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UGANDA'S APAC DISTRICT: CONTRACEPTIVE LOGISTICS SYSTEM ASSESSMENT AND ACTION PLAN COVERING THE LAST MILE TO ENSURE AVAILABILITY



NOVEMBER 2008

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UGANDA'S APAC DISTRICT: CONTRACEPTIVE LOGISTICS SYSTEM ASSESSMENT AND ACTION PLAN

COVERING THE LAST MILE TO ENSURE
AVAILABILITY

USAID | DELIVER PROJECT, Task Order 1

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Abstract

A successful health care program delivers consistent, high-quality, cost-effective services. A carefully planned, well-functioning logistics system can ensure a dependable supply of health care products for the clients who need them. When a health facility is fully stocked with a wide range of contraceptive methods and essential drugs, clients gain confidence in that facility and they are more likely to return. Women without reliable access to reproductive health care and commodities face an increased risk of birth complications, unintended or mistimed pregnancies, unsafe abortions, infectious diseases, and even death. A reliable, responsive logistics system makes the difference between a client consistently receiving the product he or she needs—condoms, vaccines, and other drugs—or a client walking away empty-handed. This report presents the findings of an assessment of Apac district's contraceptive supply chain and a short and long-term action plan to improve the contraceptive logistics system to ensure product availability in Apac district.

Cover photo: Apac district team work on the assessment at the Metropole Hotel in Kampala, Uganda, in October 2008.

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ACRONYMS

ADLG	Apac district local government
ANC	antenatal care
CBDs	community-based distributors
DHO	District Health Office
DHT	District Health Team
FEFO	first-to-expire, first-out
HC	health center
HIV	human immunodeficiency virus
HMIS	health management information systems
HSD	health subdistrict
IMR	infant mortality rate
IUD	intrauterine device
LMIS	logistics management information systems
LIAT	Logistics Indicators Assessment Tool
LSAT	Logistics System Assessment Tool
MMR	maternal mortality ratio
MR	mortality rate
MOH	Ministry of Health
N'TLP	National Tuberculosis and Leprosy Program
OPD	outpatient department
PEAP	Poverty Eradication Action Plan
PHC	primary health care
RH	reproductive health
SDP	service delivery point
TFR	total fertility rate
TOR	terms of reference
UNEPI	Uganda National Expanded Program on Immunization
UNICEF	United Nations Children's Fund
USAID	U.S. Agency for International Development

ACKNOWLEDGMENTS

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EXECUTIVE SUMMARY

The district of Apac partnered with the USAID | DELIVER PROJECT to assess the logistics system for managing contraceptives within its borders. Apac district is located in northern Uganda, bordered by the districts of Oyam towards the north, Lira in the northeast, Nakasongola in the south, and Masindi to the west. The district has a population of 447,217 which is approximately 49% male and 51% female. The district includes three counties, three constituencies/ health subdistricts (HSDs), fifteen subcounties, 81 Parishes, and 1093 villages.

Assessment teams studied the district’s contraceptive commodity management, carefully focusing on implementation of each element of the logistics cycle. This was accomplished through field facility visits and interviews, followed by joint discussions of findings among system participants. Based on these findings and discussions, teams participated in a workshop where a district action plan was developed to further strengthen the system.

Table I. Key Logistics Element Scores for Contraceptive Management in Apac District

Logistic Element Evaluated	Assessment score
I. Organization and Staffing	32.6%
II. Logistics Management Information System (LMIS)	35.2%
III. Obtaining Supplies/Procurement	30.8%
IV. Inventory Control Procedures	32.5%
V. Warehousing and Storage	60.7%
VI. Transport and Distribution	0%
VII. Organizational Support for Logistics System	54.5%
VIII. Product Use	87.5%
IX. Finance/Donor Coordination/RHCS Planning	14.3%

All public institutions offer family planning (FP) services to clients. Treatment guidelines have been developed and distributed to all units. Sixty community-based service providers were trained in three HSDs. Still, uptake remains low and additional sensitization is needed.

Through the assessment, it was noted that most personnel who manage stores and supplies in the district lack formal training in logistics. Stores management was not their primary role in the facilities and skills were acquired hands-on. Salaries for only a few logistics staffers in the district are covered within the district budget. All other logistics activities (e.g. transportation, waste management, LMIS, storage) are not supported by budget lines.

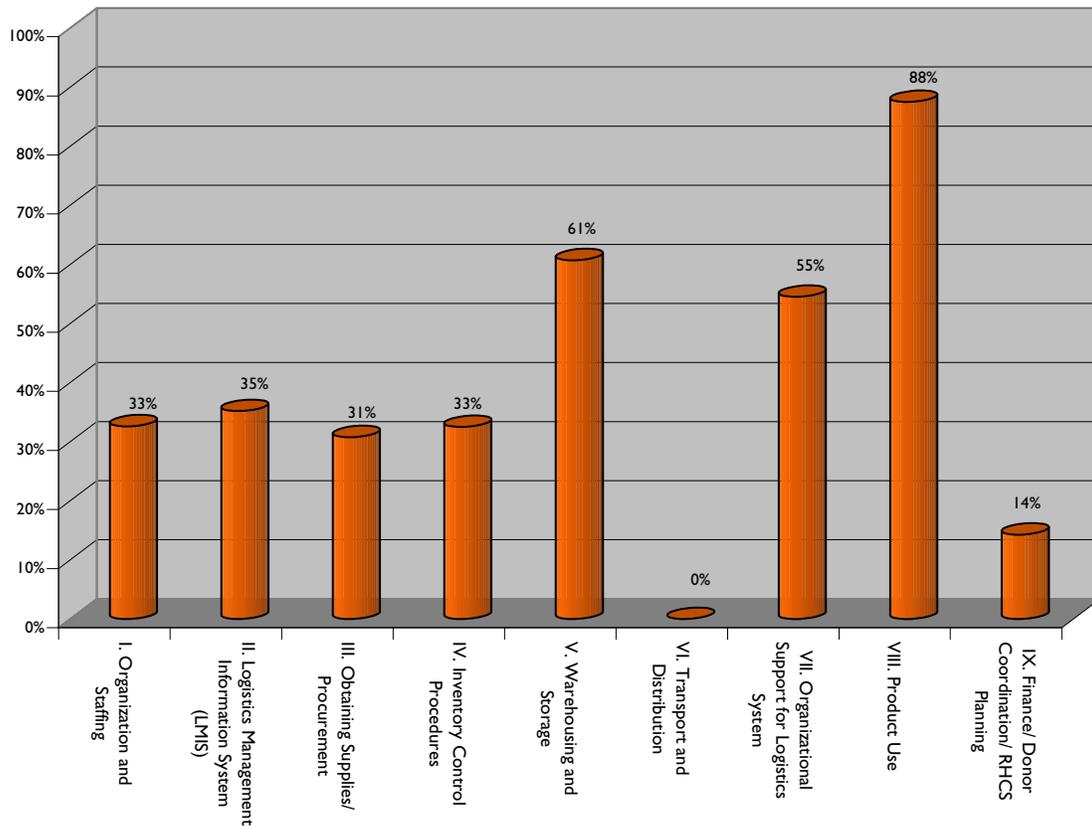
In the three months leading up to this assessment, all sites evaluated had received a supportive supervision visit, including attention to reproductive health (RH) aspects. However, logistics topics weren't covered sufficiently and further attention to logistics during supervision is needed. Although stock cards were in use in all facilities visited, most stock cards examined had not been updated. Forms such as HMIS 105 and 018 were on hand at facilities for reporting and ordering purposes; however, in many cases, LMIS forms weren't being completed at lower levels.

According to the order forms and delivery notes seen, facilities that ordered supplies had received their full order. The HSD prepared default orders for facilities that did not order, but a defined formula had not been set for determining order quantities. Minimum and maximum stock levels were set by the central level, but these were not being followed at the lower facilities.

The HSD is the main player in delivering supplies to the facilities. In some instances, however, facilities have had to travel to collect their supplies. Lower-level facilities lack transport means, making it difficult to collect their supplies as required. Once at facilities, commodities are stored in generally acceptable conditions, with facilities meeting 12 out of the 17 proper storage parameters on average. The most common storage concern was the lack of fire safety equipment and pallets.

Reproductive health utilization and corresponding logistics management in Apac district generally remains poor. Using assessment findings, the district created an action plan for improving the system. Actualizing this plan, coupled with continuous monitoring, can result in significantly-improved contraceptive availability for the people of Apac district.

Figure I. Contraceptive Logistics System Scores in Apac District



BACKGROUND

Apac district is located in northern part of Uganda, between longitudes 32⁰ East and 34⁰ East and latitudes 2⁰ North and 3⁰ North. It is bordered by Oyam in the North, Lira in the North East, Nakasongola in the South, and Masindi in the West. The district is comprised of 3 counties, 3 constituencies/ HSD, 15 Sub counties (inclusive of Apac town council), 81 parishes, and 1093 villages. Apac district has a population of 447,217,¹ approximately 49% male and 51% female.

The district's primary socioeconomic activity is subsistence farming. Other activities include fishing, small scale trading, rearing animals, and poultry keeping. Yields are typically poor due to lack of modern farming technology, yet over 95% of the local economy depends on agriculture, resulting in low household income.

The district includes 37 health facilities, including Apac hospital. The hospital is in a sorry state of disrepair; in July 2005, its renovation/rehabilitation was estimated at 4 billion Uganda shillings by engineers from MOH headquarters. Only 36 (45%) out of 83 parishes have health facilities. Inomo, Akalo and Bala Sub-counties have one health unit each while Ayer subcounty has no HC III. Physical access is limited to 37% of the population within 5 km radius of a health facility.

In terms of infrastructure, it should be noted that only 8 kilometers of road are constructed of tarmac, with remaining roads made of murrum which is poorly maintained. The national electricity grid supply is in place in Apac town council and Aduku town board; however, most areas of the district remain without national grid service. Water is not piped into the district except in a few limited areas in Apac town. Most health facilities are in remote areas without such utilities. Safe water coverage is estimated at 52%, with latrine coverage is at only 57% coverage. On the other hand, three mobile telephone systems are in place, including MTN, Mango and Celtel.

Many participants support health sector activities in Apac district. These include PHC, whose grant supports the district in delivering the national minimum health care package at all levels throughout the community based on approved annual work plan. NTLP supports the district health department with leprosy and tuberculosis drugs. UNICEF supports the district in immunization, nutrition, hygiene education in home-based care and HIV/AIDS. ADLG pays staff salaries and logistical support in maintaining vehicles. UNEPI works on routine immunization and IDSR, while NUMAT supports malaria, HIV/AIDS, and tuberculosis control and prevention.

¹ 2002 census projection

Table 2. Key Health Indicators²

Indicators	Apac District	National
<i>IMR</i>	114/1000	83/1000 live birth
<i>UNDER 5MR</i>	191/100	
<i>MMR</i>	505/100,000	435/1000
<i>Growth rate</i>	3.5	
<i>Life expectancy</i>		
<i>Male</i>	47.7 yrs	-
<i>Female</i>	53 yrs	-
<i>Average (Total)</i>	50.3 yrs	52 yrs
<i>TFR</i>	7.07	6.9
<i>Contraceptive prevalence rate</i>	9%	30%

Table 3. District Trends for the 5 PEAP Indicators³

Indicator	2002/03	2003/04	2004/05	2005/06	2006/07
<i>Percentage of deliveries taking place in health facilities`</i>	8.8%		18%	27%	25%
<i>Proportion of approved posts filled by trained health workers</i>	34%			65%	

- Utilization of the outpatient department is steadily increasing, possibly due to improved availability of essential medicines and health supplies as a result of the pull system using primary health care and credit line funds
- A leap in facility-based deliveries to 27% in 2005/06 (from 18% in 2004/05) is attributed to provision of ITNs to mothers who attend ANC and those delivering at health facilities. Secondly, health workers were recruited and trained on various reproductive health skills that may have improved on mother-health worker relationship stimulating utilization of RH services during the year.

² UDHS

³ Source: HMIS

CONTEXT

A successful health care program delivers consistent, high-quality, cost-effective services. A carefully planned, well-functioning logistics system can ensure a dependable supply of health care products for the clients who need them. When a health facility is fully stocked with a wide range of contraceptive methods and essential drugs, clients gain confidence in that facility and they are more likely to return. For example, if women were given reliable access to the full range of contraceptives, it is possible to prevent one of every four deaths related to pregnancy in the developing world. Women without reliable access to reproductive health care and commodities face an increased risk of birth complications, unintended or mistimed pregnancies, unsafe abortions, infectious diseases, and even death. A reliable, responsive logistics system makes the difference between a client consistently receiving the product he or she needs—condoms, vaccines, and other drugs—or a client walking away empty-handed. The success of your health care program depends on the strength of your system.

Stock level challenges, ranging from stockouts to overstocks, have inspired further attention to address contraceptive availability irregularities in the district. Field visits were conducted using a mini LIAT and then followed by an LSAT which yielded inputs for the development of an action plan to ensure contraceptive commodity security in Apac district. In fact, the overall objective of the exercise was aimed at ensuring commodity security in Apac district.

OBJECTIVES

- Provide comprehensive view of all aspects of the contraceptives logistics system
- Diagnose and identify logistics and contraceptive security issues and opportunities
- Raise collective awareness and ownership of system performance and goals for improvement
- Be used by country personnel as a monitoring tool for continuous learning and performance improvement
- Provide input to inform workplanning

METHODOLOGY

A group composed of central and district level participants conducted a logistics system evaluation of the district using the LIAT and LSAT tools. Six facilities were visited, including the district health office. After field visits were complete, a team of six district personnel were invited to join the visiting team for a three-day meeting to complete the assessment exercise. The meeting came to consensus over the SWOT analysis, drew a summary table, and identified opportunities of improvement. Next, the group collaborated to create an action plan to guide the district in ensuring commodity availability.

CONTRACEPTIVE LOGISTICS SYSTEM ASSESSMENT

I. ORGANIZATION AND STAFFING

District logistics activities are managed by two fully-paid staffers, including the supplies officer at the hospital and the district stores person. Other personnel up to HC III (records assistants) were expected to participate as well, however, the human resource budget line proved inadequate. They had a communication system in place which helped pass on information especially about reporting and receiving of supplies at the district. Due to the limited staff, the logistics activities were assigned to other people but not as primary role

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none">▪ Basic logistics team overseeing the system in the district▪ Full-time personnel managing stores at the district and hospital▪ Coordinating logistics activities (e.g. departmental meetings, radio calls)	<ul style="list-style-type: none">▪ Lack of defined TOR for the unit managing logistics in the district▪ Restrictive staffing structure▪ Inadequate capacity to manage logistics at facility level▪ No documented clear guidelines for inventory management, storage, distribution and obtaining of supplies needed
RECOMMENDATIONS	
<ul style="list-style-type: none">▪ Train personnel managing stores▪ Develop standard guidelines for ordering, storage and inventory management procedures▪ Increase target support supervision on logistics▪ Review the staffing norms to advocate for stores assistants to be recruited at HC IIIs▪ Formalize the terms of reference for the logistics management unit at the district	

II. LOGISTICS MANAGEMENT INFORMATION SYSTEM

The section focuses on LMIS form use, reporting and ordering, reported lead time and accuracy of data. During the visit, it was discovered that the facilities had most LMIS tools such as HMIS 105, 018 and 55(stock cards). The stock cards were being used; however, the biggest challenge faced was updating them. The report and order forms were not being sent. The facilities visited showed no use of the data they were collecting and the district generally lacked feedback mechanisms.

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ▪ Trainable staff available to manage the LMIS 	<ul style="list-style-type: none"> ▪ Lack of automated LMIS ▪ No feedback mechanisms ▪ No data validation on data collected ▪ Order form for contraceptives tagged to credit line order form for essential medicine

RECOMMENDATIONS

- Train staff in LMIS
- Institute a mechanism to ensure feed back to the lower units
- Provide Automated LMIS to all units managing logistics information in the district
- Develop criteria for data validation at the district and lower levels

III. OBTAINING SUPPLY AND PROCUREMENT

As set out in the national system design, facilities send orders to the central level, where product resupplies are predetermined by the national coordination program. However, most facilities visited were not sending these to the center. As a result, default orders are made by HSDs and submitted on behalf of facilities under them. For products procured under the PHC funds, the district has a procurement plan and pre-qualified supplier list; however, they lack a quality assurance scheme.

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ▪ Facility managers responsible for obtaining needs ▪ Procurement plan in place for district ▪ District has procurement guidelines which limits procurements to pre-qualified suppliers and products on the essential medicines list 	<ul style="list-style-type: none"> ▪ No quality assurance mechanisms ▪ Procurement plan doesn't consider most essential data items and lead times ▪ No monitoring of the procurement pipeline status

RECOMMENDATIONS

- Develop and enforce quality assurance mechanisms to ensure standards
- Training in proper quantification methods that consider all data items in the process
- Put in place indicators, parameters and mechanisms that monitor procurement pipeline performance

IV. INVENTORY CONTROL PROCEDURES

The national program has set min and max levels for all points at which the products are handled (2 & 5 for SDPs) and the system of receiving supplies is bottom-up. Facilities determine what they need and the center supplies them with only the amounts requested. Facilities are also required to ensure that products with a short shelf life are used first, hence the FEFO system. During the visit to the district, it was established that stockouts were a frequent occurrence, yet there were no established procedures of placing emergency orders.

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ▪ The district uses the pull system. ▪ FEFO policy is in place ▪ Damaged and expired products are separated from usable stock 	<ul style="list-style-type: none"> ▪ Frequent supply stockouts in the district ▪ No established procedures for making emergency orders ▪ No guidelines ensuring min and max stock levels ▪ No system for tracking losses and adjustments
RECOMMENDATIONS	
<ul style="list-style-type: none"> ▪ Set and distribute to all levels the guidelines for ensuring min and max levels of stock ▪ Sensitize stores in charges on the procedures of making emergency orders in case of stockouts or under-stocking ▪ Review inventory control tools/ systems to capture/ track losses and adjustments 	

V. WAREHOUSING AND STORAGE

To determine proper storage conditions, a set of 17 parameters were considered, including separation of expired products, good condition of products (e.g. not damaged), etc. The facilities visited scored 12 out of 17 parameters on average, showing acceptable storage conditions. Fire safety equipment proved to be the most widespread concern. With the exception of the district hospital, none of the facilities had fire safety equipment. A second problem faced by most facilities was lack of pallets and shelves, reducing storage space significantly.

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ▪ Physical inventory is done at all levels ▪ Guidelines for disposal of sharps and biohazardous materials exist ▪ Space exist for handling the needed current stock quantities ▪ Visual quality assurance conducted at all levels 	<ul style="list-style-type: none"> ▪ Storage capacity inadequate at service delivery points with product level expansion ▪ No written guidelines for expired product disposal ▪ No guidelines for product storage and handling ▪ No procedure for recording complaints for product quality ▪ No fire safety equipment available

RECOMMENDATIONS

- Improve storage conditions and expand the capacity at service delivery points
 - Establish guidelines for disposal of expired/damaged products.
 - Establish guidelines for handling and storage of products
 - Put in place an effective procedure for recording and submitting complaints about product quality
 - Improvise fire safety equipment at all units where they are not available
-

VI. TRANSPORTATION AND DISTRIBUTION

The HSD was the major player in delivering the supplies to the SDPs. And average lead time was 90 days. In some instances, facilities had to collect their own supplies though it was not a common scenario. The district had tried to integrate distribution into all other district activities and this was mainly because they had no specific budget line for distribution and transportation. The problem this caused was that they could not develop a distribution schedule due to the irregularities of transports availability

STRENGTHS

- Integrated system of transport use

WEAKNESSES

- No specific transport for the program
- No delivery schedules for distribution of products
- No specific budget line for transportation costs

RECOMMENDATIONS

- Provide a budget line to cater for a specific transport system and its related running costs.
 - Develop a delivery schedule and time line of how the products will be distributed to the facilities
-

VII. ORGANIZATIONAL SUPPORT FOR LOGISTICS

Most facilities had radio calls and at least the health facility in charges had mobile telephones, thereby easing the communication process. A support supervision plan is in place and, according to facility records, all facilities visited had received a support supervision visit in the three months prior to the visit. These visits included aspects of reproductive health and logistics, although this was on a small scale. Despite the supervision plans, during the LSAT, it was noted that some are not conducted largely due to lack of funds.

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ▪ Communication at least quarterly ▪ Monthly support supervision visits ▪ Supervisory roles stipulated in job descriptions ▪ Written schedules for supervision 	<ul style="list-style-type: none"> ▪ Irregular support supervision due to limitations of funds, transport ▪ Limited technical staff to conduct logistics support supervision
RECOMMENDATIONS	
<ul style="list-style-type: none"> ▪ Train more people to be involved in supervision especially of logistics aspects in the district ▪ Create funds for technical logistics supervision programs in the district 	

VIII. PRODUCT USE

Product use proved to be the district’s strongest aspect of the logistics cycle. Guidelines had been distributed to all SDPs and commodities were distributed to facilities that had personnel trained to offer the service. In instances where HC IIs received products they were not supposed to get (e.g. IUDs), the district family planning focal person withdrew them. Donor partners had trained CBDs in family planning sensitization as a means of improving uptake. However, the practice of comparing prescriptions to standard treatment guidelines was not being done

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> ▪ BCC to encourage product uptake ▪ Have treatment guidelines and they are distributed to all units ▪ All public institutions offering FP to clients ▪ Trained 60 community based service providers in three HSDs 	<ul style="list-style-type: none"> ▪ No procedure to monitor standards and following of treatment guidelines ▪ Culture and religious aspects still affecting uptake of family planning methods ▪ No assessment of implications of contraceptive method mix in the district
RECOMMENDATIONS	
<ul style="list-style-type: none"> ▪ Set up procedures and mechanisms to monitor adherence to the national standard treatment guidelines ▪ Increase level of community sensitization of family planning needs and benefits ▪ Need to update the district contraceptive prevalence rate, adherence and complications where applicable 	

IX. FINANCE AND COORDINATION

Finance and coordination was rated as the weakest link in the district's contraceptives logistics management. Only three logistics staffers were included within the district human resource budget. No budget line was available specifically for medicines distribution or support supervision. Staff appraisal was lacking and there were no funds for staff development through training. Each depended on the central level to provide basic LMIS tools such as stock cards.

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none">Salaries for logistics staff is included in the budget	<ul style="list-style-type: none">No specified budget for transportNo staff logistics development fundsNo funds allocated for LMIS
RECOMMENDATIONS	
<ul style="list-style-type: none">Specify or create a budget line for transport especially for distribution of suppliesDevelop a plan for staff logistics developmentCreate a budget line for LMIS especially reporting and order tracking	

ACTION PLAN

Table 4. Action Plan Table

Logistics components Objectives	Activities	Indicators Objectively verifiable	Timeline	Responsible	Assumptions/ remarks
<i>Organizational context and staffing:</i>	Conduct Needs assessment and Train personnel managing stores	Number of personnel trained at least 80% of personnel managing supplies	Start by January 31 st 2009	Reproductive health focal person	Funds available in time
	Increase target support supervision on logistics	supervisory visits on logistics per facility at least one every two months	Start date is a month after training	District supplies officer	To work with the hospital supplies officer
	Obtain and distribute standard guidelines for ordering, storage and inventory management procedures	Availability of the guidelines at all health facilities managing the supplies	During the training	District Health Officer	Guidelines should be availed to the district prior to the training
	Set up and Formalize the terms of reference for the logistics management unit at the district	Availability of written down TOR for the logistics management unit Unit in place and functional	To be set up by end of November 2008	District Health Officer	TOR should include: Follow up reporting rates and accuracy of reports. Ensure orders are placed in time. Supervision and staff development

					Any other task aimed at improving logistics management
LMIS:	Institute a mechanism to ensure feed back to the lower units	Filed copies of feedback reports	Start October 2008	Bio Statistician	To work with family planning focal person and District supplies officer
	Develop criteria for data validation at the district and lower levels	Number of facilities whose data is validated. 80% of all facilities reporting	End 30 TH November 2008	Reproductive health focal person	Work with the district logistics management unit All levels to validate
	Provide automated LMIS to all units managing logistics information in the district		30 th September 2009	District Health Office	To be piloted at HSD and selected HC IIIs
Obtaining supply/Procurement:	Obtain and put in use quality assurance mechanisms to ensure standards	Availability of quality assurance tools, Number of QA procedures conducted. At least one bi-annually for all facilities	Obtain tools by December 2008	District Assistant Drug Inspector	Dependent on availability of quality assurance tool at the Center
	Put in place indicators, parameters and mechanisms that monitor performance of procurement pipeline	Monitor rate of stock outs, Number of facilities placing timely orders and adherence to distribution schedule	Start after set up of logistics management unit	District supplies officer	Collaborate with Reproductive health focal person

<i>Warehousing and storage:</i>	Improve storage conditions and expand the capacity at service delivery points and obtain guidelines for handling and storage of products	Availability of guidelines at all health facilities Availability of pallets and shelves at lower health facilities	Guidelines for storage are available before training. At least 80% of facilities to have pallets and shelves by Sept 2009	District health officer	Funds to be availed to prepare the pallets and shelves
<i>Transportation and distribution:</i>	Provide a budget line to cater for the logistics (distribution and supervision) transport system and its related running costs	Availability of earmarked funds for distribution of supplies and logistics targeted support supervision	To start after the training of personnel.	Chief Administrative Officer	To work with District Health Officer
	Develop a delivery schedule, timeline of how the products will be distributed to the facilities	Products should not spend more than 7 days before distribution	To start after training of staff in logistics management	District Supplies Officer	To work with the logistics management unit
<i>Product use:</i>	Set up procedures and mechanisms to monitor adherence to the national standard treatment guidelines	Number of prescriptions meeting standard treatment guidelines at each facility (at least 80%)	To start after training of personnel	District Health officer	Works with family planning focal person
	Update the district contraceptive prevalence rate, adherence and complications where applicable	Quarterly reports on prevalence rate, adherence and complications of contraceptives	First report produced by January 2009	District Health Officer	Works with family planning focal person and family planning service providers

	Increase level of community sensitization of family planning needs and benefits	Monthly percentage increase of family planning uptake	Start November 2008	Family planning focal person	Works with community based distributors, health educators and other service providers
<i>Financing/RHCS Planning:</i>	Develop a plan for staff logistics development	Develop operational work plan	October 2008	District Health Officer	To work with Logistics management unit

REFERENCES

Apac district, District Integrated Health Sector Annual Workplan. 2007

APPENDIX A- LIST OF PEOPLE INTERVIEWED

Table 5. Interviewee list

N	Name	Qualification/Title	Facility/Institution	Contacts
1	Dr Emer	DHO	Apac District	0772406695
2	Dr Acanga	Principal Medical Officer	Apac Hospital	0772390197
3	Sr P Erac	District FP- Focal Person	Apac District	
4	Oluma Denis	Senior Supplies Officer	Apac District Stores	0772595295
5	Okello Louis	Senior Supplies Officer	Apac Hospital/Maruzi HSD Stores	0782399432
6	Opio James	Senior Clinical Officer	Akokoro HC III	0753312067
7	Tino Beatrice	Enrolled Midwife	Chegere HC II	0782905646
8	Akwanga Jackson	Enrolled Nurse	Olelpek HC II	0752426390
9	Olet Godfrey	Records Assistant	Akokoro HC III	0753583653
10	Auma Grace	Nursing Assistant	Chegere HC II	0777107750

APPENDIX B - FACILITIES VISITED

- Apac District Stores
- Apac Hospital/HSD Stores
- Akokoro HC III
- Chegere HC II
- Olelpek HC II
- The DHO`s Office, Apac District

APPENDIX C - LSAT AND ACTION PLAN DEVELOPMENT WORKSHOP PARTICIPATION

Table 6. List of Participants

N	Name	Qualification/Title	Facility/Institution	Contacts
1	Dr. Acanga	Principal Medical Officer	Apac Hospital	0772390197
2	Sabiiti Mbabazi Atenyi	District Health Inspector	Apac District	
3	Oluma Denis	Senior Supplies Officer	Apac District Stores	0772595295
4	Opio James	Senior Clinical Officer	Akokoro HC III	0753312067
5	Apio Betty Nancy	Registered Midwife (For FP focal person)	Apac Hospital	0772360154
6	Tino Beatrice	Enrolled Midwife	Chegere HC II	
7	Ogwal H Jackson	Pharmacist/Short Term Consultant	DELIVER/USAID PROJECT	0772692802
8	Mumbe Lawrence		DELIVER/USAID PROJECT	

APPENDIX D – APAC DISTRICT DEMOGRAPHIC INFO

Table 7. Apac District Demographic Features (2006-2007)

HSD	S/county	Total Pop	Males	Female	Infants	6 mo-5 yrs	0-5 yrs	1-5 yrs	Women 15-45 yrs	Preg women	Exp. Births	Health Units	Level	Owner ship
Kole	Aboke	35,813	17,548	18,265	1,683	6,446	7,342	5,658	6,375	1,862	1,791	Aboke Opeta	HC IV HC II	Gov't
	Akalo	22,320	10,320	11,383	1,049	4,018	4,576	3,527	3,973	1,161	1,116	Akalo	HC III	
	Alito	53,849	26,386	27,463	2,531	9,693	11,039	8,508	9,585	2,800	2,692	Apala Barowo Alito	HC III HC III	Gov't
	Ayer	27,809	13,626	14,183	1,307	5,006	5,701	4,394	4,950	1,446	1,390	Bung Ayer Okole	HC II HC III HC II	
	Bala	33,065	16,202	16,863	1,554	5,952	6,778	5,224	5,886	1,719	1,653	Bala	HC II	Gov't
	Total	172,886	84,699	88,157	8,124	31,114	35,435	27,311	30,768	8,988	8,643			
Kwania	Abongomola	28,575	14,002	14,573	1,343	5,114	5,858	4,515	5,086	1,486	1,429	Ab'mola	HC III	Gov't
		29,497	14,454	15,043	1,386	5,309	6,047	4,661	5,250	1,534	1,475	Aduku Aduku	HC IV HC II	Gov't NGO
Aduku	Chawente	22,680	11,113	11,567	1,066	4,082	4,649	3,583	4,037	1,174	1,134	Alido Apwori I	HC III HC II	Gov't

	Inomo	23,651	11,589	12,062	1,112	4,251	4,848	3,737	4,210	1,230	1,183	Inomo	HC II	Gov't
	Nambieso	28,704	14,065	14,639	1,349	5,167	5,884	4,535	5,109	1,493	1,435	N'bieso Owiny	HC III HC II	Gov't
	Total	133,107	65,222	67,885	6,256	23,959	27,287	21,031	23,693	6,922	6,655			
Maruzi	Akokoro	25,626	12,557	13,069	1,204	4,613	5,253	4,049	4,561	1,333	1,281	Atar Olelpek	HC II	Gov't
		37,040	18,150	18,890	1,741	6,667	7,593	5,852	6,593	1,926	1,852	Apac Hosp.	Hosp.	Gov't
Apac	Apac T.C	11,004	5,392	5,612	507	1,981	2,256	1,739	1,959	572	550	Ako-koro Apoi Kungu	HC III HC II HC II	Gov't
	Chegere	27,403	13,427	13,976	1,288	4,933	5,618	4,330	4,878	1,425	1370	Teboke Kidilani Chegere	HC IV HC II	Gov't
Ibuje		26,589	13,029	13,560	1,250	4,786	5,451	4,201	4,733	1,383	1,329	Ibuje Alenga Aganga Alado	HC III HC III HC II HC II	3 Gov't NGO
	Total:	127,662	62,554	65,108	6,000	22,979	26,171	20,171	22,724	6,638	6,383			
Kole	Kole	172,856	84,699	88,157	8,124	31,114	35,435	27,311	30,768	8,988	8,643			
Kwania	Kwania	133,107	65,222	67,885	6,256	23,959	27,287	21,031	23,693	6,922	6,655			
Maruzi	Maruzi	127,662	62,554	65,108	6,000	22,979	26,171	20,171	22,724	6,638	6,383			

Source: Population office Apac

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