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# RWANDA: ASSESSING THE LOGISTICS MANAGEMENT SYSTEM FOR CONTRACEPTIVES

EXECUTIVE SUMMARY



MARCH 2006

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**DELIVER**  
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*Executive Summary*

## **DELIVER**

DELIVER is a six-year, worldwide technical assistance support contract; it is funded by the U.S. Agency for International Development (USAID).

Implemented by John Snow, Inc. (JSI), (contract no. HRN-C-00-00-00010-00), and subcontractors (Manoff Group, Program for Appropriate Technology in Health [PATH], and Crown Agents Consultancy, Inc.), DELIVER strengthens the supply chains of health and family planning programs in developing countries to ensure the availability of critical health products for customers. DELIVER also provides technical support to USAID's central system for contraceptive management.

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### **Abstract**

In 2002, Rwanda's Ministry of Health carried out a survey on the performance of the logistics system for contraceptives, with technical support from DELIVER. In 2003 and 2004, routine surveys were undertaken as a follow-up to the program to ensure the availability of contraceptives and to strengthen the contraceptive logistics management system.

This 2006 assessment report identifies areas where improvements have since been achieved and suggests remedial recommendations as well as actions to improve the logistics system. Information on the performance of the logistics system, the availability of products, and the availability and quality of logistics data is also presented.

The report notes that Rwanda's logistics management system for contraceptives is in place, and that it correctly fulfills expected tasks. Products are available and the system runs smoothly. Critical logistics data are sent to the central level on a regular basis, and the reporting rate has reached 100 percent. Stockouts are marginal. This report illustrates the conditions that contributed to the satisfactory results achieved by the existing contraceptive management system.

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# ACRONYMS

ARBEF	<i>Association Rwandaise pour le Bien-Etre Familial</i>
CAMERWA	<i>Centrale d'Achat des Médicaments Génériques du Rwanda</i>
FOSA	<i>formation sanitaire</i>
IUD	intrauterine device
LIAT	Logistics Indicator Assessment Tool
LMS	Logistics Management System
LSAT	Logistics System Assessment Tool
NA	not available
SPSS	Statistical Package for the Social Sciences
UNFPA	United Nations Population Fund
USAID	U.S. Agency for International Development





# BACKGROUND

Since February 2002, as part of enhancing the contraceptive distribution system in Rwanda, the Ministry of Public Health, with the DELIVER project and with funding from U.S. Agency for International Development (USAID), has been implementing a strategic plan aimed at strengthening the distribution system for contraceptives and condoms. The goal is to ensure that these products are regularly available on a regular basis throughout the country, and at the same time, to increase the contraceptive prevalence rate in Rwanda. In February 2002, a qualitative assessment of the contraceptive logistics system was carried out. This was followed by a quantitative assessment of the system in October 2002. Because of these various assessments, it was possible to determine baseline indicators that will help evaluate progress achieved and highlight areas for improvement. Between 2002 and 2006, intermediate quantitative assessments were carried out that contributed to providing key remedial actions to enhance the logistics systems for contraceptives and condoms and to refocus certain activities in the gradual implementation of the strategic plan.

The February 2006 assessment (which is actually an end-of-project evaluation) gave the Ministry of Health and DELIVER, the opportunity to evaluate the progress achieved after five years of strengthening and improving the logistics system for contraceptives and condoms. The outcomes from this evaluation will provide information on the weaknesses of the current logistics management system and will be used to help make decisions for a new strategic plan that will ensure the security of contraceptives and condoms in Rwanda.



# METHODOLOGY

The analyses of four studies were combined to produce this report, which highlights the program's development trends since 2002, and in particular, provides information on the current contraceptive management program at the national level. A research team of 12 interviewers received one week of training on how to use the Logistics Indicators Assessment Tool (LIAT) for contraceptive products. Altogether, 169 facilities, including 40 district warehouses and 129 health center (*formation sanitaire* [FOSA]) storerooms, were visited. Collected data were input with Epidata and analyzed with the Statistical Package for the Social Sciences (SPSS).

Qualitative data collection was also carried out using the Logistics System Assessment Tool (LSAT). This assessment was performed during a workshop that brought together participants from the central level, the district level, and health centers. The results of both quantitative and qualitative surveys were then used to draft a national action plan. The final analysis was carried out using data from 2006 compared with selected data from studies in 2002 and 2004.



# OUTCOMES

## AVAILABILITY OF PRODUCTS

### STOCK STATUS

Table 1 shows that all district storerooms<sup>1</sup> handle most contraceptive products. However, long-term methods, such as Norplant, Jadelle, and intrauterine devices (IUDs), are currently distributed only to customers of hospitals and private clinics where such supplies are authorized. At the time of the survey, these methods were not offered in local FOSAs; however, the Ministry of Health has recently adopted a resolution authorizing such methods to be provided in FOSAs. Stock transactions pertaining to contraceptive product management are recorded on stockcards. It was observed that, in both FOSAs and district storerooms, stockcards were up-to-date in more than 75 percent of cases.

The outcomes for 2006 show that stockkeeping has dramatically improved when compared with the results of 2004. All facilities where the stock level is above the minimum are considered to be safe from possible stockouts.<sup>2</sup> It, therefore, appears that all facilities have enough products to prevent any stockouts. Furthermore, observations in the field show that there is no significant overstocking in the facilities that would be likely to result in expiration and prove damaging to the program.

**Table 1. Percentage of Facilities with a Correct Stock Level (between the minimum and maximum levels set) for a Specific Contraceptive Method on the Day of the Assessment Visit (2004 and 2006)**

Contraceptives	2004				2006			
	<i>Number of warehouses</i>	<i>Warehouses (%)</i>	<i>Number of FOSAs</i>	<i>FOSAs (%)</i>	<i>Number of warehouses</i>	<i>Warehouses (%)</i>	<i>Number of FOSAs</i>	<i>FOSAs (%)</i>
Lo-Femenal	1	3	26	21	36	30.6	110	20.9
Microgynon	1	3	28	21	35	40	112	4.5
Ovrette	3	8	12	10	35	40.0	113	23.0
Depo-Provera	2	5	45	33	37	35.1	121	42.1
Male condoms	2	6	5	5	33	12.1	107	20.6
Female condoms	0	0	0	0	19	15.8	26	11.5
Norplant	2	11	1	5	25	24.0	21	42.9
Jadelle	NA	NA	NA	NA	5	40.0	5	20.0
Copper TCu	0	0	0	0	11	27.3	7	14.3
Necklace method	NA	NA	NA	NA	3	0	14	7.1

<sup>1</sup> In this report, storerooms and warehouses are used interchangeably.

<sup>2</sup> An assessment of the stock level to keep storage facilities safe from possible stockouts needs to consider facilities with a profile that shows a correct level and those that seem to show a profile with a stock level higher than the maximum level.

An analysis of the overstock level shows an improvement between 2004 and 2006 (table 2). However, the male condoms were overstocked by 63.6 percent of the storerooms in 2006 compared to 51 percent in 2004. This overstock status is caused by fluctuations in usage and actually helps ensure continuous availability.<sup>3</sup>

Female condoms appear to be overstocked in FOSAs because of the product's limited issues since the product was first pushed.

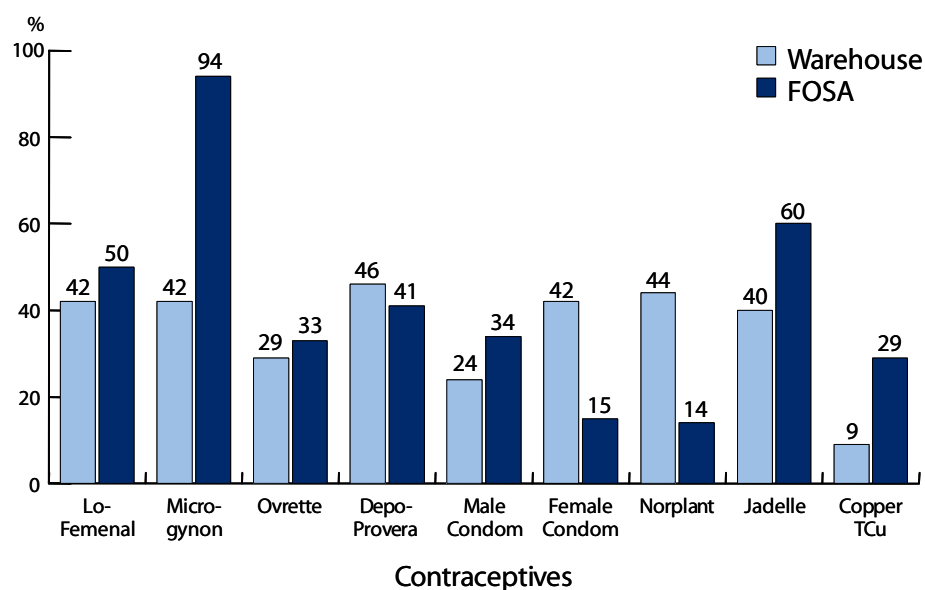
**Table 2. Percentage of Facilities with Overstocks (above the maximum level set) for a Specific Contraceptive Method on the Day of the Assessment Visit (2004 and 2006)**

<i>Contraceptives</i>	2004				2006			
	Number of ware-houses	Ware-houses (%)	Number of FOSAs	FOSAs (%)	Number of ware-houses	Ware-houses (%)	Number of FOSAs	FOSAs (%)
Lo-Femenal	6	16	54	44	39	27.8	110	29.1
Microgynon	8	21	54	40	35	17.1	113	1.8
Ovrette	12	31	53	44	35	31.4	113	44.2
Depo-Provera	6	15	41	30	37	18.9	121	16.5
Male condoms	23	51	60	58	33	63.6	107	45.8
Female condoms	9	53	1	6	19	42.1	26	73.1
Norplant	4	21	6	29	25	32.0	21	42.9
Jadelle	NA	NA	NA	NA	5	20.0	5	20.0
Copper TCU	1	8	6	35	11	63.6	7	57.1
Necklace method	NA	NA	NA	NA	3	NA	14	78.6

Figure 1 shows that 93.8 percent of FOSAs are below the minimum level for Microgynon. The country experienced a stockout at the national level following the transfer of 30,000 cycles to Burundi.

<sup>3</sup> It is important to know that facilities calculated orders using the average value of the two previous months when calculating the average monthly consumption; the survey used consumption for the six previous months to determine average monthly consumption. However, the quantities available observed on site in 2006 preclude any possibility of waste that might be caused by overstocking.

**Figure 1. Percentage of Facilities with a Stock Level Below the Required Minimum on the Day of the Assessment Visit**



### MONTHS OF SUPPLY ON HAND

In FOSAs, the average number of months for supplies varies between 2 and 24 (Depo-Provera and female condoms, respectively). There was a large stock of female condoms in some FOSAs because the condoms were not used by women after the first issues were made.

Table 3 shows that overstocking does not expose facilities to expired products.

**Table 3. Number of Months of Supplies on Hand on the Day of the Assessment Visit**

Contraceptives	2006			
	<i>Number of Warehouses</i>	<i>Number of Months, Warehouses</i>	<i>Number of FOSAs</i>	<i>Number of Months, FOSAs</i>
Lo-Femenal	36	5.8	110	2.4
Microgynon	35	4.6	112	2.9
Ovrette	35	5.9	113	4.8
Depo-Provera	36	9.1	121	1.9
Male condoms	34	7.1	109	4.7
Female condoms	19	8.6	26	24.1
Norplant	25	10.9	21	5.0
Jadelle	5	16.6	5	2.8
Copper TCu	11	29.6	7	7.1

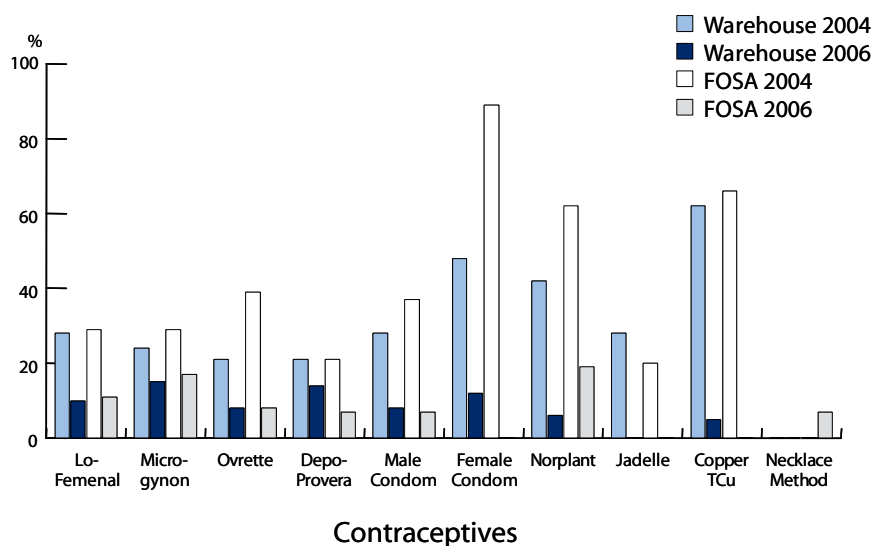
## STOCKOUTS

Data showing changes in stockouts between 2002 and 2004 indicated no improvements. Stockouts in 2004 appeared to occur on a regular basis for the most frequently used products, even though there were no stockouts in the central warehouse.

It should be noted that the study carried out in 2004 showed that lead times had been underestimated when minimum and maximum stock levels were determined; as a result, the Ministry of Health decided to readjust stock levels in districts (increasing the maximum stock level in district storerooms from four to six months and the minimum level from one to three months).

In 2006, there has been a dramatic improvement, with low stockout ratios for contraceptive products on the day of the visit (figure 2). Microgynon, however, was stocked out at the national level.

**Figure 2. Percentage Comparison Between Facilities Showing a Stockout of a Specific Contraceptive Method on the Day of the Assessment Visit (2004 and 2006)**



Microgynon was the product stocked out most frequently (table 4). Approximately, 54 percent of local health facilities experienced a stockout for this product, which was caused by transferring a major supply of Microgynon to Burundi. On average, each method shows fewer than two weeks of stockout per facility, with the exception of female condoms and Jadelle. Female condoms are very seldom used in public health centers, and the quantity of Jadelle received was a starting stock.



**Table 4. Percentage of Facilities that Experienced a Stockout of a Specific Contraceptive Method during the Last Six Months of 2006**

<b>Contraceptives</b>	<b>Warehouse</b>	<b>FOSA</b>	<b>Total</b>
Lo-Femenal	5.4	47.9	37.7
Microgynon	29.7	61.7	53.9
Ovrette	2.8	39.3	30.7
Depo-Provera	13.5	45.9	38.4
Male condoms	14.7	31	27.3
Female condoms	8	6.9	7.4
Norplant	16.7	27.3	21.2
Jadelle	25	60	38.5
Copper TCu	0	22.2	7.1
Necklace method	NA	NA	NA
Actual	39	130	169

### **EXPIRED PRODUCTS**

The survey noted a near absence of expired products. Although the logistics system still presents areas for improvement, this shows that contraceptive products are well managed using the first-in, first-out principle.

In short, we can see that at the national level most products defined by the program are available. However, the full range of contraceptive products<sup>4</sup> is not available in FOSAs: this is because the program does not offer them in FOSAs and because personnel had not been trained. The level of stock on hand in most FOSA and district storerooms is adequate (not excessive) for their level of service. Stockouts are limited. The Microgynon stockout was resolved at the national level, and the product is once again available for distribution.

### **LOGISTICS MANAGEMENT INFORMATION SYSTEM**

To manage essential generic medicines, stockkeeping supports (stockcards), as well as transaction supports (order forms, requisition and issue vouchers), have been developed and made available in districts and local health facilities. Until 2002, such supports were used to manage only essential generic medicines, not contraceptives; the rationale was that contraceptives were made available to the population free of charge. There were no stockcards, order forms, or reporting mechanism for contraceptives. As a result, data and information on contraceptive logistics were not available and, therefore, were not used for decision making. Ever since contraceptive management was integrated into essential generic medicines—and upon recommendation from the Ministry of Health—stockcards are being filled out and updated for contraceptive products as well. Likewise, a form serving the dual purpose of order form and reporting form has been designed and made available to districts and local health facilities. From now on, to receive supplies, you must first justify the use of products made available. Between April and July 2003, designing and using data collection supports for contraceptives was backed by training for all pharmacy managers in districts and local health facilities.

To date, we noted that logistics management supports (stockcards, contraceptive order forms and reports, etc.) were in place and well maintained at all levels of the supply chain and distribution pipeline for

<sup>4</sup> Methods such as the IUD, Norplant, Jadelle, and the necklace method are not available in FOSAs, because they wish to have their personnel trained to offer such methods.

contraceptives and condoms. Districts submit quarterly reports, and local health facilities submit monthly reports to their respective districts. The recorded reporting rate is 100 percent, which provides reliable data for the analysis and management of the logistics system. Because of the sheer volume of reports sent to the central level and districts, the computerization of logistics management for drugs in district storerooms is becoming increasingly necessary.

## **PRODUCT SELECTION**

In 2002, the baseline analysis showed there was an overall stockout of contraceptive products. The full range of contraceptive methods was not available in district storerooms or in FOSAs because service providers offered only products they were familiar with. Some local health facilities sometimes offered only a single method. Furthermore, the range of products to be supplied to a family planning program varied from one donor to the other, thus extending the list of contraceptives to be made available in the country. The study highlighted the absence of a formal committee for the selection of contraceptive brands to be imported.

Despite the existence of the initial version (not ratified but serving as a reference document) of the national drug policy and the list of essential medicines (which includes contraceptive products), there is a lack of knowledge about how to select products and how to issue the products selected. We recommend raising awareness of the product selection process with all stakeholders involved in the family planning program and requesting their input in selecting contraceptive products.

## **FORECASTING**

Technical assistance has been available for supply forecasting and planning. Before the DELIVER project began in 2002, the forecasting of contraceptive needs was carried out by United Nations Population Fund (UNFPA) consultants, and forecasting was based on demographic data. After DELIVER took charge in 2002, forecasting began to take into account at least two sources of data, namely, essential logistics data and demographic data. Representatives of local family planning programs are increasingly involved in these efforts. A coordination mechanism for the purchasing and procurement of contraceptives has been initiated between USAID and UNFPA. Despite the involvement of national representatives in the supply planning and forecasting process, the country still lacks a nationwide team to carry out this exercise on a regular, routine basis. Ensuring the availability of skills at the national level will guarantee that the supply planning and forecasting exercise will run smoothly and be sustained.

## **PRODUCT ACQUISITION AND PURCHASING**

How to fund supply plans is a questions that needs to be answered. Rwanda has funds on a yearly basis to purchase products but has no guarantees of financial availability for upcoming years. This situation calls for approaching partners to garner the necessary resources for at least two years into the future.

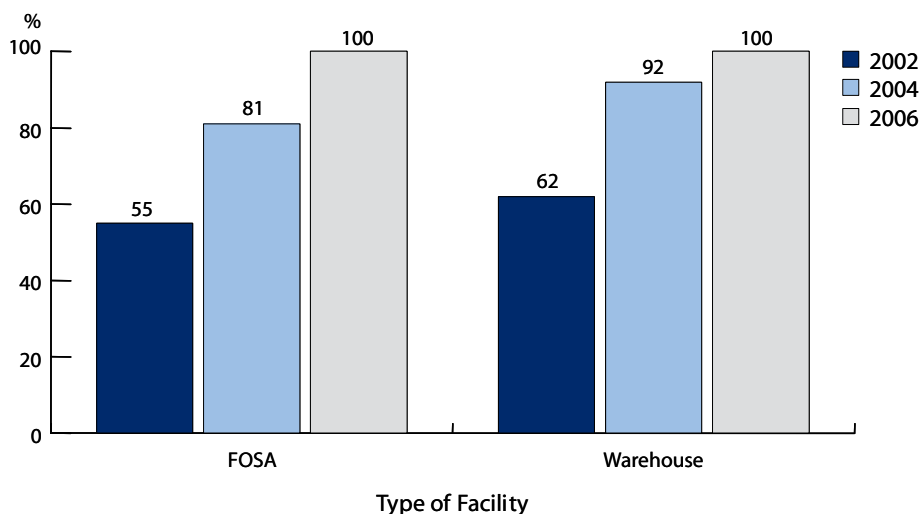
## **INVENTORY CONTROL PROCEDURES**

The baseline assessment (2002) shows the lack of a standard inventory control system. Routine orders are placed when there is a risk of stockout or when the agent in charge visits the district or the central warehouse. This situation largely contributed to the stockout experienced throughout the country. Minimum and maximum stock levels at central, district, and FOSA level were established, thus reducing stockouts. This study shows that current stockouts, although limited, are caused by staff mobility. New agents (40 percent) did not receive any training or orientation in inventory management, particularly in contraceptive management.

## STORAGE

At the central level, contraceptives were stored and managed by the Reproductive Health Department. In districts and FOSAs, products were sometimes available in stores and sometimes available from coordinators of rural health care and family planning activities. The improvement process resulted in a transfer of contraceptive products to Ministry of Health storerooms; the management of such products would be handled by trained personnel. As a result, the storage conditions of contraceptive products improved dramatically (figure 3). However, the study revealed that fire safety equipment was not available in all district warehouses.

**Figure 3. Comparative Percentage of Facilities That Meet More Than 75 Percent of Storage Conditions (2002, 2004, and 2006)**



## TRANSPORTATION AND DISTRIBUTION

The supply system currently used in Rwanda is a pull system. Every lower-level facility determines its needs and then uses its own transportation to obtain supplies from the higher level. This practice is used for both essential generic medicines and contraceptives. Integrating contraceptive management into essential generic medicines considerably reduced the search for additional financial resources to stock up on contraceptives because orders for products are grouped together. However, because ordering essential generic medicines is based on available resources, garnering such resources may cause some delay in acquiring contraceptives.

## ORGANIZATIONAL BACKGROUND

Rwanda has a supply and distribution pipeline for essential generic medicines. The pipeline is made up of *Centrale d'Achat des Médicaments Génériques du Rwanda (CAMERWA)*, Rwanda's purchasing cooperative for generic medicines; district storerooms; and local health facility storerooms. In 2002, despite the existence of this supply and distribution pipeline, contraceptive products (including condoms) were mostly managed by agents of the Reproductive Health Department and by the coordinators of family planning activities in both districts and FOSAs. Communication and coordination between the various levels of the system were virtually nonexistent, and stockouts were widespread throughout the country. Since the end of 2003 (for districts and FOSAs) and February 2005 (for CAMERWA, and following the signing of a memorandum of understanding between the Ministry of Health and CAMERWA), contraceptive products are now stored with essential generic medicines and are handled by stock managers. A logistics management committee has been set up to monitor the implementation of the

improvement plan for the contraceptive logistics system and to improve communication between the various partners.

However, we have noted a lack of skills at the national level to conduct a supply forecasting and planning exercise. This is instead led by external technical assistance, with the participation of some local stakeholders such as Twubakane and *Association Rwandaise pour le Bien-Etre Familiall (ARBEF)*. Organizations—the Ministry of Health’s Pharmacy and Drug Unit, CAMERWA, and PSI—are not involved in this exercise.

## **ORGANIZATIONAL SUPPORT OF THE LOGISTICS SYSTEM**

### **TRAINING**

In 2002, although the personnel in charge of drug management followed training provided by the Pharmacy Directorate for overall drug management, they failed to apply the acquired knowledge to contraceptive management, and very little attention was given to contraceptives. Coordinators of family planning activities who were in charge of managing contraceptive products had received no product management training or orientation.

Training of all district pharmacy managers and FOSAs in 2004 greatly contributed to improving contraceptive logistics management. Inventory management procedure manuals for districts and the central level, as well as checklists for FOSAs, were developed and updated. Although most personnel in district storerooms and FOSAs have since been trained in logistics management, we have noted that recent staff changes have resulted in some personnel attrition (40 percent).

### **SUPERVISION**

The 2002 baseline study reported that contraceptive logistics management was not part of supervision efforts. To date, and despite effective integrated supervision, we have noted that the activity does not focus on drug and contraceptives product management. The supervision tool for drug and contraceptive management is not available; further, the Pharmacy and Drug Unit does not have adequate human, material, or financial resources to conduct such an activity. We recommend enhancing the Ministry's supervision system by developing tools and conducting supervisory training.

### **PRODUCT USE**

In 2002, the baseline study showed that the skill level of FOSA health agents was very limited in terms of family planning, and most of them were unable to hold proper consultations and prescribe contraceptive products to customers. We have observed that, to date, long-term methods, such as Norplant, Jadelle, IUDs, and the necklace method, were not offered. Female condoms, available in some FOSAs, were not requested by customers. Interviewed staff members reported complaints from customers regarding side effects from Depo-Provera, while others had a clear preference for Noristerat.

### **FUNDING AND COORDINATION WITH DONORS / PLANNING**

Funding for contraceptives is handled by donors (USAID and UNFPA). Rwanda's national budget does not include a budget line for the purchasing and acquisition of contraceptives. Because of the increase in demand for contraceptives, further financial resource mobilization is needed to handle the program's expansion and to guarantee that products will be available on a regular, ongoing basis. Frequent coordination with partners and the development of a strategy to ensure contraceptive security in Rwanda are almost indispensable.

# CONCLUSION

Rwanda's program has an adequate availability of contraceptive products. In 2002, this program had no contraceptive product management system, but today, it has all the features of a good logistics system. The order and reporting system is very efficient and has a recorded reporting rate of 92 percent, which provides the program with key contraceptive logistics data for decision making and planning. The improvements since 2002 are obvious, yet some enhancing activities are still necessary to ensure contraceptive security. Training and supervision are still relevant because personnel mobility is a continuous process, and skill development for newly assigned personnel is required if we are to ensure service quality.



# RECOMMENDATIONS

Detailed recommendations were drafted after the survey. Following are some of these recommendations:

1. To improve the sharing of information, strengthen certain elements of drug logistics management that deal with logistics duties, including training, supervision, and follow-up of drug management, and ensure coordination among the various organizations (CAMERWA, the Pharmacy and Drug Unit, and health facilities).
2. Optimize the efficiency of service providers in using logistics management tools and in collecting and analyzing logistics data.
3. Computerize the logistics system in district storerooms and in central warehouses.
4. Set up a technical committee for supply forecasting and planning.
5. Build the capacities of personnel in district pharmacies and FOSAs in product management.
6. Enhance the Ministry's supervision system.
7. Expand the range of contraceptives in FOSAs by including long-term methods, including the necklace method, in the service package.
8. Ensure contraceptive security in Rwanda by including a budget line in the national budget for the acquisition of contraceptives.
9. Ensure coordination among the various units that deal with logistics duties to better share information.
10. Ensure coordination on a regular basis among partners for contraceptive product management.
11. Ensure coordination among the various units that deal with logistics duties to better share information.
12. Ensure coordination on a regular basis among partners for contraceptive product management.





For more information, please visit [www.deliver.jsi.com](http://www.deliver.jsi.com).

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