CLIENT SATISFACTION WITH SERVICES

IN

UGANDA'S PUBLIC HEALTH FACILITIES:

A Study by the Medicines Transparency Alliance (MeTA), Uganda

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Introduction

The Medicines Transparency Alliance (MeTA) is a global alliance of governments, pharmaceutical companies, civil society, the World Health Organization, the World Bank and other partners working to improve access to medicines by increasing accountability in the healthcare sector.

In Uganda, MeTA brought together a team of stakeholders to undertake a client satisfaction study between April and June 2013. The data collection team included members from the following organizations: Africa Freedom of Information Centre (AFIC), Action Group for HIV/AIDs (AGHA-Uganda), Mama's Club, the Coalition for Health Promotion and Social Development (HEPS-Uganda), Joint Medical Store (JMS), the Ministry of Health (MoH), National Medical Store (NMS), Uganda Debt Network and the Uganda National Health Consumer/Users Organisation (UNHCO).

Data was collected from patients (through exit interviews), households, district government officials, health facility management and logistics officers, MoH executives, procurement agencies,the Public Procurement and Disposal of Assets (PPDA),the Health Services Monitoring Unit (HSMU), and development partners.

Rationale

Availability of essential medicines at public health facilities has been steadily improving as a result of multipronged strategies implemented by the government of Uganda and partnersIn spite of the steady improvement in availability of essential medicines, complaints from clients about service delivery at public health facilities remain widespread and the impact of such complaints on client satisfaction has not been established. On this basis the Ministry of Health (a member and chair of the MeTA council) through the Pharmacy Division, requested the coalition to focus on client satisfaction—at the health facility level—for this research

The Government of Uganda has invested in a variety of social and administrative innovations to improve health service delivery (MoH, 2010). Examples include: the centralization of medicine procurement and distribution through the National Medical Stores (NMS); increased funding for essential medicines and health supplies; the embossment of medicines to ensure authenticity and; establishment of the Medicines and Health Services Monitoring Unit. It has also adopted: (i) an 'informed push' system for medical supplies, based on standard kits (developed by the district health officers in consultation with health facility in-charges) issued from the center to lower-level health facilities (other than hospitals which operate a pull system), and; (ii) introduced a 'last mile' delivery system for consignments (a system intended to reduce delays and optimize the use of transportation resources through consolidating consignments for facilities based on geographical regions, with third-party transporters used to move deliveries from districts to lower-level facilities)..

Many of the health sector strategic and investment plans derive their focus from the National Development Plan. The National Development plan's objectives include the need to strengthen organization and management at all levels of the health system, and the empowerment and participation of communities in health. Strategies to achieve these objectives include better supervision, information management, funding and community participation as critical success factors that impact heavily on access to medicines and client satisfaction hence the focus on citizen empowerment

Recognizing the government's willingness to improve health service delivery and enhance access to essential medicines, MeTA identified an opportunity for innovative multi-stakeholder engagement in prioritizing key areas where joint intervention could help catalyze reforms.

Client satisfaction is a fundamental indicator of success for service delivery. It is also an indicator of other client behaviors, such as choice of practitioners or programs, disenrollment, use of services, and complaints (Bleich, 2009) The importance of client satisfaction was also underscored by Weisman and Koch (1989), who indicated that satisfied clients are more likely to follow their practitioners' recommendations for treatment.

To underpin this importance, the Ministry of Health—under its monitoring and evaluation plan—made client satisfaction one of the core indicators for monitoring performance of the health delivery system. There are, however, neither baseline data nor standardized monitoring instruments to date (MoH, 2010 HSSIP Core Performance Indicators). The 'Yellow Star' programs—a quality improvement strategy by the Ministry of Health, carried out between 2000 and 2006—was the first real attempt to monitor client satisfaction with family planning services in Uganda (Centre for Health Market Innovations, 2013). In 2004, the Uganda Catholic Medical Bureau carried out a study on client satisfaction with its health facilities, based on five patient care experiences: Clinical effectiveness and outcomes; access to services; organization of care; humanity of care and healthcare environment (Lochoro, 2004). The study was unique in that it covered both in-patients and outpatients. This was followed by the 2008 Ministry of Health client satisfaction study in six districts of Uganda, covering both the public and private sectors (MoH, 2008). In 2012 a similar study was jointly conducted by Uganda National Health Consumers' Organisation and HEPS-Uganda in two districts to assess client satisfaction with accessibility, availability, quality and accountability aspects of health service delivery (UNHCO & HEPS, 2012).

All these studies concentrated mostly on service delivery at health facility level and some aspects of physical and economic access. They did not investigate the links between citizen empowerment, the availability of medicines, and client satisfaction. Nor did they investigate the influence of key logistics management aspects such as quantification, procurement, distribution and use of medicines, information exchange and management support at all levels of the public health supply chain. This present study therefore delivers a new perspective on client satisfaction in Uganda.

While the study looked at different health services, an important focus was on medicines, because clients consider the availability of medicines as a necessary (though,not always sufficient) component of quality service. When they go to a health facility to seek treatment and are not given medicine, they think they have not received medical attention. Psychologically people prefer to be given medicine to treat their ailments, even when the situation does not warrant it. The focus on medicines was also due to the persistent increase in the medicines budget and the policy changes in supply chain management.

Objectives

The main objective of the study was to establish the factors influencing client satisfaction with health services in public health facilities in Uganda.

The specific objectives were to:

1. Determine the level of client satisfaction with health service delivery in public health facilities in Uganda
2. Establish the availability of medicines in these health facilities
3. Determine the level of citizen empowerment in advocating better service delivery at health facilities.

The findings from this study will be used to:

1. Identify persistent challenges in the procurement and supply of essential medicines and related commodities, and to suggest recommendations for accelerating ongoing reform processes

2. Establish baseline metrics for use by MeTA to monitor progress on interventions to improve health service delivery
3. Identify priority areas for MeTA in the next five years, to help synchronize coalition input into Uganda's next health sector strategic plan
4. Inform the process of developing interventions by stakeholders to address key issues in health service delivery.

Conceptual framework

The study was based on an assumption of inter-dependencies between citizen empowerment and client satisfaction with health service delivery. It was theorized that when citizens are empowered, they can advocate effectively for and demand quality services and accountability at various levels of government. The 2004 World Development Report, *Making Services Work for Poor People* argues that such advocacy has the potential to enhance participatory decision making and improve public service delivery by: (i) enabling citizens to monitor and discipline service providers; (ii) amplifying their voice in policymaking and; (iii) strengthening the incentives for providers to serve the poor. Empowered citizens that are able to effectively utilize channels to monitor services and discipline providers, can have greater influence in tailoring services according to their needs and are therefore more likely to be satisfied with the outcomes. Of course, strengthening the client-provider relationship does not always equate to better services, and requires a more holistic effort that addresses the allocation of resources and incentive structures. However, client satisfaction remains an important indicator for assessing the level of responsiveness and the efficiency of public services to meet the needs of citizens, including poor people.

Methodology

Design and study population

The study was cross-sectional to provide a snapshot of the relationship between the availability of medicines, citizens' empowerment and client satisfaction. Data was collected in 10 districts between 20 and 31 May 2013. The study population consisted of health facility staff, outpatients, local opinion leaders, households, community members, policy makers and senior supply chain practitioners.

Sampling

The primary sampling units were districts; the secondary units were households and health facilities, while the tertiary units were household members and patients.

(i) Selection of Districts

Selection of districts was stratified-purposive. The country was stratified into four regions (Western, Central, Eastern and Northern). In each region districts with active MeTA partners were eligible to participate in the study while those without were excluded. The participating districts were then selected according to years of existence, rural or urban status, and proximity to the capital city, Kampala. Districts classified as 'municipality' and above were considered urban, while those below were considered rural. The participating districts were then purposively selected based on the above criteria to have a balanced mix of urban and rural districts. The purposive sampling also ensured that the sample contained districts at different points on a continuum of their age and road distance from Kampala. . Based on these criteria, the districts of Nebbi, Soroti, Iganga, Wakiso and Mbarara (urban) and Oyam, Nwoya, Kapchorwa, Pallisa and Kasese (rural) were selected.

(ii) Selection of Health Facilities

Sampling for the health facilities was based on the Ministry of Health directory, 2012. The calculated sample size of health facilities in the study districts was 234. Using probability proportional to size(a stastical technique used in stratified sampling), researchers determined the sample size for each district

and the number of facilities per level of care in each district. Simple random sampling was used to select the health facilities.

(iii) Selection of Households

The total population in the selected districts was determined using population projections by Uganda Bureau of Statistics from the 2002 census. The average number of people per household was assumed to be five. Based on this, the estimated number of households was calculated by dividing the projected population by five. As these households were to be surveyed to determine the level of citizen empowerment, the sample size for households was computed based on the prevalence of a process indicator for empowerment, The best indicator which was chosen by consensus among the study team was the prevalence of access to mobile phones. From previous studies, access to mobile phones has been reported at an average of 85 percent of the population.

Households selected to participate in the study were those within the catchment population expected to use the health facility on a regular basis for primary care. Enumerators selected every second household, beginning from the household nearest to the health facility along a transect (particular direction) with the point of reference being the health facility.

(iv) Selection of Patients

The target number of patients for exit interview was 3,455, obtained by setting the sample sizes as 10, 15, 30 and 30 at Health Centers II, III and IV[1] and hospitals respectively, and multiplying by the total number of facilities at each level of care in each district. Patients for exit interview were selected by the data collectors on a presentation basis (i.e. the first to present themselves for treatment were chosen). Interviews were continued until the required number of patients was realized (interviews were not restricted to morning or afternoon patients). However, to qualify for the study they should have been seen at the health facility on the day of the visit as outpatients, be at least 16 years old and not requiring emergency care.

(v) Focus Groups

Ten focus group discussions were held during the study. The health facilities whose catchment population was to be sampled for focus group discussion were selected on simple random basis. From each catchment population, the number of participants selected for the focus group discussion ranged from six to 12. Participants were selected with consideration for gender balance of 50% each. Where achieving this balance was not possible (because of cultural sensitivities making it difficult to achieve candid dialogue in settings with both men and women), separate focus group discussions were held. Participants were selected with the assistance of facility in-charges, chairpersons of the health unit management committees/hospital boards and MeTA partners at the district. Selection was purposively targeting those members of the community with adequate experience of health service delivery in the area and able to clearly articulate the key issues. In some cases, the data collectors also selected exiting patients (who had not participated in exit interviews) to join the focus group discussions. All participants had to be 18 years old and above.

[1] Health Centers II are community-based facilities headed by an enrolled nurse, where clients seek and receive healthcare in the community setting without being admitted. They provide basic health education, immunization, antenatal care and treatment of some diseases. Above the Health Center II is level III, headed by a clinical officer, which provides all the services at level II but with additional modules such as maternity services, admission and laboratory services. The Health Center IV is a mini-hospital headed by a medical doctor and expected to deliver all services provided by the lower service delivery platforms, in addition to female, male and children's wards and a functioning operating theatre.

(vi) Key Informants

Key informants were segregated into two groups, one of central-level policy makers and the other of service delivery personnel (those in charge of health facilities, and Health Unit Management Committee (HUMC) members). The targeted number of service delivery key informants was 468 – two from each health facility. The chairperson of the HUMC, a committee member and the head of the health facility were included at service delivery level. The target number for central-level key informants was 45, of who three were from each of the district governments and 15 from various organizations at the central level.

Instruments and data management

Five tools were used to collect relevant data for the study. The client satisfaction survey and stock monitoring and citizens' empowerment tools were mainly quantitative, while the focus group discussion guides and key informant interview guides were exclusively qualitative. (See Annex X for a copy of the tools used).

A participatory process involving members of MeTA and other stakeholders, supported by a statistician, was used to design and validate data collection instruments. The citizens' empowerment tool and the client satisfaction tool contained both closed and open-ended questions, while the key informant and focus group discussion guides had open-ended questions only.

In each district, five research assistants conversant in the local language and with good understanding of English were selected to assist in the data collection. All data collectors were given comprehensive training covering the rationale, scope and objectives of the study, its design and protocol, and use of the various tools.

Data were analyzed using the Statistical Package for Social Scientists (SPSS) version 16.0. Questionnaires were sorted into districts. Data were captured using prepared templates with the help of trained data entry clerks. Qualitative data from key informants were coded and also entered into bespoke templates. Data from focus group discussions were organized and analyzed thematically. Analysis involved computing averages, percentages, frequencies, ratios, correlations and measures of association between the different variables.

To complement the traditional approach to data collection in the field and, in part, to validate the study findings, MeTA Uganda—in partnership with UNICEF, Uganda—conducted polls of citizens and health service providers using the innovative SMS-based U-Report and mTrac platforms respectively.

- Health service clients were polled via U-Report, a new mobile phone-based technology developed by UNICEF Uganda. Through a series of short questions sent by SMS, U-report enables citizens to provide real-time feedback from across Uganda, allowing for improved governance, accountability and transparency in health centers. The health service clients were asked three questions on complaints regarding service delivery at health facilities. (see Annex X for the survey questions)

- Health facility staff were polled through the government-led toll-free mTrac SMS hotline, which enables any community member to report health service-related issues, including stock-outs of essential drugs in hospitals. The health facility staff were asked to respond to four questions related to: (i) whether their facilities face challenges in supply, storage and distribution of medicines; (ii) recent (within the last two years) training in supply, storage and distribution of medicines; (iii) support in form of information from MOH, NMS, JMS, SURE, NDA before procuring medicines; (iv) support supervision visits from DHT, NMS, JMS, MOH.

Ethical considerations

Each district team delivered a letter of introduction to the district health office seeking permission to carry out the study. All data collectors followed administrative instructions at all times when in the field. The Local Council Chairpersons for the respective villages were informed in advance about the home visits. At the health facility, the data collectors delivered a copy of the letter of authority from the district health office to the facility head and explained the study rationale. Data collectors also explained the rationale and obtained verbal consent before proceeding with interviews or group discussions. Interviews were conducted only with consent from the respondents. Patients who reported their age as below 16 years or who appeared to be in distress were excluded from exit interviews. In households, those below 18 years old were not interviewed. Interviews at households were conducted in the open, to avoid any misunderstanding over intentions.

Measurement of variables

Citizen Empowerment: A number of indicators (such as access to information and level of activity in community organizations) were considered for measurement of citizen empowerment. However, the proportion of respondents who have ever made a complaint about poor services was taken as the *outcome* indicator of empowerment. This was on the basis of widespread patient dissatisfaction with poor services at health facilities, and on the understanding that an empowered citizen would take action on any issue considered important (Czuba and Page, 2006) .

In the context of Uganda, there are several channels through which citizens, even in rural communities, can a lodge complaint. While there are many instances where complaints are not addressed by the health system, thus creating a disincentive for expressing user grievances, it is also recognized that the failure to fully exploit the existing channels of grievance mechanisms could also be an indication of citizen disempowerment (including lack of information).

Client Satisfaction: Client satisfaction was measured on the basis of: (i) time taken to be attended to; (ii) time taken to get medicine; (iii) attitude of the prescriber; (iv) attitude of the dispenser; (v) attitude of other staff; (vi) complaints handling; (vii) laboratory services; (viii) other services. Satisfaction levels were initially elicited on a scale and later quantitatively transformed into a single value (high=2, medium=1, low=minus 1 and no comment=0).

Availability of Medicines: The availability of medicines was measured on the basis of: (i) the six tracer medicines identified by the Ministry of Health as an indicator of the availability of medicines and; (ii) selected essential medicines. The researchers also measured the availability of selected laboratory items and medical sundries. Medicines out of stock were assigned a score of zero, while those in stock were assigned a score of one.

Study results

The sample for the study consisted of 10 districts, 200 households, 202 health facilities, 3,040 patients, 180 focus group participants, 485 service delivery key informants and 39 policy-level key informants.

Achievement rates were 100 percent for districts and households, and 86 percent, 87 percent, 95 percent and 90 percent respectively for health facilities, patients, service delivery key informants and policy-level key informants. The type of facility assessed according to level of care was 34.6 percent, 38.5 percent, 14.5 percent, 10.3 percent and 2.2 percent for Health Centers II, III, IV, general hospitals and referral hospitals respectively. The achievement rate for client interviews at facilities was hampered by irregular opening and closing hours.

At the time of data collection, some health facilities in the Ministry of Health master health facility directory of 2012 were not in existence, while others were operating seasonally or closed for renovation. Some of the lower-level health facilities opened late and closed early.

Characteristics of key informants

The mean age of respondents was 33 years old, with just over half aged 30 or below and less than one percent above 75. Seventy-four percent of respondents were female. This demographic is typical, given that, in general, women are more likely to use healthcare services than men, and also given that—at the lower levels of care especially—most outpatients were seeking antenatal or postnatal care.

Table 1: Socio-economic characteristics of household and health facility respondents

Socio-economic characteristic		Exit interviews		Household interviews	
		Score	n	Score	n
Age	Mean age	33	3040	39	200
Gender	Male	26%	3040	42%	200
	Female	74%		58%	
Marriage	Married	73.5%	3040	72.8%	200
	Single	15.1%		11.8%	
	Widowed	5.6%		10.1%	
	Divorced	4.5%		5.3%	
	Other	1.3%		0%	
Dependents	Mean number	5	3040	5	200
Income sources	sale of farm produce		3040	54.3%	200
	Petty trading			22.8%	
	Other			14.9%	
	None			8%	
Monthly income	Up to 100,000 shillings (US$40)	70%	3040	60%	200
Household status	Wife	59.5%	2896	51.1%	200
	Husband	20.5%		37.9%	
	Children	11.9%		7.7%	
	Other	8.1%		3.3%	
Education	None	15%	2975	14.1%	200
	Primary	54%		44.2%	
	Secondary	25%		28.1%	
	Tertiary	6%		13.6%	

Out of the 447 service-level key informants, health facility heads constituted 40.4 percent, other members of facility staff 15.6 percent, HUMC chairpersons 29.6 percent, HUMC members 18.8 percent, and others such as Village Health Team members 15.6 percent.

Among policy-level key informants, 64 percent were officers from local governments in the participating districts. Their direct supply chain experience ranged from 0 to 28 years, with a mean of nine (50 percent had up to five years' experience).

Access to and use of health services

The study results indicated that on average each respondent had sought treatment from the health facility 2.5 times a month in the preceding three months. The most common means of transport was walking, at 65.6 percent, followed by use of public transport (mini-bus and motorcycle taxi) at 23 percent. Personal methods of transport included bicycle and car, at 11.4 percent (n=3040). Fifty-six percent of respondents reported spending over 30 minutes travelling to health facilities. A significant percentage (27.8) reported having journeyed for over one hour.

More than 85 percent of clients spent an hour or more at the facility in order to obtain a prescription and medicines. In 60 percent of these cases, no reason for the delay was provided by health workers, although the respondents themselves tended to attribute it to the large number of patients, poor attitudes of health workers, too few members of staff, the lack of health workers' accommodation and the late opening and early closure of the facilities. For the patients who were given reasons by health workers, the blame was mainly on large numbers of patients in relation to the available staff, as well as late staff arrival.

The results show that 96 percent of clients had received free services on each of the previous three occasions on which they had visited the health facility. Clients indicated that informal payments (where the client was not given an official receipt, including bribes) were rare. Some clients reported making informal payments in areas such as dental and midwifery services.

Access to medicines is likely to be influenced by the availability of medicines at the facility's main store and dispensing point, health worker availability and attitude. Findings from the exit interviews and focus groups indicated that the average number of medicines prescribed to each patient was three. Exit interviews indicated that 95 percent of patients (n=3040) were prescribed at least one medicine on the day of the interview, with 98 percent of these expressing willingness to follow dosage instructions. At the dispensing point, 68 percent of patients (at all levels of facilities surveyed) received all prescribed medicines.

Of the 32 percent who did not receive all the medicines prescribed, most (72%) stated that they were unlikely to buy these medicines (because of the associated expenses of purchasing from a private supplier). Only 26 percent of those who did not get all the prescribed medicines said that they were going to buy them from an alternative source (such as a clinic or pharmacy). Only two percent said they were going to another government facility or would return to check if medicines were available. The low proportion of patients willing to visit other government facilities for the prescribed medicines could be attributable to the long distances between facilities (thus creating a disincentive to travel), as well as the perception that the medicines would not be available at other government facilities as well.

There was a significant number of referrals by health workers (mainly by nurses) to specific drug outlets (48 percent), mainly private clinics, for medicines not obtained from the health facility.

When asked whether they got to know when medicines are delivered to the health facility, almost 40 percent of exit interview clients said yes. The most common sources of information were health workers, HUMC members and local leaders, followed by other patients, seeing the truck, relatives and knowing the delivery schedule.

I. Client satisfaction

This study defines client satisfaction as the degree to which the services and products provided meet clients' expectations. The major drivers of client satisfaction are expectations regarding waiting time, health workers' attitudes and the availability of medicines. Clients' healthcare expectations are driven by need, understanding of the health system and the availability of transport to health facilities. These aspects are in turn influenced by clients' socio-economic status.

The level of satisfaction with services in public health facilities was rated at 47 percent using a weighted averageThis was based on the time taken to be attended to; time taken to get medicine; attitude of the prescriber (medical officer, clinician); ; attitude of the dispenser; attitude of other staff (nurse, midwives) ; complaint handling; laboratory services; and other services .. The levels of satisfaction on each of these variables were 50%; 56%; 71%; 56%; 46%; 29%, 35% and 30% respectively. The study results show that levels of satisfaction were lowest at Health Centers II (32 percent), although the availability of medicines was high at this level, at 80 percent. Regarding medicines availability, 75.6% of the exit patients reported that they were satisfied with availability of medicines. .

Fifty-eight percent of key informant interviewees indicated that long waiting times were the most common cause of dissatisfaction, while inadequate medicines were cited by 42 percent. Other challenges mentioned (but with low frequency) were rude staff, poor sanitation, staff absence on weekend and night shifts, some staff demanding money for treatment and, in extreme cases, facilities closing for a whole week or opening just for selected days.

Focus group discussions shed more light on the challenges faced by patients when seeking treatment, including the scarcity of health workers, long waiting times and stock-outs of medicines. Although payments have been abolished in public health facilities, informal payments were reported, especially in dentistry, laboratory services, orthopedics, radiology and obstetrics. In these categories, patients are enticed to pay through the apparent urgency of their need for the service. When health workers are not present for night duty at the facility, patients have to call them by cell phone. Comments included:

"When you come to the health center at night for treatment you have to give [cell phone] air-time to the watchman to call the health worker."

"Health workers report to work late because they live far away from the health center, because there is no accommodation."

Client satisfaction varied across districts: The nearer to Kampala, the higher patients' satisfaction with health services. There was also a very strong positive correlation between satisfaction and level of care facility (whether a Health Center II, III or IV, or a hospital). One explanation for this was the mismatch between clients' expectations and the actual services provided at the lower levels of care. Level II is designed for prevention rather than curative treatment, yet communities expect a whole range of treatment services. It could also be related to type of cadre, as most complaints about poor health worker attitudes were about nurses, who happen to be the predominant cadre at this level of care. Given that the availability of medicines was highest at level II (80 per cent), the low satisfaction registered at this level was related to factors other than the availability of medicines.

To improve service delivery, clients recommended the following: (i) provide more medicines and health workers; (ii) improve infrastructure; (iii) health workers should keep time (this could be aided by better supervision and the provision of staff housing closer to facilities); (iv) health workers should be courteous.

II. Availability of medicines

Availability was assessed using a tool that contained a list of medicines, medical sundries and laboratory supplies (See Annex X). These were selected from the Uganda 2012 essential medicines list, and included six tracer items. The review period for determining the days on which tracer medicines were out of stock was January to March 2013. Compliance with the delivery schedule was assessed with reference to the latest delivery from the National Medical Store (NMS).

The supply of medical goods to the public sector was centralized to NMS at the beginning of 2009. With government and donor funding, NMS operates the kit system of replenishment for Health Centers II and III, while hospitals and Health Centers IV 'pull' (i.e. request) their supplies. Yet only 76 percent (n=485) of key informants at facility level indicated that they acquire their medical supplies through NMS, while 87 percent indicated the source of funds for medical supplies to be the government. Regarding the responsibility for quantification, the key informants mentioned NMS (32.5 percent), MoH (22.5 percent), the facility head (22.1 percent) and the District Health Office (16.3 percent).

The availability of medicines was assessed at the point of bulk storage, which in most cases was the health facility's main store. The availability of vaccines and medicines for tuberculosis was assessed at the appropriate point of storage, such as the pharmacy, antenatal clinic or tuberculosis clinic. The assessment was carried out by reference to the stock card (showing the balance on hand) or vaccine control book, and physical verification of the item. In this exercise, the respondent was the head of the pharmacy store. Sundries, medicines and laboratory items were assessed separately. Tracer items were also assessed as a sub-category of medicines. These tracer items performed better than the entire range of essential medicines. Laboratory commodities were the most commonly lacking, while medical sundries were the most widely available.

The study found the availability of tracer medicines at 70 percent (slightly lower than the level of 79 percent reported at NMS), the availability of medicines in general at 63 percent, the availability of laboratory supplies at 54 percent and that of medical sundries at 75 percent. Although the availability of medicines was relatively high, the proportion of clients who did not receive all the prescribed medicines was also high, at 32 percent. The healthcare delivery system was characterized by irrational use of medicines, as manifested by the high average number of medicines prescribed per episode of illness. Availability of medicines was mainly affected by funding and the quantification and distribution approaches used. The quantity of medical supplies depended on the amount of money allocated to a health facility and as a result the facility could not receive beyond their allocation irrespective of the need. Lower level facilities under the push approach could only receive the quantities in the kit while the hospitals varied their quantities although within the confines of their allocation. Late delivery of supplies under the last mile affected availability of medicines in some cases but not to the same extent as that of funding and quantification (fig 1) .

Significant competence gaps existed at district level and service delivery points regarding key aspects of supply chain management, such as needs assessment, quantification, and procurement planning and implementation (see p15). Service delivery points also had poor storage facilities for medicines, and there were communication gaps between the health facilities and the district health offices on important supply chain issues, such stock status, expiries and redundant (unused) medicines.

Gaps in the supply of medicines were reported by key informants as due to deliveries comprising less of what was needed and more of what was not needed, delayed deliveries, the centrally-driven 'push' system of determining facilities' needs, medicines on a delivery note sometimes not being physically delivered, and stock-outs. Inappropriate planning, large catchment populations, irrational prescribing, theft and underfunding were given as the predominant factors leading to stock-outs at the health facility level. Just over 60 percent of respondents reported that money allocated for medicines was not enough, while 30 percent did not know whether this was the case. Suggestions for improving the situation included matching supply with dem and, allowing facilities to 'pull' in the supplies they need, increasing funding, timely ordering and close supply-chain supervision.

A number of offices and agencies (including the MoH and the National Drug Authority) were involved in monitoring supply chain activities. However there was no defined framework to guide supply chain activities such as needs assessment, procurement planning and implementation of plans. Respondents

also reported a lack of definitive method for needs assessment, although some indicated that this should be based on consumption. Needs assessment was also reported not to be based on demographic, morbidity or mortality data. Budgeting was reported to be a ceiling-based (allowing planning within limits), top-down process, ad hoc and affected by budget cuts and inadequate funding.

Fifty-two percent of the health facilities complied with the delivery schedule, that is, they received their supplies before the distribution deadline. Compliance with delivery schedules was lowest at Health Centers IV (13 per cent). On the contrary, the availability of medicines was quite high at this level (67 percent). Compliance with delivery schedules did not correlate with the availability of medicines, probably because deviations from the schedule were often not long in terms of days. (Table 2 and Figure 1 below provide additional details).

Table 2: Delivery schedule compliance (percentage) and availability of selected supplies across districts

	Delivery compliance	Sundries	Medicines	Lab supplies	Tracer medicines
Aggregate index	52	75	63	54	70

Figure 1:Delivery schedule compliance and availability of medicines

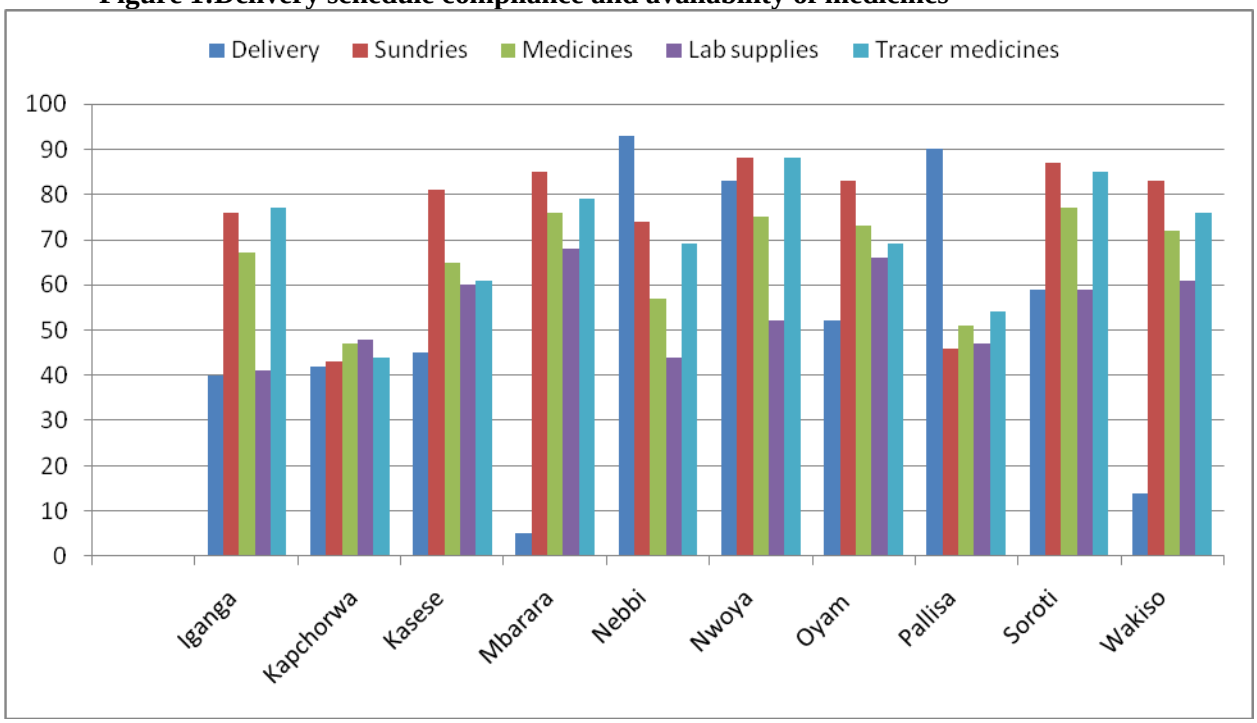


Figure 1 shows, for each district, from left to right : the level of compliance with the delivery schedule; availability of medical sundries, medicines, tracer medicines and laboratory supplies

Table 3: Delivery schedule compliance and availability of medicines by level of care

Level of care	Compliance with delivery schedule %	Availability of medicines %
Regional referral	50	67

hospital		
General hospital	67	64
Health Center IV	13	67
Health Center III	59	61
Health Center II	52	80

Although availability of medicines was high, a large number of key informants felt that the medicines at health facilities do not cover the entire spectrum of diseases from which patients are suffering. A lack of complementary services such as laboratory testing as a pre-condition for treatment could have contributed to this perception, probably because prescribers could not prescribe certain medicines without laboratory diagnosis. These experiences cause enormous concern, as inadequate or delayed treatment of communicable diseases results in higher chances of transmission.

III. Citizen Empowerment

This study adopted the definition of empowerment floated by Czuba and Page, 2006, as 'the process that fosters power in people for use in their own lives, their communities and their society, by acting on issues they define as important'. Study interviews at household level determined citizen empowerment on the basis of the proportion of citizens who had ever made a complaint to the authorities about poor services. Based on this criterion the aggregate level of citizen empowerment was 27 percent.

Table 4: District empowerment scores

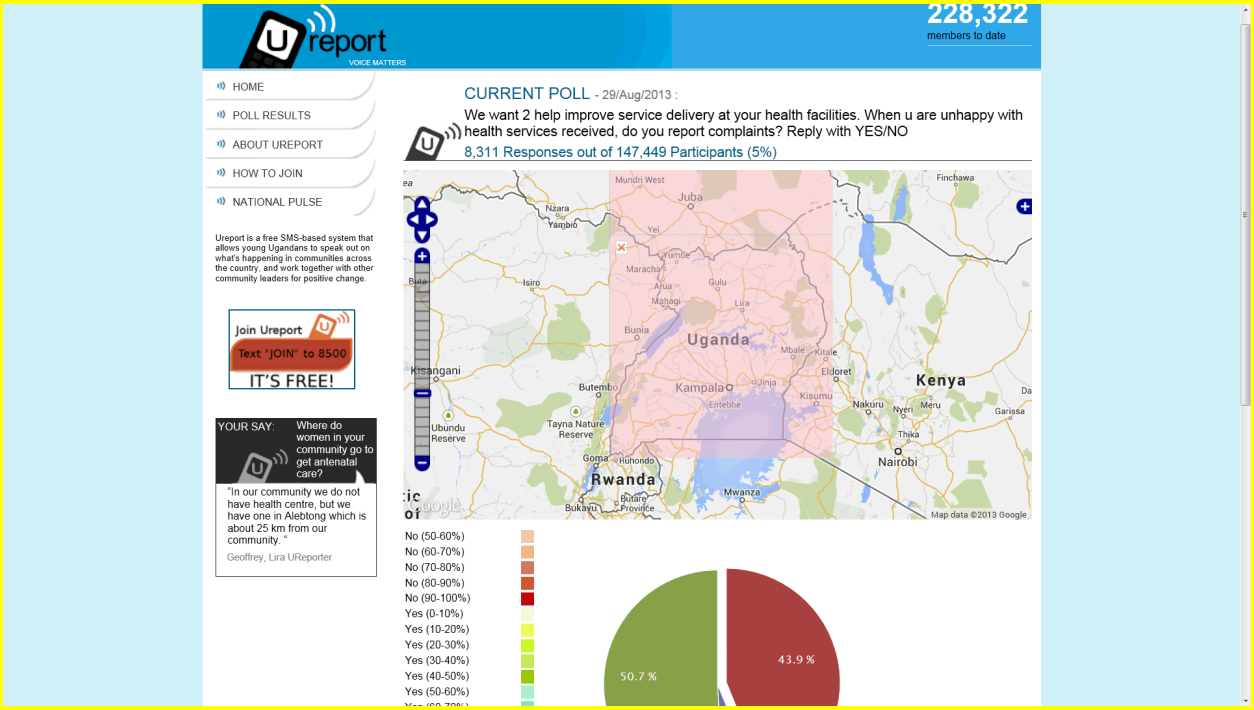
District	Citizen empowerment score	District	Citizen empowerment score
Iganga	25	Nwoya	28
Kapchorwa	29	Oyam	26
Kasese	28	Pallisa	22
Mbarara	33	Soroti	30
Nebbi	27	Wakiso	24

Nearly all the respondents (> 95%) had access to a mobile phone and pubic radio-the two most important means of information exchange in Uganda. Seventy-one percent of respondents said they knew their health rights, such as rights to accessibility, acceptability and availability of diagnosis and treatment—although there was no mention of health service quality. Sixty-seven percent said they knew the services they are entitled to at the nearest health facility (n=179). Only 25 percent had ever filed a request for information from the health facility, while 42 percent said that they would report to management or discuss with local leaders if services at the health facility were not provided as expected. The rest said they would do nothing (26 percent) or just seek care from another facility (32 percent) (n=156). Although, the perception exists that complaints about health services are widespread, evidence gathered from this study reveal thatonly 27 percent of respondents have actually made a complaint—at least once—through the formal channels for expressing grievances.

Results of the SMS-Based U-Report Poll

In September 2013, following a synthesis of the data collection in the ten districts, MeTA, Uganda partnered with UNICEF to validate some of the findings of the study through citizen feedback mechanisms, notably, the U-Report Platform. _U-Report equips mobile phone users with the tools to establish and enforce new standards of transparency and accountability in development programming and

services. The platform, through polls, allows users to share their observations and ideas on a wide range of issues through text messages.



In the context of this study, the U-ReportSMS polls shed greater light on clients' response to health services received at the facility level.

The first question asked on the platform was, '*When you are unhappy with health services received, do you report complaints?'* Of 16,117 respondents, 49 percent said they had reported complaints when unhappy with services at their health facilities, while 44 percent had not. This figure of 49 percent is almost twice the number of people recorded at the ten districts, who claimed to have filed complaints about poor service delivery. The discrepancy between the findings of the U-Report and those of this study is likely to be due to differences in socio-economic characteristics such as education, income, and residence. U-Report is a self-selecting group of citizens who are generally more likely to voice their about service delivery. They tend to be younger, better educated, and better organized. Hence, it is not surprising that this group of people would be more likely to report complaints that citizens in rural communities.

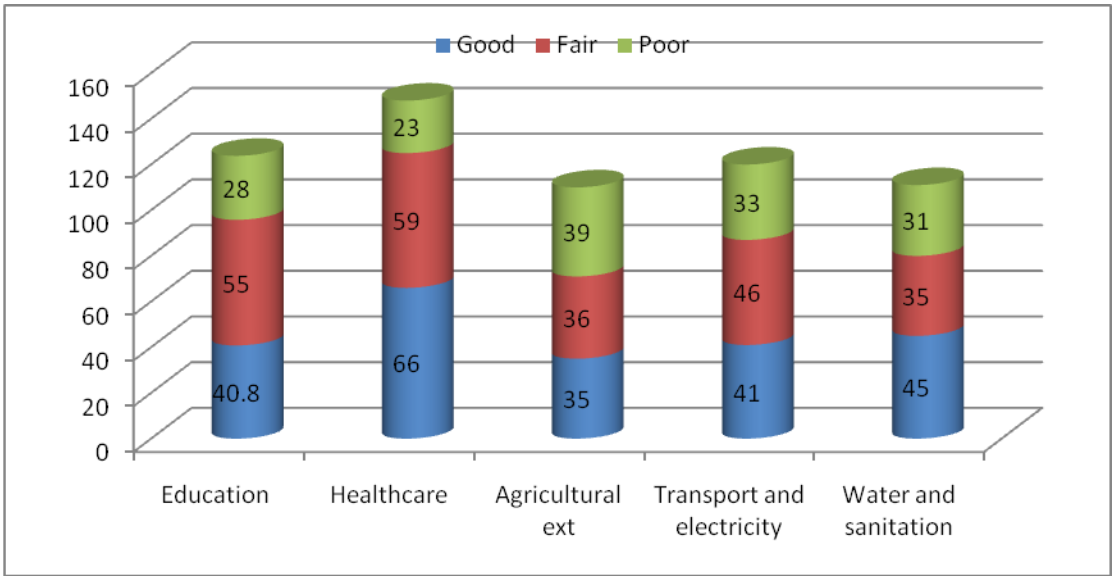
In a follow-up poll, those who had not reported complaints were asked to list their reasons. Of more than 2,400 respondents, 35 percent were unaware of or ignorant about reporting channels, while 33 percent had given up 'complaining' since they concluded that that 'nothing would be done' to address concerns and hence no need to report. Twelve percent had lost trust in the health system as 'no one cares' and 11 percent said the fear of repercussion prevented them from reporting. Comments included:

"When they [health workers] know you have reported them, next time they don't attend to you."
"No one bothers to listen and act on complaints."

Those who had reported that they did complain were asked to whom they report their complaints. Of almost 2,700 respondents, 47 percent report to local leaders, 21 percent to health workers, 19 percent to health inspectors, 3 percent through U-report's SMS platform and 2 percent to the police.

Due to the broad nature of health and its determinants, the study also assessed citizens' access to and participation in other government services. Regarding access to social services, only 20 percent of the respondents in the community reported that they were benefiting from the agricultural extension services provided by the government, while 80 percent reported benefitting from healthcare, 77 percent reported benefiting from education, 49 percent from transport and electricity, and 46 percent from water and sanitation services. Only 3.5 percent could identify additional services provided by the government to which they had limited access. Overall, citizens rated healthcare above other social services.

Figure 2: Rating of social services provided to communities



Supply chain and logistics challenges

Following the recent reforms in the supply of essential medicines, the process of procuring essential medicines is based on data from institutional records, such as stock cards, outpatient attendance registers and immunization charts. These are interpreted to estimate healthcare needs within a facility's catchment population. After identification of these needs, the district health team defines the constituents of the supply kits for Health Centers II and III and formulates procurement plans for the higher levels of care. NMS then uses this information to generate the national procurement and supply management plan.

This requires adequate competencies and resources at facility, district and distributor level. However, the study found supply chain competencies to be deficient at various points. Planning processes were not based on accurate dataand were felt to be largely top-down. At district level, officers were not conversant with higher-level supply chain activities such as planning, budgeting, procurement and monitoring. At the service delivery point, understanding of critical supply chain activities was very low. Through key informant interviews, a number of supply chain and logistics gaps were identified by the study team. These included: (i) quantification; (ii) distribution; (iii) storage; (iv) funding; (v) management support and information sharing; (vi) community involvement and (vii) civil society involvement.

(i) Quantification

Competencies for needs assessment and quantification were deficient, especially at the lower levels of care. This was the justification for initiation of the kit system. However, respondents at these levels of care blamed the kit system, which they described as a 'push' from the center, for the shortages and

expiries. A store keeper at a health facility reported: "*They send us medicines which we use less frequently in large quantities and the ones we use more frequently in small quantities*."

The key informant interviews revealed general lack of understanding of the principles for needs assessment and quantification, and a lack of understanding of how resupply quantities are determined at health facilities. A number of key informants were of the view that quantification should be based on consumption, while others were in favor of demographic, morbidity or mortality data as the basis.

Although districts play a fundamental role in the current procurement and supply management model for the public sector, lack of real-time data negated their effective contribution. The accuracy of facility data such as service statistics, average monthly consumption, losses and adjustments, and available stock is questionable given the challenges regarding stock cards.

One respondent reported: *"NMS facilitates an annual district procurement planning meeting and at this meeting, facility heads come with the relevant data or information in their minds.*" This means that real facility data is not used in formulating the procurement plan, with dire consequences for the district healthcare system, as the plan is used to define how much of each item should be supplied on each delivery. Some stakeholders thought that increased funding would solve the problem, while others believed improved planning and use could address the gap. However, it is not precisely clear as to what extent poor planning and irrational use of medicines contribute to the current gap in supplies.

A mismatch between the quantities of medicines supplied and the disease burden in the catchment population was identified as one of the major supply chain and logistics gaps. Some of the medicines supplied through the kit system were reported to be out of line with demographic and epidemiologic characteristics of certain catchment populations.

Eighty percent of the policy-level key informants were of the opinion that the medicines supplied to health facilities do not satisfy the needs of the population in terms of disease burden, while 95 percent stated that the medicines supplied were not adequate for the number of patients. The majority of the service-level informants (84.6 per cent) stated that medicines supplied to the health facilities did not cover all the diseases in the catchment population, and 82 percent stated that the medicines were not adequate for the number of patients seeking treatment from these facilities. The mismatch was mainly attributed to the kit-based supply system, although the kits were prepared with the participation of health facility heads. This mismatch was reported to lead to cascading effects of stock-outs, redundancy of medicines due to low or non-use, and the expiry of medicines at health facilities.

There were also reported mismatches between supply or procurement plans and actual consumption patterns at facilities. This was mainly attributed to abrupt changes in disease burdens and population migration, although there were also reports of inadequate knowledge and skills to forecast disease patterns.

(ii) Distribution

Distribution gaps were related to packing errors and issues such as delayed or unannounced deliveries. Delayed delivery and incomplete consignments were cited by service-level key informants as the main reasons for under-supply, at 31.6 percent and 14.2 percent respectively. These challenges were in line with the rate observed in this study of 50 percent compliance with delivery schedules to health facilities. Although the 'last mile' distribution model was applauded, there were reports of delayed, rushed and unannounced deliveries to health facilities by third-party transporters, making it difficult for recipients to verify stock before signing delivery documents. The third-party transporters making the deliveries were also unable to provide information apart from the routine delivery notes to be signed by the health facility head.

(iii) Storage

While storage practice was reported as good at the NMS, direct observations by the data collection team and reports from key informants indicated that storage practices at facility level were extremely poor. Congestion and dilapidation characterized a number of storage facilities and dispensaries. In almost all facilities, medicines management was below expectation in the areas of storage, prescription, dispensing and stock management. Filing of stock cards was poor, making retrieval a great challenge. This compromises the use of data from stock cards for quantification or any other logistics function, such as monitoring stock status, expiry dates and consumption status.

Health facilities lack adequate infrastructure for proper handling and storage of medicines. In many cases, rooms not initially designed for the bulk storage of medicines are used without appropriate adaptation. This not only creates difficulties for inventory control, but also exposes the medicines to adverse conditions such as heat, moisture and light. Under good storage practice, medicines should be kept in such a way as to allow free circulation of air, with adequate space between each individual pack, as well as sufficient distance between packs and the floor. The interior surfaces should be clean and free of insects and other pests such as spiders, rats, bats and birds. Under circumstances of congestion, as in many of the storage facilities visited such as Iganga hospital and Kapchorwa hospital medicines can deteriorate rapidly, causing them to expire before their assigned shelf life. [INSERT PHOTO OF STORAGE].

(iv) Funding

Inadequate funding was reported by both service- and policy-level key informants as the most outstanding supply chain and logistics gap. (However, although NMS indicates the cost of supplies in documents accompanying deliveries, heads of health facilities did not routinely check this part of the document and as a result did not effectively monitor their financial balances.) Overall 61.6 percent of key informants reported that money allocated for medicines was not enough. Apart from the direct effect on the quantities of medicines, the shortage in funds was reported to have negative knock-on effects on other supply chain and logistics functions, such as supervision, training and communication.

(v) Management support and information sharing

Management support in terms of supervision and information processing and sharing was identified by key informants as a major obstacle to the delivery of quality care and effective planning of supplies. The information flow between NMS, MoH and health facilities was not up-to-date, resulting in miscommunication. Inadequate experience in supply chains and logistics was apparent from the findings, which showed that overall 48 percent of the policy key informants rated their understanding of the supply chain as high, 38 percent as medium and 14 percent as low (n=39). The findings also showed evidence of a low emphasis on management support functions, as shown by the large number of key actors in the supply chain involved in distribution, procurement and storage (69 percent), leaving only a small number to carry out monitoring, supervision, training and coordination. Inadequate management support through planning, monitoring and training was cited by 70 percent of key informants as a direct cause of stock-outs at health facilities.

The paucity of the necessary supply chain skills and competencies, especially at the lower levels of care, is made worse by the numbers of health workers obliged to work in multiple capacities as clinicians, human resource managers, administrators, health educators and facility managers. More often than not, these roles are not undertaken with equal effectiveness and usually the clinical role predominates. Staff suffer multiple or fragmented support supervision systems, with a focus mainly on clinical aspects rather than managerial, administrative and emotional aspects of work. Inappropriate support supervision appeared to be related to organization, rather than shortage of funds, and could be responsible for a number of other deficiencies observed in the study, such as rude staff, absenteeism and poor timekeeping.

(vi) Community involvement

Community participation in the planning and delivery of health services is widely recognized as vital to achieving sustainability (World Health Organization, 1978). However, this requires specifically designed systems to mobilize and engage the community actively on issues regarding health.

Through focus group discussions and key informant interviews, it was apparent that neither community members nor health workers could articulate mechanisms or systems for engaging communities in enhancing health service delivery. Only 28 percent of service-level respondents said the community should be involved in monitoring service delivery at health facilities, in order to promote transparency and accountability, facilitate feedback, increase access to services and build trust between communities and health workers. Those opposed to community involvement cited lack of knowledge about diseases and selfish intentions among community members as their reasons.

The planning stage was stated as the most relevant for community involvement. However, mechanisms for involving the community were not apparent to the key informants. The lukewarm relationship between citizens and service providers was underscored by the fact that only 48.7 percent of the service-level key informants perceived that patients fully appreciated the services provided at health facilities.

Although channels exist to enable communities to interact with health facilities—such as local leaders, village health teams (VHTs)[2] and Health Unit Management Committees (HUMCs)[3]—focus group discussions revealed a certain degree of animosity between the committees and the health facility administration in some cases. Proponents of community involvement asserted that the community can be useful in monitoring, identifying disease outbreaks, and promoting transparency, accountability and goodwill, while those opposed indicated that community members lack technical understanding of supply chain-related issues. Although VHTs and HUMCs were expected to serve as links between the community and health facilities, poor facilitation and motivation from government were of great concern. The relationship between the community and the administration of health facilities is often dogged with mistrust and accusation. Each health facility is supposed to have an HUMC or similar body, performing oversight functions. However from the study it was observed that these committees were either in limbo or poorly facilitated. The study indicated that HUMCs are not operating as expected, with no clear terms of reference, budgets or work plan. Their reputation suffers from communities' negative perception of health workers, while the poor relationship between HUMCs and health facility administrations could be a result of inadequate sensitization about roles, responsibilities and accountabilities for either party. One committee member stated: "*Here we are referred to as dogs sniffing for faults, although the relationship between the health facility administration and HUMC should be mutually beneficial*."

(vii) Civil society involvement

A number of key informants at policy level (31.5 percent, n=39) did not know the role of civil society[4] in the supply chain. Those who did know reported Civil Society Organization (CSO) roles as highlighting

[2] The village health team (VHT) is a voluntary service initiative where some members are selected from each village and trained to deliver a range of predefined preventive and curative services. The VHT approach is one of the ways of increasing community participation in health facility management, alongside the Health Unit Management Committee (HUMC).

[3] The HUMC is a facility-based structure responsible for providing guidance to the facility administration and management and ensuring that resources at the facility are properly kept and accounted for. The HUMC is also supposed to be a link between the community and health facility. HUMC members are elected from communities by community members.

[4] Civil Society is defined by the World Bank Group (2011) as a wide of array of organizations such as community groups, non-governmental organizations (NGOs), labor unions, indigenous groups, charitable organizations, faith-based organizations, professional associations and foundations with the ultimate objective of improving social services in the community.

stock-outs, acting as watchdog, monitoring, planning, procurement, advocacy and funding. Forty-two percent of those who knew the role of CSOs were in favor of deeper and wider CSO involvement. There was however one fundamental concern regarding CSOs involvement: the technical capacity to understand and monitor the supply chain

The key finding in relation to civil society involvement was the lack of specific mechanisms and effort by different stakeholders to involve CSOs in the supply chain and service delivery in general. Given the understanding that CSOs are representatives of the public interest and strategic partners in the design, operation and use of the healthcare system, it is imperative to put in place mechanisms for civil society involvement in the entire procurement and supply chain for medicines in particular, and service delivery in general.

Results of the mTrac polls on supply chain challenges

Based on the study findings, follow-up polls of health workers across Uganda, conducted through the UNICEF mTrac SMS reporting mechanism, confirmed and clarified some of the issues raised regarding the supply chain.

Table 5: Results of the mTrac follow-up polls on supply chain challenges

Question	Yes %	No%	Total respondents
Do you face challenges in procurement, storage and distribution of medicines?	56	38	1,886
Have staff at the health facility been trained in the supply of medicines in the last two years?	14	83	2,229
Did any drug supply stakeholder like DHT, NMS, JMS or MoH visit you to find out challenges and experiences at your health center?	60	39	2,128
Do you find these visits useful? If no, tell us why.	94	5	2,255
Do you obtain information or support from MoH, JMS, NMS, or SURE before procuring medicines?	53	43	1,697

Problems in the supply, storage and distribution of drugs included small, leaky or infested storage facilities, and the length of time between stock-outs occurring and the next delivery. "*The push system causes some drugs to be over-stocked while others are out of stock*," said one respondent, while another said "*Sometimes we don't receive what we request, and vice versa*." Although most health center respondents found visits from stakeholders such as MoH, NMS and JMS useful, the 5 percent who did not mostly claimed that this was because the visits never resulted in their problems being addressed.

Respondents were also asked what possible solutions they thought could reduce drug expiry and stock-outs at their health facility. A majority (51 percent) suggested use of the pull system, so that health workers have the opportunity to order the drugs needed at their health centers. Comments included: "*Using the pull system, as we know which drugs are more utilized according to the disease burden in the*

catchment area." Eleven percent suggested that relevant stakeholders should monitor health workers regularly and encourage them to update records of drug availability and expiry dates on an ongoing basis. "*The district should put in place a drugs monitoring team to visit the health units quarterly*," suggested one respondent. Nine percent of respondents thought that it was up to relevant stakeholders to supply drugs on time. Health workers should always dispense drugs with the earliest expiry dates before using new stock, said 7 percent (the 'first in, first out' method). Six percent advocated the redistribution system, under which medicines soon to expire are collected from health centers for reallocation to other centers in need.

Further possible solutions included giving all health facilities a supplementary budget to buy their own drugs from local pharmacies or a competitive supplier other than NMS, and improving public heath activities to reduce the incidence of disease.

Discussion of study findings

I. Client satisfaction

Focusing on facility-based experiences among outpatients to assess client satisfaction, the study found the level of satisfaction was generally low across the participating districts, at 47 percent—much lower than was expected given the high availability of medicines. Satisfaction levels might be even lower than this if allowance is made for clients' low expectations, therefore the level reported in this study should be placed into perspective. In a number of cases, clients tended to justify provider behavior as a result of circumstances beyond the provider's control.

These observations suggest the existence of other factors that not only affect client satisfaction, but also influence their expectations. Such factors include long waiting times and inadequate availability of medicines. Some of these factors have been known for decades, but efforts to ameliorate them have been unsuccessful. There have been attempts to address the issue of long waiting times by recruiting more health workers, but these were compromised by a failure to decongest health facilities through effective referral systems. Another challenge was that most lower-level health facilities in rural areas open late and close early, thus exacerbating congestion. Village health teams are designed to introduce an additional level of care closer to the community

, in order to further decongest health facilities. However, the concept has not become universal and, where in existence, factors such as poor staff supervision and low motivation compromise its effectiveness.

As healthcare is a social service involving interactions between clients and service providers, each with different expectations, grievances are likely to emerge during the process of seeking and providing that care. Satisfaction with the available mechanisms for handling complaints against poor quality services was very low. In some cases, clients were not aware of any complaint handling mechanisms. Fear of retaliation from health workers discouraged many who would have attempted to report cases of poor quality service or mistreatment.

Staff supervision is necessary to ensure quality care. A number of respondents indicated that inadequate supervision appeared to encourage anomalous behavior among service providers. Internal supervision was not carried out effectively, while external supervision was reported to be an exercise in financial accountability and justification of expenditure. There was little commitment to supervision, and accountability mechanisms were not adequate to ensure effectiveness. Judging from key informants' responses, there is no harmonized approach for supervision, making it challenging to develop standards. Types of supervision cited included the Supervision Performance and Recognition Strategy (SPARS), internal and external supervision, and focal-person, investigative or supportive supervision. However, without a harmonized strategy and systematic guidelines, supervision can achieve little.

II. Availability of medicines

The study found the availability of medicines to be higher than the level of client satisfaction, although it also varied across districts. The availability of medicines reflected recent reforms in the supply and distribution of medicines and related commodities to the public health sector. However, a number of challenges compromised the full benefit of these reforms, with reports of shortages, expiries and redundant medicines that went unused.

The fact that laboratory supplies were generally less commonly available than medicines and medical sundries has implications for the rational use of medicines by prescribers, leaving them either to prescribe based on symptoms and signs, or to refer patients. The first scenario can result in excessive prescription of antibiotics and anti-malarials, leading to acute shortages. Although in the short run, clients appreciate this practice, challenges such as drug resistance resulting from indiscriminate use of antimicrobials soon set in. However, referral of patients with infections that could be managed at the lower level can severely affect client satisfaction and confidence in the health system, because patients often have to travel long distances to the referred site, where they face overcrowding and long waiting times.

The study also identified challenges regarding quantification of medicines (covering forecasting and supply planning). In the majority of instances, quantification was based on the available budget, rather than on the basis of disease burden, although the latter is required to optimize use of resources. Supply planning (which requires staggering the delivery of supplies to match consumption over time) was also reported to be a challenge. Based on the responses from key informants, the two-monthly kit replenishment system for lower-level facilities was rigid and did not take into consideration fluctuations in disease patterns and population. Support from district health teams on the issue was lacking, as in most cases critical stock status information was not communicated to the district in a timely manner by facilities, resulting in the accumulation of unwanted stock and the expiry of certain commodities, as well as shortages and stock-outs.

The distribution of supplies was also identified as a challenge affecting the availability of medicines and related items at facility level. The limitations of the 'last mile' delivery model (such as rushed or delayed deliveries) could be reduced by clear terms of reference for third-party transporters, coupled with mechanisms for verifying their performance. Storage infrastructure was generally poor at health facilities, especially with respect to space. This is a typical challenge with the fixed-quantity order approach, which does not take into consideration the available storage space at facilities.

The effect of increased government funding for health commodities was apparent in the increased availability of medicines at health facilities. However certain challenges remain, especially inflexibility and matching the budget with priority diseases. From the study findings, funding appeared to be specific to product, facility and time, especially for the lower-level facilities, which made it very difficult for some to absorb their funds or adjust supply requirements. This caused frustration for some facilities, as they could receive relatively large numbers of items not immediately needed and fewer of those required urgently.

Due to the highly skilled and labor-intensive nature of supply chain management and logistics, high-level management support is required for efficiency and effectiveness. However, the sheer shortage of supply chain experience among key decision-makers meant that high-level management support was generally not available. Information processing and sharing, as well as communication, were therefore carried out inadequately. This affected all the facility-based logistics activities.

III. Citizens' empowerment

On the whole, citizens' empowerment was low (27 percent) as measured by the proportion of citizens who lodged complaints about poor service delivery,, although this also varied across districts. This was

attributed to citizens' limited capacity to use redress mechanisms, which are important for ensuring that service providers maintain high levels of commitment to reliable and quality services.

. According to the findings of the current study, citizens' theoretical desire to participate in service delivery is high, but their actual willingness to do so is low. The barriers to empowerment appear to be related to fear of repercussions from service providers (such as denial of treatment or general threats), low receptivity among providers to citizens' participation, lack of information about existing grievance mechanisms, poor social accountability mechanisms, and low willingness among service providers to be accountable to citizens.

Avenues to enhance citizens' participation such as the VHTs and HUMCs were not fully functional. From the study it became apparent that the committees and the health teams were not linking the community with the service providers effectively.

Conclusion

The relationships between client satisfaction, the availability of medicines and citizen empowerment

The study provided an opportunity for several players to work together under MeTA. By bringing on board the Ministry of Health (Pharmacy division), drug procurement and supply organizations (NMS and JMS), and civil society, the collaboration brought credibility to the study and acceptability to its findings. This collaboration should accelerate translation of the research findings into interventions.

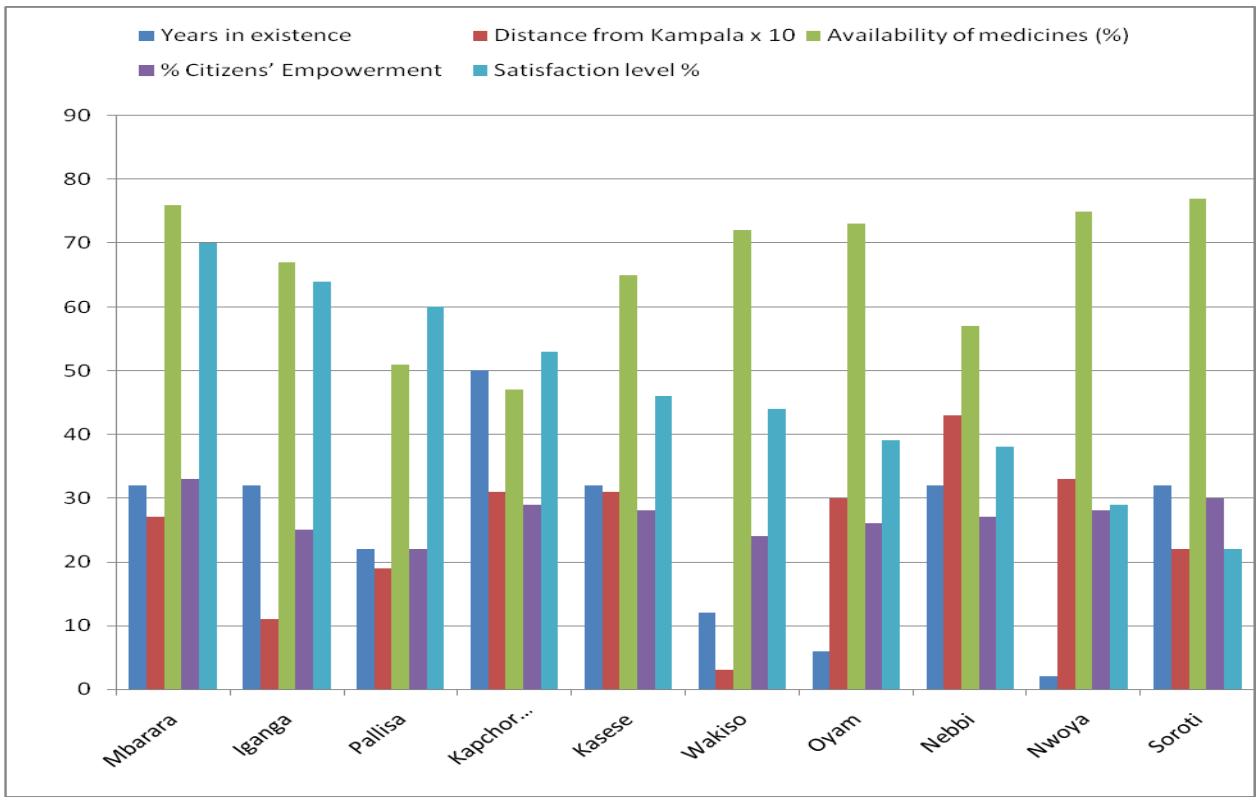
Although client satisfaction is usually a difficult construct to understand and measure, the study reveals complex relationships between satisfaction, the availability of medicines and citizen empowerment (see Annex 4). It found that client satisfaction varied according to both district and level of care facility. Satisfaction was lowest at Health Centers II, increasing through levels of care to its highest at referral hospitals. There was also a positive correlation between the availability of medicines and level of care facility. However, overall, a mildly negative correlation existed between client satisfaction and the availability of medicines. The availability of medicines was much higher than client satisfaction at lower-level health centers, suggesting that other factors—such as long waiting times and the attitude of health workers—were responsible for dissatisfaction. This could be due to the fact that the recent reforms in the supply chain arena have focused more on the pharmaceutical product than the other components such as human resources and information.

The variation in client satisfaction across districts was investigated against aspects such as years of existence of a district, distance from Kampala and density of population served. The findings indicate a fairly strong negative correlation between the age of a district and the availability of medicines: Younger districts have better stocks of medicine than older ones. This could be related to population size, given that budgetary allocations are based on level of care facility, and not on population density in the catchment area. There was a lower level of satisfaction in newer districts, most likely due to less developed managerial and administrative structures, and inadequate capacity to attract and retain human resources. The closer to Kampala a district was, the higher its levels of client satisfaction. Districts nearer Kampala also have better stocks of medicine than those further away. There is no clear explanation for this, but it could be due to ease of access for deliveries, easier staff recruitment or better stock management.

Table 6: Age of district and distance from Kampala, together with the three variables

District	Years in existence	Distance from Kampala x 10	Availability of medicines (%)	% Citizens' Empowerment	Satisfaction level %
Mbarara	32	27	76	33	70
Iganga	32	11	67	25	64
Pallisa	22	19	51	22	60
Kapchorwa	50	31	47	29	53
Kasese	32	31	65	28	46
Wakiso	12	3	72	24	44
Oyam	6	30	73	26	39
Nebbi	32	43	57	27	38
Nwoya	2	33	75	28	29
Soroti	32	22	77	30	22

District	Years in existence	Distance from Kampala	Availability of medicines (%)	% Citizens' Empowerment	Satisfaction level %
Iganga	32	110	67	25	64
Kapchorwa	50	310	47	29	53
Kasese	32	310	65	28	46
Mbarara	32	270	76	33	70
Nebbi	32	430	57	27	38
Nwoya	2	330	75	28	29
Oyam	6	300	73	26	39
Pallisa	22	190	51	22	60
Soroti	32	220	77	30	22
Wakiso	12	30	72	24	44



The study also investigated reporting or lodging of complaints about poor service delivery (a measure of empowerment used in this study) in relation to client satisfaction. Although clients expressed deep concerns about a number of challenges experienced in the process of seeking healthcare, they seemed rather complacent about the situation. This could be attributed to low or adjusted expectations, the lack of alternatives or a lack of confidence in redress mechanisms. Citizens' empowerment and availability of medicines did appear to have positive correlation On the contrary, there was no correlation between reporting/lodging of complaints and client satisfaction. This could be attributed to absence of harmonised or institutionalized approach to handling complaints by facilities in different districts. It could also due to the channels used in reporting or lodging complaints. This is because for the reporring to elicit the desired response, the right people should receive the right information and have the incentive to use the report for purposes of improving service delivery.

The findings in this study raise a number of issues requiring administrative, operational and policy interventions. Administratively, dialogue between communities and civil society on the one hand and service providers on the other should be fostered, nurtured and facilitated. Operationally, there should be adequate mechanisms to involve communities in monitoring service delivery facilitated by civil society with the latter also taking on additional roles in the supply chain as per mandate and competences of the various CSOs. . In terms of policy the functionality of health unit management committees (HUMCs) needs to be reviewed and strengthened, and quality improvement projects initiated withing health facilities. . The complex relationships revealed by the study also indicate numerous steps stakeholders can take, individually and together, to improve the quality of healthcare service delivery in Uganda and increase levels of client satisfaction, the availability of medicines and citizen's empowerment.

Recommendations for target stakeholders

CSOs

- Build citizens' capacity to demand and monitor service delivery:
    - **Strengthen** the local governance structures particularly the HUMC, the Hospital Boards, and the District Health to better understand and perform their roles, responsibilities and ensure accountability.
    -
    - **Reconstitute** and train all HUMCs and hospital boards so that they can represent citizens' interests effectively and communicate to them health facilities' services and operations
    - Review redress and complaint-handling mechanisms to ascertain what is currently offered to the public, what works well, what does not, what is missing and what should be available. The review should highlight improvements needed and how they can be integrated into health facility operations.Provide VHTs with transport and means of communication to enable them to offer treatment where possible, coordinate referral of patients at community level, disseminate information rapidly to citizens and collect vital data.

- Promote transparency and systems that recognize participation, to incentivize citizens to take part actively in social and community health programs such as Savings and Credit Cooperatives (SACCOS), societies and associations, and mass immunization campaigns.

District Health Team

- Monitor stock status at facilities to trigger, facilitate and inform stock transfers between facilities or back to NMS for wider redistribution. If necessary, stock monitoring could also inform modification of facility supply plans.
    - Facilities to review stock status weekly
    - Stock status report to be submitted by lower-level facilities to health sub-district every two weeks
    - Health sub-districts to submit monthly stock status to district
    - Districts to review stock status reports quarterly and compile district stock status report
    - Districts submit stock status reports to NMS semi-annually.

Ministry of Health

- MoH with partners to develop tools for continuous monitoring of clients' satisfaction in all health centres across the country.
- Build capacity for the quantification and management of health supplies (including reviews of infrastructure, needs assessment, storage, prescription, dispensing, redistribution and use of medication).
    - Step up technical and political supervision at all levels
    - Train district health officers, medical superintendents and those in charge of health sub-districts to reconcile budget with quantities, prepare procurement plans and use the 'Vital, Essential, Necessary' system for classifying medicines
    - Develop contingency plans such as borrowing, transfers, redistribution and exchange at district level to address emerging stock status problems, including shortages and expiries
    - Train or retrain all health facility staff directly involved in quantification of medicines
    - Review the current service provider support supervision strategy and the resources allocated to supervision at national and local government levels, with special focus on procurement, storage and distribution of medicines
    - Review the mandate and operations of HUMCs to enable committee members to regulate and monitor health facility operations

- Along with local governments, review health facility complaint mechanisms and quality improvement plans
- Work with the Ministry of Finance for allocation of specific budgets for procurement of laboratory supplies at national level.

NMS

- Propose and pursue necessary amendments to the rules and regulations in the Public Procurement and Disposal of Assets Act, to enable NMS to use local partner agencies for procurement
- Increase the number of NMS delivery vehicles, so as to reduce hasty delivery and give facilities ample time to verify receipts
- Increase storage capacity at NMS to accommodate the supply chain maximum stock for different programs (such as HIV/AIDS, malaria, TB, laboratory services, etc.)
- NMS and JMS should discuss and forge collaborative methods for cost-effective distribution and transportation
- Improve communication by NMS with health facilities and stakeholders on stock status, challenges and opportunities, so as to enable rapid interventions against gaps and problems.

MeTA

- Partner with the Ministry of Health to better mainstream the rights based approach in health service delivery through training of health workers.
- Use the dissemination workshop for this study as an opportunity for harmonisation and clarification of roles for major actors in supply chain: ministry of health; development partners; national medical store; district health office, Health Service Monitoring Unit, Public Procurement and Disposal of Assets and National Drug Authority.
- Review and update health literacy curriculum to include aspects of complaint handling mechanisms
- Conduct media campaigns to sensitise health consumers on complaint handling mechanisms including channels, escalation, and confidentiality.
- Facilitate the establishment of community score cards for monitoring service delivery.
- Set-up a subcommittee to continuously engage supply chain stakeholders on their commitments to improve service delivery
- Advocate for establishment of quality improvement committees at health facility level
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Annexes

Annex 1: Definitions

For the purpose of this study, the working definition of variables and related terms are as follows:

Clients: People who receive treatment, services or information from public health facilities.

Citizens: the Ugandan people, who are entitled to healthcare rights.

Citizen empowerment: The means extended to residents of a particular jurisdiction by their leaders to develop the capabilities needed to participate actively in decision-making processes that affect their lives, and to negotiate with and hold accountable the institutions concerned.

Social accountability: Institutional or organizational awareness of current and emerging social concerns and the priorities of communities, employees, governmental and non-governmental organizations, and business.

Satisfaction: The personal level of contentment with the quality of service provided.

Annex 2: Citizens' empowerment matrix

Empowerment component	Indicator	Percentage score (n=191)
Enabling environment	Radio, newspaper, television, local leader	95.5
	Mobile phone	100
	Access to information	73.4
	Accessibility of house	76
	Roads	50
	Travel to nearest town	83.3
	Know redress mechanism	16
Capacity	Reads a newspaper at least once a month	49.2
	Travels to nearest town	83.3
	Knows objectives of social group	97
	Groups meeting objectives	83
	Takes action when services are poor	42.3
	Mentions services provided but no access	3.5
	Knows redress mechanism	16
	Ever made a complaint	26.9
	Member of household ever made complaint	28
	Describes complaint	76.5
Information	Listens to radio daily	73.5
	Watches TV daily	27.9
	Knows health rights	71.9
	Knows services provided at HF	87
	Knows services entitled to	82.6
Participation	Member of at least one social group	64.3

	Affinity for group membership	94
	Ranks groups in order of importance	61
	Knows how leaders in each group are elected	61
	Has a lot of influence when choosing leaders	72.7
	Made recommendations	86%
Monitoring	Groups have influenced healthcare	69.8
	Knows whether group is effective	66.7
	Ever filed a complaint	26.9
	Takes action when services are poor	42.3
	Gets responses after complaint	48.6
	Mentions services used frequently	94
	Knows other services provided	3.5
	Describes complaint	76.5
	Were complaints addressed	49.2
	Followed up complaints	58.6
	Effectiveness of complaint handling	50
	Knows factors influencing handling of complaints	71.2
	Lists these factors	84

Annex 3: Baseline indicators

This table summarizes performance with respect to selected variables

Metric	**Score**
Client satisfaction	47%
Citizens' empowerment	27%
Availability of medicines	63%
Availability of laboratory supplies	54%
Availability of tracer medicines	70%
Proportion of patients given full course of medicines	68%
Proportion of facilities with stock-out of at least one item	25%
Proportion of patients who know the name of facility head	31%

Annex 4: Correlations between variables

Variable pair		**Factor**	**Interpretation**
Years in existence of district	Client satisfaction	0.37	Older districts registered higher client satisfaction
	The availability of medicines	-0.53	Younger districts registered higher availability of medicines
	Citizens' empowerment	0.48	Older districts registered higher citizens' empowerment
Distance of district from Kampala	Client satisfaction	-0.28	The nearer to Kampala, the higher the satisfaction
	The availability of	-0.22	The nearer to Kampala, the higher the

	medicines		availability of medicines
	Citizens' empowerment	0.44	Empowerment increased with distance from Kampala
The availability of medicines	Client satisfaction	-0.33	The higher the the availability of medicines, the lower the satisfaction
Citizens' empowerment	Client satisfaction	-0.01	No correlation between empowerment and client satisfaction
	The availability of medicines	0.24	The higher citizens' empowerment, the higher the availability of medicines
Level of care	Client satisfaction	0.83	The higher the level of care, the higher the satisfaction
	The availability of medicines	0.50	The higher the level of care, the higher the availability of medicines