanks to the high levels of poverty. While income poverty dramatically declined from 56 percent in 1992 to 31 percent in 2005/06, Uganda is still a poor country. The GDP growth rate has undoubtedly been high, averaging 6.5 percent per year in fifteen years. However, the rate of economic transformation has not been fast

enough to match Uganda's rapid population growth. As a result, the *number* of poor people has not reduced significantly during the same period. Through field interviews, it was established that the leading childhood illnesses are malaria, diarrhoea, measles and acute RTI, all of which are associated with poverty. Among the adults, HIV/AIDS, with an average prevalence of infection of 6.4 percent, is the leading killer, followed by TB and malaria. These diseases of the poor can be kicked out of Uganda. The challenge before MoH and other stakeholders is to massively invest in preventative interventions (such as health education, proper nutrition, and the use of insecticide treated mosquito nets) as well as curative measures such as adequate supply and use of medicines.

Diseases of the Rich

7.5. Non-communicable diseases, which are largely 'diseases of the rich' have recently compounded Uganda's disease burden and strained the country's budget for medicines. As indicated in chapter one, the diseases of the affluent are an emerging challenge. The challenge for Uganda is how to commit more resources to the diseases of the poor without neglecting the diseases of the affluent. Second, the country needs to reclaim space for health sector regulation and the enforcement of regulations.

Stock outs of Medicines

7.6. Among the top HSSP II policy targets was the issue of increasing the percentage of health facilities without any stock outs of first line anti-malarial drugs, measles vaccines, Depo Provera, ORS and cotrimoxazole from 40 percent in 2003/04 to 100 percent in 2009/10. An important challenge for the health sector is that this policy target has not been attained. The in-charges of the public health facilities visited reported (in nine out of every 10 cases – i.e. 90 percent of cases) that they experienced stock outs of anti-malarials and basic medical supplies – such as gloves within the six months that preceded the study. This is worse than the MoH report that "72 percent of government health units experience stock outs of at least one indicator medicines' (MoH, 2009: 6 quoting MoH, 2008b). Patients who were being asked to purchase medicines and medical supplies from private drugs shops/pharmacies were visibly dissatisfied with public health workers. Some *wananchi* alleged that health workers were diverting public medicines to their private clinics or drug shops. [No concrete evidence for this was found]. The widespread problem of drug stock outs is a big challenge and is partly attributed to the health sector financing flaws.

Health Sector Financing

7.7. Since 2000/2001, health expenditure as a proportion of government's discretionary expenditure has stagnated at 9.6 percent. This falls below the Abuja Declaration target of 15 percent. Health sector funding is inadequate to provide the UNMHCP in all facilities. The per capita cost was roughly US$41.2 in 2008/09 and will rise to US$47.9 in 2011/12 (MoH, 2009b). Yet, the MTEF estimation was US$12.5 in 2008/09, signifying a shortfall of about US$29 (MoH, 2009). At the time of the field visits, government and the donors were the main providers of funds for medicines in Uganda. In terms of value, as already noted, government contributes 20 percent of the drugs, which cover 50 percent of the health needs. The third parties contribute 80 percent of drugs (in terms of value). At the time of research, donors were the main funders of anti-malarials (mainly coartem) and ARVs. [Only 30 percent of the essential medicines and health supplies (EMHS) is provided for in the budget]. Global initiatives provide the bulk of resources needed for malaria, HIV,

tuberculosis, vaccines and reproductive health. In 2006/2007, for example, global initiatives contributed US$2.39 per capita of the US$4.06 per capita spent (MOH, 2009b). It is not clear how much of this actually reached the users in comparison with the amount that may have been retained by foreign expatriates and their local allies in the MoH/MoFPED.

7.8. But that is not the point. The point is that overdependence on foreign sources to finance the health sector is dangerous. Fieldwork established that the problem of drug stock outs was more serious for donor-funded medicines and less serious for those that are procured by NMS. To overcome this challenge, Uganda needs to embark on more effective coordination of NMS procurement efforts with those of donors. Over the long-term, however, NMS needs to fully take charge of drug procurement by getting a larger share of the national budget. Once this happens, there must be zero-tolerance of drug stock outs. NMS officials must be personally held responsible if citizens are denied access to medicines on account of stock outs.

7.9. On the other hand, while the arguments for low financing remains a problem in implementing health sector programs in general and in particular delivering quality and adequate medicines, the implementing units should utilise the funds efficiently and effectively. In other words, they must demonstrate value for money.

Decentralized Health Service Delivery System

7.10. Uganda currently operates a decentralized health system as already mentioned. This system consists of (a) the district health infrastructure consisting of Village Health Teams (VHTs or HC Is), HCs II, III and IV plus general district hospitals. Beyond the district, the health system has Regional Referral Hospitals and National Referral Hospitals. The whole system is supervised by MoH. The key challenge is that such a complex system calls for proper coordination, support supervision and inspection. Health facility in-charges reported that while MoH was doing a commendable job in policy formulation, strategic planning and provision of nationally coordinated services such as epidemic control, more serious support supervision and inspection were needed, particularly at the level of health facilities. Weak inspection was reported to be a top factor in explaining why credit-line and PHC medicines do not always reach the beneficiaries. The CAOs, DHOs, DHTs and HSD medical officers particularly need to increase the scale, scope and regularity of support supervision in their areas of jurisdiction.

Proliferation of Districts

7.11. The proliferation of districts is placing more responsibility for support supervision and monitoring on the MoH. Yet the MoH budget is not necessarily increasing proportionately to cater for the rising need for more field staff, vehicles and time. Within the newly created districts, the weak institutional and human resource capacities have compromised the procurement, distribution and use of medicines. For example, VHTs are important in deepening health awareness and promoting the use of health services. However, only 30 of the over 80 districts have trained VHTs. New districts dominate the list of districts with untrained VHTs or weak HUMCs. The challenge for Uganda is to put a break on the proliferation of districts. Second, MoH should create *health districts* that combine several political districts. In this case, smaller political districts should, from the health

perspective, become HSDs. The challenge here is that CAOs are the accounting officers for service delivery at district level.

Physical Access versus Actual Access

7.12. Government investment in HCs (II- IV) dramatically improved physical access to the health facilities. Today, 72 percent of households live within 5km of a health facility (public or NGO). The challenge is that while physical access improved, effective access to medicines has not. Evidence shows that utilization is limited due to lack of medicines and medical supplies. These are worsened by the shortage of functional wards at HC IVs, the low functionality of the solar systems and other equipment at the HCs; and the shortage of qualified health workers, and the de-motivation of the few that exist.

Shortage/Low Motivation of Health Workers

7.13. Inadequate human resources have constrained the ability of Uganda's health sector to fulfil its mandate of providing the medicines (and medical supplies) needed for universal access to health care. In November 2008, only 51 percent of the approved positions in the public health service were filled (MoH, 2009b). Moreover, wide variations exist among districts. For example, Pader in northern Uganda had only 35 percent of the posts filled. Butologo HC II in Mubende district (a difficult to reach area located 25 miles from Mubende town), had only one nurse (Elizabeth Iripo), who was evidently overworked. Shortages of critical staff such as nurses, doctors, nutritionists, anaesthetic and laboratory workers, have greatly constrained the provision of medicines and health services in general. Some districts (such as Rukungiri) are more able than others (such as Hoima, Kamuli and Mubende) to advertise vacant positions, fill them, and cause their health workers to access the payroll. [According to an interviewee, Rukungiri recruited even when there was a ban on recruitment, and their health workers accessed the payroll. In Rukungiri, support staff such as guards and cleaners, were on government payroll. In Kamuli, Nursing Assistants WERE observed mopping the floor of health facilities (there was no money to pay cleaners). In Hoima, a night guard at Kikuube HC IV had stopped working because his monthly salary of Ushs40,000 (which was paid from PHC funds) was in arrears for four months. He stopped reporting for duty because he was de-motivated; and the facility in-charge felt powerless to enforce discipline because of the delayed payment of the guard's salary. At the time of the fieldwork, the solar panel at the health facility had been stolen, thanks to the absence of the night guard. The challenge for Uganda is to address these anomalies affecting the provision of medicines and health services more generally. This calls for the concerned parties to desist from treating some districts more preferentially than others (outside the official criteria for allocating finances and recruiting staff).

The Role of the NGO Sector

7.14. The NGO or faith-based health facilities (referred to as the Private-Not-for-Profit Organizations or simply PNFPs – see chapter 3) play a key role in health. The facility-based NGOs account for 41 percent of the hospitals and 22 percent of the lower health facilities. With government's financial support, the NGO sector operates 70 percent of the health training institutions. This is an important contribution. Yet, the NGO health centres (such as the Catholic-based Nyakibale Hospital) charge user-fees. While community

members predominantly rated the services of faith-based hospitals as being better than public hospitals, many found the user-fees to be unaffordable, given the high levels of rural poverty. The challenge for government is to simultaneously boost people's accessibility to medicines and address the affordability issue. An added challenge is that faith-based health facilities typically emphasize clinical work for which they charge fees. This carries the risk of neglecting public health education. Yet, 75 percent of Uganda's disease burden can be overcome through health education promotion and prevention. This calls for rethinking of the role of the NGO sector vis-à-vis the public health sector in Uganda.

Guidelines versus Conditionality

7.15. Regarding the financing of medicines in Uganda, the credit line funds (as already noted) are given to NMS to procure medicines and health supplies; while the PHC funds are decentralized directly to the districts. The MoH guidelines state, among other things, that 50 percent of PHC funds are to be spent on medicines to supplement those procured by NMS using credit-line funds. The remaining 50 percent is to be spent on the general management of health facilities. The challenge is this. While the use of 'guidelines' as opposed to conditionality was meant to give discretionary powers to districts (under the framework of decentralization), the system is subject to abuse. Districts such as Hoima that use the guidelines as *mere* guidelines often spend a substantial proportion of PHC funds meant for drugs, on administration. Districts such as Rukungiri that take the guideline as a rule use the funds to purchase medicines. Drug stock outs were more common among districts that take PHC guidelines as mere guidelines in comparison with those that strictly spend 50 percent PHC funds on medicines. This, points to the need for standardization across different districts. The challenge here is that standardization may undermine the decentralization norms of devolution and delegation of decision-making authority. Notwithstanding this challenge, government could consider transferring both credit line grants and the proportion of PHC funds that is meant for drugs directly to NMS, which should then be charged with the responsibility of procurement and distribution of all the medicines to district health facilities.

Health Management Information Systems (HMIS)

7.16. Information management in Uganda's health sector is guided by the HMIS. The HMIS has the potential to improve the acquisition and distribution of medicines. The health facilities are required to compile financial summaries on a monthly basis indicating funds received and funds spent in the categories of PHC wage, PHC non-wage, PHC development, local governments, credit lines (medicine), donor projects, and others (to be specified). In the management of medicines, health facilities have stock cards to track the movements and balance of all medicines in the health unit and the extent of (monthly) stock outs. Stock cards provide useful information. They indicate whether stock levels are sufficient, and whether the medicines are used properly. The HMIS is nevertheless compromised by incomplete or irregular data. The MoH estimates the timeliness of reporting to be at about 68 percent (MoH, 2008b). Use of data for planning purposes is currently low. Most of the health facilities visited did not complete the sections on medicines stock outs, health facility management and funds received and used. Inadequate stock control procedures are a big challenge.

Institutional Weakness

7.17. The chapter on institutional partnerships makes two powerful points. No institution is an island. Second, virtually all institutions operate as partnerships. The key challenge for Uganda is how to improve the institutional partnerships involved in the medicines sub-sector. One of the key observations is that the flow of funds from MoFPED to NMS through MoH breeds *avoidabl*e inefficiencies. The process should be dramatically improved. Credit line moneys could be transferred directly from MoFPED to NMS. The proportion of PHC funds meant for medicines to district lower health facilities and district hospitals should not be decentralized any more. It should be given to NMS to procure drugs. As NMS gets adequate *and* timely financial resources, the MoH should strengthen its supervisory capabilities and exert pressure on NMS to deliver its mandate. These messages clearly emerge from this study. The challenge for policymakers is to mobilize *the will* to reform and do the right thing.

7.18. There are also challenges in coordinating third parties. Each party comes with its interests. While the Paris Declaration calls for harmonization of donors, this seems not to work for medicines. For example, DANIDA provides funds directly into budget support whereas USAID does not. Instead, USAID brings its own medicines and has its own supply chain. This is also true for other donors.

Partnership for the Local Manufacture of Medicines

7.19. The recent partnership between GoU, QCIL, and CIPLA presents a unique opportunity for the state-of-the-art technology transfer from India to Uganda. It presents a rare opportunity for the local manufacture of medicines for both humans and livestock. The challenge is to ensure that foreign pharmaceutical giants do not suffocate local pharmaceutical firms to death –for example, via the 'donation' of free drugs. This will lead to unnecessary and unsustainable price-cutting wars. There must be assurance that the quality of local medicines remains high. People's negative perceptions that locally manufactured medicines are of poor quality need to be corrected with verifiable evidence of high quality locally manufactured products. The NDA, the Government Chemists and MoH should play their role in ensuring that locally manufactured medicines are safe, effective and affordable.

Health Unit Management Committees (HUMCs)

7.20. The HUMCs are "voices" of the final beneficiaries of medicines. They are supposed to witness the arrival of medicines and ensure that the medicines actually reach the community. Members of HUMCs do not earn a salary. Some districts, and within any given district, some health facilities have more effective HUMCs than others. The challenge for government is not to abolish HUMCs, but to make them more effective. Government may wish to document the good practices and spread them elsewhere in the country.

Inadequate Laboratories and Rapid Diagnostic Tests (RDTs)

7.21. Drug stock outs were less serious in districts (such as Rukungiri) that have laboratories and diagnostic kits for malaria than districts (such as Hoima, Kamuli, Mubende),

which lack these facilities. The illegal stocking and subsequent abuse of drugs by households, together with the rising resistance to medicines, were less serious problems where diagnostic facilities existed. The challenge for government is to mobilize resources for investing in laboratories and rapid diagnostic kits across the country. These, as indicated in chapter 3, are affordable. [For example, a microscope – which is an important facility in laboratories – costs less than US$300].

Supports for Health Service Delivery

7.22. The field findings have established that the effective delivery of medicines calls for substantial investments in auxiliary infrastructure i.e. the *supports for health service delivery.* These include staff housing; solar power; phone network coverage; the quality of roads; water and sanitation; and the quality of schools (for educating the children of health workers). The hard-to-reach areas have difficulties in accessing medicines and general health services precisely because of poor auxiliary infrastructure. The challenge for government is to invest in auxiliary infrastructure as a matter of urgency.

Other Challenges

7.23. The other challenges that are worth attending to include improving the functionality of theatres at all HC IVs and other health facilities; supplying adequate equipment such as gloves, syringes, and dental equipment; investing in ambulances; streamlining the referral system; and continuously equipping health workers with new knowledge. There is also need for government and NGO health facilities to pay salaries that will motivate health workers, improve their commitment to patients, and prevent the brain-drain that so seriously affects Uganda's health sector.

Conclusions

7.24. The chapter has outlined the challenges encountered in the acquisition, distribution and utilization of medicines in Uganda. The main conclusion is that the flaws in the flow of medicines can be overcome. All that is needed is greater determination in improving the governance of the health sector; the mobilization of adequate financial, logistical and human resources; and the effective coordination of the different institutional actors in the health system. The challenge is big but not impossible.

8. Conclusions and Emerging Issues

8.1. The study findings do provide insights into the drug delivery mechanism in Uganda. Some reforms in the health sector that directly impact on the system of delivering medicines have been discussed. It is evident from the study findings that these reforms seem to have yielded mixed results. More importantly, the study examined the institutional partnerships and the three modalities of drug delivery – credit line, PHC and third party. It is argued that health outcomes cannot make substantial improvement until delivery systems are well managed, including that of drugs. A lot of issues that affect drug delivery systems include tracking of public spending on medicines, institutional partnerships, conflicting regulations, expanding health infrastructure, without proportionate improvement in the soft infrastructure to name a few. All these introduce inefficiencies in the system.

8.2. To address inefficiencies in the delivery of curative health services Government has broadly two choices: i) to panel-beat the existing system that is based on decentralisation by instituting measures that could improve efficiency; or ii) to rethink and restructure the curative health delivery system with a view to ensuring that quality curative health services reach the intended beneficiaries. The first choice may not be tenable to Government because of institutional inefficiencies including high administrative costs relating to the delivery of curative health services in a decentralised system. Nonetheless, in subsequent sections proposals are made about how inefficiencies in the delivery of curative health services, in general, and distribution of medicines, in particular could be plugged.

8.3. The second and strongly recommended choice option of restructuring delivery of curative health services is premised on the realization that the reforms so far undertaken in the health sector seem to have fallen short of delivering expected results in this regard. New reforms in the curative health services are needed to reduce the cost of administration of the country's health system in general and that of delivery of medicines in particular, thereby increasing financial resources for curative health services. In this regard, Government should consider paying beneficiaries directly for curative health services obtainable from private service providers (a form of public-private partnership). The modalities this would take could include instituting a system of issuing curative health coupons to intended beneficiaries. Accredited private curative health services providers would receive payment from Government on presentation of coupons. The role of the public sector in delivery of curative health services would be limited to hospitals (district and referral hospitals), which would be given conditional grants to purchase medicines from the market in line with PPDA guidelines. Preventive health services would remain the responsibility of the Government (both central and local Governments) but not necessarily managed by MoH. By reducing or trimming the cost of administration of the curative health services, Government would concentrate on preventive health services, which could be provided by Government through a multi-pronged approach including interventions through MoH, Ministry of Local Government (MoLG) and/or LoGs.

8.4. Delivery of curative health services under the current system of decentralisation could be improved by learning from best practices from relatively better performing districts. In Chapter 2, an ideal model of accountability was presented which would deliver medicines to people, if well followed. And, among the five sampled districts, Rukungiri stands out to have

performed better on all four out of the five cardinal principles of effective service delivery including – delegation, performance, information and enforceability.

8.5. While NMS controls and manages a meagre proportion of the total drug budget, the study findings revealed that it was unable to honour orders from public health facilities. The performance varies across health facility levels. For the sampled districts, nearly 23.5 percent of credit line budget for Hoima Regional Referral Hospital remained unspent. The corresponding figure for Apac Hospital was 41.7 percent, 30.8 percent for Kamuli Hospital and 29.1 percent for Mubende Hospital. The findings reveal that the inability to supply 100 percent was mainly attributed to NMS than at any other level. Poor procurement planning and low capacity were singled out as major constraining factors affecting the performance of NMS.

8.6. A big chuck of the PHC is targeted to district lower health facilities. However, it was evident that not all public money meant for medicines are spent as per guidelines and on a timely basis. There is variation from district to district with some districts treating guidelines as conditionality and others literally ignoring them and doing things their way. For example, Hoima had spent only 28 percent of PHC funds meant for medicines compared to 94.5 percent for Rukungiri. The DHOs office retains a significant amount of these funds.

8.7. This study recommends improvement in the collection and use of the HMIS using the existing structure. However, a different approach of such an improvement is proposed. It is proposed that when health facilities and districts are able to use the information generated through the HMIS, they will have an incentive to submit complete information. It will then create an opportunity for the ministries of Health, Finance and Local Government to conduct appropriate monitoring, not only of medicines and funds but of service delivery. Initial districts must be identified to concentrate on and use them as models for other districts to learn.

8.8. *Learning from good practices:* Based on the study findings from the five sampled districts, performance varies across districts and within district. Rukungiri district seemed to out-perform the other four districts on several dimensions. It is recommended that district leaders should be encouraged to learn from, and replicate the good practises that exist elsewhere within Uganda. NMS should also be encouraged to learn from what JMS does better. The same principle applies to government facilities and faith-based health facilities.

8.9. *Stock out of medicines*: Stock outs were more prevalent for medicines procured under third party than under the credit line medicines. It was difficult to establish drug stocks out under the PHC due to poor record management at various levels. The drug stock outs partly contribute to drug misuse by the households. It was evident that where supportive services exist such as laboratories etc; and timely delivery of medicines drug misuse was limited. Due to poor stock management, it is sometimes difficult to predict stock outs. It is also difficult to differentiate whether stock outs incidences are as a result of poor record management or actual stock outs. For instance, the stock outs reported in the newspapers are a reflection of stock outs in those facilities with up dated stock cards. Those without stock cards and those without updated stock cards may have experienced stock-out or not but these are not reported – under or over estimating stock outs.

8.10. *Standardization and procedures*: The need for this cannot be overemphasised. First, even the guidelines such as those under the PHC are not fully followed. Second, there are no clear standardised formulae/guidelines for medicines quantification at the lower health facilities. It was evident that participation of lower health facilities in the drug delivery varied across districts with mixed results. Thus, there is need to standardise what is expected to happen at district level by MoH. The inadequate stock control measures need to be addressed.

8.11. *Information:* Effective access to information, including funding for drug, accountability at all levels is lacking in most cases. The lower health centres and, in particular, the beneficiaries should have access to such information. Otherwise, the accountability relations in public service delivery as presented in Chapter 2 would be incomplete.

8.12. It is, therefore, proposed that the entire drug delivery mechanism be dramatically reviewed with a view to improving the delivery of medicines to final beneficiaries. The following are proposed actions in this regard:

i. Except for hospitals (both referral and district hospitals), money for medicines (both credit line and PHC) should be transferred directly from MoFPED to NMS, with strong inspection by the MoH, as regards the utilisation of the money. There are valid concerns with this proposal, which would effectively put the medicines and the money together as was the case during the days of the CMS. However, a strong inspection department in the MoH would ensure proper utilization of the money by NMS and should this require revision of the NMS Statute, then it should be done. In the case of hospitals (both referral and district hospitals) MoFPED should transfer money for medicines directly to them on condition that they purchase the medicines from either the NMS or JMS. Any money not utilised for purchase of medicines should be returned to the MoFPED at the end of the financial year. The institutional framework for the distribution of medicines at the district level i.e. to lower level health centres should remain the way it is.

ii. Resources need to be invested in strengthening the supervisory capability of MoH, with a view to empowering the ministry to supervise and inspect all health institutions (including those established by Acts of Parliament) in the country. The MoH should hold NMS managers personally accountable for what goes right or wrong in NMS. Tough measures must be put in place (by MoH and MoFPED) to punish NMS management (a) if essential medicines (like anti-malarials) are inadequate; (b) if NMS delivers medicines that are not requested by clients; (c) if NMS dumps onto lower health facilities drugs that have less than three months' shelf-life; or (d) if NMS delays to deliver medicines on time. The institutional frameworks should be reviewed, where necessary, to empower the MoH to undertake supervision and inspection. The aim is to improve efficiency in health service delivery.

iii. To overcome the widespread problem of drug stock outs, NMS should be given adequate capitalization to enable it procure 100 percent of the drugs requested by clients. Once NMS has financial autonomy and adequate capitalization, there should be zero tolerance to NMS's perpetual problem of non-availability of medicines. The

NMS must purchase the medicines requested for from the market, including JMS and/or other private pharmacies in line with national procurement guidelines.

iv. The 50 percent PHC funds meant for medicines at local government level should be transferred directly from MoFPED to NMS. In other words, NMS should be given an expanded mandate of procuring and distributing all medicines and the distinction between "credit line" and "PHC" medicines should stop. This will increase availability of medicines in the districts.

v. The abuse of drugs by individuals/households, together with the associated problem of rising resistance to medicines, were less serious problems where diagnostic facilities existed. Government must invest in laboratories and rapid diagnostic kits across the country. These are important and affordable.

vi. Evidence shows that high quality auxiliary infrastructure matters. Government, in collaboration with its development partners, should invest in staff housing, solar power, improved IT and telephone connectivity, quality roads, water and sanitation, among others. These play a fundamental role in the attraction and retention of health workers in any specific locality. Initially government should concentrate its efforts in ensuring good health services up to HC III level. As and when resources permit, and on a gradual basis, HC IIs could be upgraded to HC IIIs. In the meantime, resources flowing to HC IIs could be consolidated at HC III level to improve health service delivery at that level.

vii. A framework for coordinating donors in the health sector needs to be worked out expeditiously to avoid disruption of NMS activities. One way of doing this is by NMS creating a special unit to handle medicines supplies by "third parties". A clear procurement and distribution calendar of medicines supplied by third parties is necessary.

viii. Operational funds for various levels of health units should be determined *a priori* and transferred from the MoFPED to the MoH and then directly to beneficiary health institutions, which include the Office of the DHO, Office of the health sub-district and lower level health centres (HC IIs, HC IIIs and HC IVs). At the district level, the district health inspection system should be strengthened to ensure proper utilization of operational funds in lower level health centres. The MoH should not allow health centres to pay wages of any category of workers from operational funds; all workers should be registered and their wages paid directly by the MoH. The MoH should issue clear guidelines to HUMCs on use of operational funds.

ix. At the district level, the CAOs must ensure that medicines effectively reach the beneficiaries. Additionally, the DHO, the HSD medical officer, the in-charges of lower level health units and very importantly, the police, ISO and DISO and GISO all have an important leadership role to play in inspecting, monitoring or even evaluating the availability of medicines. Together, they can ensure that medicines and medical services are available to the people. Then, and only then, the diseases of the poor would be overcome.

x. The PHC funding is spread so thinly across the lower health levels leading to unintended inefficiencies. It is proposed that government should improve and strengthen infrastructure at HC IIIs with the aim of reducing the burden on higher

health facilities. This should enable the referral hospitals to focus on their mandate. This also calls for revisiting the referral system between HC IIs and HC IIIs.

xi. While the intention of the Government's decentralization strategy in the delivery of health services cannot be contested, the process of decentralization seems to have been hurried, this resulted in inefficiencies in the delivery of health services especially at HC II level. Accordingly, more emphasis needs to be put at HC III, VI and hospitals as Government rethinks the role of HC IIs in the delivery of health services. Government could encourage PPPs at the level of the Parish (where HC II are located) to improve service delivery at that level, particularly the availability of medicines.

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Table A 1: PHC releases to facility level, July 2008 to June 2009, Ushs

Facility level	Estimated	Approved	Releases	%released against approved
District hospitals:				
Apac	245,701,000	245,701,000	245,701,000	100.0
Kamuli	245,702,000	245,702,000	245,702,000	100.0
Mubende	283,796,000	283,796,000	283,796,000	100.0
Others	9,993,301,000	9,993,301,000	9,928,339,240	99.3
Total	10,768,500,000	10,768,500,000	10,703,538,240	99.4
District lower facilities:				
Apac	463,130,620	463,130,620	439,966,162	95.0
Kamuli	543,989,870	543,989,870	516,780,748	95.0
Mubende	407,026,970	407,026,970	386,668,559	95.0
Rukungiri	355,279,170	355,279,170	337,509,119	95.0
Hoima	375,370,160	375,370,160	356,595,183	95.0
Others	26,566,303,240	26,566,303,240	25,238,032,149	95.0
Total	28,711,100,030	28,711,100,030	27,275,551,920	95.0

Source: MoFPED, Budget allocations

Notes: (i) there are no public district hospitals in Hoima and Rukungiri districts. Instead Hoima has a regional referral hospital.

Appendix 1: List of Government facilities visited

Institutions	Officials interviewed	Period
National level:		
Ministry of Health	Director General of Health Services; Head of Pharmacy division;	March –May, 2009
Ministry of Finance, Planning and Economic Development	Commissioner Budgeting, Officer in-charge of Health sector, Commissioner Public Administration	
National Medical Store	General Manager Sales and Operations officer	March –May, 2009
National Drug Authority	Director and Chief Commercial Officer Director Marketing; Head Drug Inspectorate	March –May, 2009
Joint Medical Store	General Manager Sales and Distribution Manager	April –May , 2009
Quality Chemical Industries Ltd	Director Marketing; Director Finance	March –May, 2009
District level:		
Apac	DHO, CAO, CFO, Health Sub-Accountant, District Store Keepers, District Assistant Drug Inspectors	4-9 May, 2009
Hoima	DHO, CAO, CFO, Health Sub-Accountant, District Store Keepers, District Assistant Drug Inspectors	15-20 Mar, 2009
Kamuli	DHO, CAO, DCAO, CFO, MS, Health Sub-Accountant, District Store Keepers, District Assistant Drug Inspectors	1-7 Mar, 2009
Mubende	DHO, CAO, CFO, Health Sub-Accountant, District Store Keepers, District Assistant Drug Inspectors	29 March-3 April, 2009
Rukungiri	DHO, CAO, CFO, Health Sub-Accountant, District Store Keepers, District Assistant Drug Inspectors	4-9 May, 2009
District level:		
<u>Rukungiri District</u> 1. Kebisoni HC IV 2. Ruhinda HC III 3. Karangaro HC II 4. Bwambara HC III 5. Rwenshama HC III 6. Bugangari HC IV 7. Bugangari HC IV 8. Nyarushanje HC III 9. Rwerere HC II 10. Nyakagyeme HC III 11. Rukungiri HC III 12. Nyakibaale Hospital	In-charge	May 2009
Kamuli District 1. Namwendwa HC(IV) 2. Kiinu HC(II)	In-charge	March 2009

Institutions	Officials interviewed	Period
3. Bulopa HC(III) 4. Kidera HC- IV 5. Bukungu HC-II 6. Kasolwe HC-III 7. Nankandhulo HC-IV 8. Bupandhengo 9. Kamuli District Referral 10. Kamuli Mission Hospital		
Hoima District 1. Kiseke HC II 2. Kyabasenja HC II 3. Kigorobya HC II 4. Kibiru HC II 5. Buraru HC III 6. Buseruka HC III 7. Kikuube HC IV 8. Kaseeta HC II 9. Sebigoro HC II 10. Wambabya HC II 11. Kabwoya HC III 12. Kyangwali HC III 13. District Referral Hospital	In-charge	March 2009
Mubende District 1. Mubende Hospital 2. Nabigoola HC III 3. Kabyuma HC II 4. Kalonga HC III 5. Kiganda HC IV 6. Katoloogo HC II 7. Madudu HC III-(PNFP) 8. Kasambya HC III 9. Kibalinga HC II	In-charge	April 2009

Appendix 2: Survey Instruments Used in data collection

ECONOMIC POLICY RESEARCH CENTER (EPRC)

ORDER FILL RATE TO BE CALCULATED AT ISSUING NATIONAL MEDICAL STORES (NMS)/JOINT MEDICAL STORES (JMS)

Name of facility placing order_____ level _____ district_____day___month_____year_____

Date of order placed	Financial year 2006/07=1 2007/08=2	Items ordered Coartem(YLW).....1 Coartem(BR).....2 Coartem(BL).....3 Coartem(G).....4 Fansidar.....5 Quinine tab.....6 Quinine Inject...7 Panadol.....8 Aspirin.....9 Septrin.....10 Amoxicillin.....11 Flagyl.....12 Albendazole....13	Order line Credit .....1 PHC.....2 3rd party.....3	Quantities ordered	Quantities delivered	Date of delivery	Batch number	Date of placing requisition to MoH	Amount requisitioned from MoH	Amount received from MoH	Date of funds r

ECONOMIC POLICY RESEARCH CENTRE ASSESSMENT TOOL FOR STORE ROOMS DRUG TRACKING
DISTRICT HOSPITALS AND LOWER-LEVEL ASSESSMENT TOOL FOR SELECTED DISTRICTS IN UGANDA
SECTION 1: B Inventory of equipment and supplies available at the district and facilities (central pharmacy stores/main store room)

Health facility name _____District _____Facility code ___level ___Day____ Month___Year_____
Maximum months of stock_____ Minimum months of stock _____ Order interval_____

Product	Units of count	Drug line Credit 1 PHC 2 3rd party 3	Physical inventory — Store room	Stock out today? (Y/N)	Quantity of expired products	Stock card available? (Y/N)	Stock card updated? (Y/N)	Balance on stock card	Stock out most recent 6 months (Y/N)	Number of stock outs in last 6 months	Total number of days of stock outs in last 6 months	Total issued (most recent 6 months)	Number of months of data available
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Coartem (Yellow)													
Coartem (blue)													
Coartem (brown)													
Coartem (green)													
Fansidar													
Quinine tab													
Quinine Inject													
Panadol													
Aspirin													
Septrin													
Amoxicillin													
Flagyl													
Albendazole													
Gentayan													
Aprollixacian													
Ketocomazole													
Doxycyline													
Hydrocartsone													
Comments:													

Note: For any product that experienced a stock out in the last 6 months (including the day of visit), please note reasons (by product).
Are stock cards and reports completed using the smallest unit of count? Y/N. Stock Status (Specify a full six month period prior to the survey; and the day of visit)

ECONOMIC POLICY RESEARCH CENTER (EPRC) PHC AND OTHER FUNDS TRACKING TOOL

SECTION 3: DIFFERENCE BETWEEN BUDGET ALLOCATIONS AND ACTUAL EXPENDITURE ON DRUGS

DISTRCTS, HOSPITALS AND LOWER-LEVEL ASSESSMENT TOOL FOR SELECTED DISTRICTS IN UGANDA

Health facility name _____District _____Facility code ___level ___Day____ Month___Year_____

financial year 2007/0 8=1 2008/09=2	**Items** Medical supplies…1 Infection control….2 Management ….3 Community health services …4	**Budget Estimate millions**	**Actual received millions**	**Budget Allocation Millions**	**Actual spent millions**	**Discrepancy Millions**	**% Discrepancy**	**Reasons for discrepancy**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**

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SECTION 4: INTERVIEW OF THE MS/IN-CHARGES OF HOSPITALS/HEALTH FACILITIES

Health facility———————Facility code ——Day Month Year ———

No.	Question	Code Classification	Go To
101	Title of Person interviewed for this Survey	Title: _____ Mobile number: _____	
102	Number of years and months you have worked at this facility?	Years: _____ Months: _____	
103	OPD attendance per month		
104	If HC IV or Hospital Bed capacity		
105	Range of services provided	OPD…… 1 Theatre……. 2 Maternity ……. 3 HIV Administration……4	
106	Average Length of Stay (for in-patients).		
107	Catchment's population for the facility.		
108	Total number of staff		
109	Number of staff by Cadre.	Doctors …… Nurses…… Clinical Officer……. Midwives…… Pharmacy Technician … Pharmacy Assistant …… Pharmacist…… Medical Assistant……. Other (Specify)……	
110	What are the common diseases among patients who seek care from this facility?	Malaria…….1 Cough ……..2 Diahearia Other specify)……9	
111	Who is the principal person responsible for managing medical supplies at this facility?	Nurse 1 Clinical Officer 2 Pharmacy Technician 3 Pharmacy Assistant 4 Pharmacist 5 Medical Assistant 6 Other (Specify) 9	
112	Is supplies/stock management the primary role of this person at this facility?	Yes 1 No 0	
113	How is drug supply and procurement done at this facility ?		
114	How is it like managing at this facility ?		
No.	**Questions**	**Code Classification**	**Go To/ Comments**
201.	Do you use the following stock keeping logistics forms to manage health products in this facility?		

	A. stock cards/bin card/ inventory control card	Yes 1 No 0	
	B. stock ledger	Yes 1 No 0	
	C. other(specify)	Yes 1 No 0	
202.	What LMIS forms do you use for reporting/ordering?		
	A. Local Purchasing Order	Yes 1 No 0	
	B. Goods Received Notes	Yes 1 No 0	
	C. Goods Delivered Notes	Yes (specify) _____1 No 0	
203.	Do LMIS report forms include the following?		
	A. stock on hand	Yes 1 No 0	
	B. quantities used	Yes 1 No 0	
	C. losses and adjustments	Yes 1 No 0	
204.	Does a completed LMIS report include the following? (must be verified with completed report)		
	A. stock on hand	Yes 1 No 0 Completed report not available 9	
	B. quantities used	Yes 1 No 0 Completed report not available 9	
	C. losses and adjustments	Yes 1 No 0 Completed report not available 9	
205.	How often are these LMIS reports sent to the higher level? *(Circle all that apply.)*	Monthly ..... A Quarterly B Semi-annually C Annually ..... D Other _____ W	
206.	When was the last time you sent an order/report for products at this facility?	Never ..... 1 Within the last month 2 2 months ago ..... 3 3 months ago ..... 3 More than 3 months ago 4	
207.	How many facilities are supposed to send LMIS reports to this facility?	_____	

208.	How many facilities submitted complete LMIS reports for the month of _____ (two months prior to survey month)?	_____ Ask to see reports and check here if verified. _____	
209.	How did you learn to complete the forms/records used at this facility? **(Circle all that apply.)**	During a logistics workshop ..... A On-the-job training ..... B Never been trainied ..... C Other (specify) _____ W	
210.	How many emergency orders for _____ (product of interest, e.g., contraceptives, STI drugs, etc.) have you placed in the last 3 months?	None ..... 0 1 ..... 1 2 ..... 2 3 ..... 3 More than 3 4 NA 9	
211.	Who determines this facility's resupply quantities? **(Circle all that apply.)**	The facility itself ..... A Higher-level facility ..... B Other _____ W	
212.	How are the facility's resupply quantities determined?	Formula (any calculation) _____ 1 Don't know ..... 2 Other means 9	
213.	Who is responsible for transporting products to your facility? **(Circle all that apply.)**	Local supplier delivers ..... A Higher level delivers ..... B This facility collects ..... D Other (specify) ..... W	
214.	What type of transportation is most often used?	Facility vehicle ..... 1 Public transportation ..... 2 Private vehicle ..... 3 Boat ..... 4 Motorcycle ..... 5 Bicycle ..... 6 On foot ..... 7 ***Other (specify) _____ 9***	
215.	On average, approximately how long does it take between ordering and receiving products?	Less than 2 weeks ..... 1 2 weeks to 1 month ..... 2 Between 1 and 2 months ..... 3 More than 2 months 4	
216.	When did you receive your most recent supervision visit? *Check visitors book, if necessary.*	Never received ..... 1 Within the last month ..... 2 1 - 3 months ago ..... 3 3 - 6 months ago ..... 4 More than 6 months ago ..... 5 Other (specify) 9	
217.	Did your last supervision visit include drug management (e.g., stock cards checked, reports checked, expired stock removed, storage conditions checked)?	Yes 1 No 0 Don't know 9	

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SECTION 6: EXIT INTERVIEW WITH PATIENTS

Health facility _____ facility code ____ Day ____ Month ____ Year _____ ____ _____

No	Question	Code classification	Go to/comment
601	Age in complete years		
602	Gender	Male ……..1 Female …..2	
603	Highest level of education	None …… 0 Primary ……. 1 Secondary …. 2 Tertiary ……..3	
604	Marital status	Never married …….1 Married……..2 Other (specify)…….3	
605	Have you received a prescription from this facility for your current illness?	Yes ……..1 No ……..0	
606	Did the health worker tell you the names of the drugs prescribed?	Yes ……..1 No ……..0	
607	Have you received all the prescribed drugs?	Yes ……..1 No ……..0	→**610** →**608**
608	What did the health care worker tell you about the drugs you have not received?	To buy…….1 No drugs ……2 Nothing ……..3	
609	What are you going to do about them?	To buy ……..1 Nothing ……..2 Other (specify)…..3	
610	Did you pay for the drugs you received?	Yes ……1 No ……..0	→**611** →**612**
611	How much did you pay for the drugs?		
612	What problems did you face in obtaining the medications?	No dispenser …….1 Waiting for so long…2 Other (specify)……3	
613	Is this your first time to use this health facility?	Yes ……1 No ……..0	→**615** →**614**
614	How often do you use this health facility?	Never …….. 1 Sometimes ……2 Always ……..3	
615	For the times you have used this health facility, have you been getting all the prescribed drugs?	Yes ……1 No ……..0	
616	Which drugs are usually unavailable?		
617	Is there a place in the community where you can buy such medications?	Yes ……..1 No ……..0	
618	Where do you normally buy the drugs from?	Drug shop……..1 Dispensary ……..2 Pharmacy ……..3 Other (specify)…….4	
619	What do you have to say about drug availability in this health facility?		

End the interview and thank the respondent