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DECENTRALIZING AND INTEGRATING CONTRACEPTIVE LOGISTICS SYSTEMS IN LATIN AMERICA AND THE CARIBBEAN

WITH LESSONS LEARNED FROM ASIA AND AFRICA



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DELIVER
No Product? No Program. Logistics for Health

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DELIVER

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Abstract

During the past two decades, health sector reform (HSR) and sectorwide health strengthening initiatives—supported by bilateral donors, multilateral agencies, and development banks—have had an impact on contraceptive logistics systems in most Latin American and Caribbean (LAC) countries. Two components of HSR in particular—decentralization of the health sector and integration of vertical health programs—have affected Ministry of Health and social security contraceptive supply systems throughout the region. This paper, which builds on several previous documents produced by DELIVER, is an overview of key issues and lessons that LAC countries and countries in Asia and Africa have learned during the process of integration and decentralization. The analysis highlights key ideas that policymakers, family planning managers, and logistics advisors can consider when implementing the decentralization and/or integration reforms of certain or all logistics systems functions to help sustain an efficient and continuous supply of contraceptives. Through careful planning, decision makers can help maintain a well-built logistics system that guarantees the availability of contraceptives to clients throughout the reform process.

Cover photo courtesy of Profamilia Colombia (<http://www.profamilia.org.co/>).

DELIVER

John Snow, Inc.

1616 North Fort Myer Drive, 11th Floor

Arlington, VA 22209 USA

Phone: 703-528-7474

Fax: 703-528-7480

Email: deliver_project@jsi.com

Internet: www.deliver.jsi.com

CONTENTS

- Contents**..... iii
- Acronyms**..... v
- Acknowledgments**..... ix
- Executive Summary** xi
- Introduction** 1
- Background** 1
- Methodology** 3
- Contraceptive Logistics: A Brief Overview**..... 5
- What Is Meant by “Contraceptive Logistics” and “Reproductive Health Commodity Security,” and Why Are They Important?**..... 5
- The Logistics Cycle and Logistics Functions** 6
- The Logistics Functions** 8
- Decentralization and Integration**..... 11
- Decentralization**..... 11
 - What is decentralization? An overview of different types of decentralization 11
 - Why Decentralize? 12
 - The Theory 12
 - The Reality 13
 - Possible impact of decentralization on contraceptive logistics 13
- Integration**..... 15
 - What is integration? 15
 - Why integrate? 18
 - The Theory 18
 - The Reality 19
 - Possible Impact Of Integration On Contraceptive Logistics 19
 - Integration Policies Affect Family Planning And Every Function Of The Contraceptive Logistics System 22
- Lessons Learned: Experiences from the Field About the Effects of Decentralization and Integration on the Logistics System** 25
- Product Selection**..... 25
 - Centralized vs. decentralized 25
 - Integrated vs. Vertical..... 26
- Forecasting and Needs Quantification**..... 26
 - Centralized vs. decentralized 26
- Procurement** 27
 - Centralized vs. decentralized 27
 - Vertical vs. Integrated..... 28

Storage and Distribution	29
Centralized vs. Decentralized.....	29
Vertical vs. Integrated.....	29
Logistics Management Information System (LMIS)	30
Centralized vs. Decentralized.....	30
Vertical vs. Integrated.....	32
Inventory Control	32
Centralized vs. Decentralized.....	32
Vertical vs. Integrated.....	32
Human Resources	33
Centralized vs. Decentralized.....	33
Vertical vs. Integrated.....	33
Budgeting and Finance.....	34
Centralized vs. Decentralized.....	34
Vertical vs. Integrated.....	35
Quality Assurance.....	35
Centralized vs. Decentralized.....	35
Key Considerations.....	43
Decentralization.....	43
Integration.....	47
A Few Final Words	49
Glossary	51
References	53
Additional Resources	55
Appendix: Case Studies from Latin America and the Caribbean	57

ACRONYMS

AIM	<i>Programa de Atención Integral a la Mujer</i> (Nicaragua)
ARVs	antiretroviral drugs
BCC	behavior change communication
CCSS	<i>Caja Costarricense de Seguro Social</i> (Costa Rica Social Security Institute)
CEASS	Central Medical Stores (Bolivia)
CENABAST	central level public purchasing agency (Chile)
CIDA	Canadian Agency for Development Assistance
CONAPOFA	National Council on Population and Family (DR)
CS	Contraceptive Security
DAIA	<i>Disponibilidad Asegurada de Insumos Anticonceptivos</i>
DFID	Department for International Development (UK)
DISA	Regional Health Office (Peru)
DMS	Directorios Municipales de Salud
DNIM	National Directorate of Medical Supplies (Nicaragua)
DR	Dominican Republic
EBAIS	basic health care teams (Costa Rica)
EPI	Expanded Programme on Immunizations
EPS	<i>Empresas Promotoras de Salud</i> (Colombian public and private service provider institutions)
ESE	<i>Empresas Sociales del Estado</i> (Colombian public and private insurance organizations)
ESSALUD	social security agency (Peru)
FP	family planning
FPLM	Family Planning Logistics Management (project)
GTZ	<i>Deutsche Gesellschaft für Technische Zusammenarbeit</i> (Germany)
HCAP	medical supplies information system (Nicaragua)
HIV/AIDS	human immune deficiency virus/acquired immune deficiency syndrome
HMIS	health management information system
HR	human resources
HSR	health sector reform
IMSS	<i>Instituto Mexicano del Seguro Social</i>
IPPF	International Planned Parenthood Federation

ISSS	Social Security Institute (El Salvador)
ISSSTE	<i>Instituto de Seguros Sociales para Trabajadores del Estado</i> (Mexican Social Security Institute for State Employees)
IUD	intrauterine device
JA	<i>jefatura de área</i> (Ecuador)
JICA	Japan International Cooperation Agency
LAC	Latin America and the Caribbean/Latin American and Caribbean
LMIS	logistics management information system
LPP	Law of Popular Participation (Bolivia)
MAIS	new health care model (Nicaragua)
MINSA	Ministry of Health (Peru)
MOH	ministry of health
MOHFW	Ministry of Health and Family Welfare (Bangladesh)
MOU	memorandum of understanding
MSD	<i>Ministerio de Salud y Deportes</i> (MOH—Bolivia)
MSD	medical stores department (Tanzania)
MSH	Management Sciences for Health
MSL	Medical Stores Limited
NEDL	national essential drugs list
NGO	nongovernmental organization
ORS	oral rehydration salts
PAFIE	Program of Assistance with Pharmaceutical and Strategic Supplies (Brazil)
PHPN	Program of Improvement of Prenatal Care and Delivery (Brazil)
PROSALUD	Bolivian family planning nongovernmental organization
QA	quality assurance
RAAN	autonomous region in northern Nicaragua
RAAS	autonomous region in southern Nicaragua
RH	reproductive health
RHCS	reproductive health Contraceptive Security
SDP	service delivery point
SEDES	departmental health offices (Bolivia)
SESPAS	<i>Secretaria de Estado de Salud Pública y Asistencia Social</i> (MOH—DR)
SIAL	contraceptive-specific information system (Nicaragua)
SIBASI	regional governments in El Salvador
SILAIS	<i>Sistemas Locales de Atención Integral en Salud</i> (regions in Nicaragua)

SISMED	fully integrated supply system (Peru)
SNUS	National Unified Supply System (Bolivia)
SPARHCS	Strategic Pathways to Reproductive Health Commodity Security
SSA	<i>Secretaria de Salud</i> (Mexico)
STG	standard treatment guideline
STI	sexually transmitted infection
SUMI	<i>Seguro Universal Materno-Infantil</i> (Universal Maternal Infant Health Insurance—Bolivia)
SUS	Unified Health System (Brazil)
TB	tuberculosis
UMF	Family Medical Unit (Mexico)
UNDP	United Nations Development Program
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
UTMIM	<i>Unidad Técnica de Medicamentos e Insumos Médicos</i> (El Salvador)
VEN	vital, essential, and non-essential
WHO	World Health Organization

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EXECUTIVE SUMMARY

Health sector reform (HSR) and sector-wide, health-strengthening initiatives—supported by bilateral donors, multilateral agencies, and development banks—have had an impact (in some cases, a large impact) on contraceptive logistics systems performance in most Latin American and Caribbean countries during the last two decades. Two components of HSR in particular—decentralization of the health sector and integration of vertical health programs—have affected Ministry of Health and social security supply systems throughout the region. On some occasions, they have had a positive effect, but in other cases reforms have created challenges to maintaining efficient and well-functioning contraceptive logistics systems. Challenges may be magnified by recent gradual decreases in donor contraceptive support and by a growing demand for contraceptives in the region.

To help countries during the transition from external assistance to self-sustainability, this paper discusses the importance of prioritizing logistics—or supply chain management—throughout the reform process. Logistics, or supply chain management, is the set of activities that moves products to people. The supply chain can be designed to succeed in virtually any environment as long as policymakers and program managers are committed to making and keeping products available for their clients. In all circumstances, supply chain management requires careful and detailed planning, policy-level visibility and support, sufficient human and material resources, and a commitment to the collection and use of accurate and timely information to drive supply chain decision making. Without these, supply chains are vulnerable to disruption and waste and many of the goals of health reforms can be lost. With these conditions, however, supply chains are robust and can bring many benefits in terms of program impact, efficiencies and cost savings, quality of care, and customer satisfaction—all important objectives of most health reforms.

This paper synthesizes key considerations that policymakers, family planning managers, and logistics advisors can take into account when implementing decentralization and/or integration reforms of certain or all logistics systems functions, which will help sustain an efficient and continuous supply of contraceptives:

- Before implementing decentralization and integration efforts, a commitment to family planning and to ensuring contraceptive availability must be sought and developed at all levels.
- Early planning is crucial to guarantee that reform efforts—namely, decentralization and integration—help sustain commodity availability at all levels.
- Strong leadership often facilitates change; natural, respected leaders must be identified and included in the process to guide technical discussions on the advantages and disadvantages of decentralizing and integrating certain aspects of the supply system.
- Data-based planning from the outset about possible challenges to difficulties in decentralizing or integrating different functions may result in more realistic plans and, consequently, make implementation easier.
- Some functions may lead to better system performance when they are centralized, while others may result in better performance when they are decentralized. John Snow, Inc./DELIVER’s experience suggests that health systems should retain central capability for some logistics functions that are most likely to fail when decentralized, for example—
 - logistics management information systems

- design of inventory control systems
 - specifications and enforcement of essential medicines lists
 - product selection and essential service package specifications
 - bulk procurement
 - rationing for scarce essential products
 - quality assurance for all products (John Snow, Inc./DELIVER 2001).
- A focus on human capacity and new roles and responsibilities must be part of the planning process to ensure true ownership of logistics responsibilities. This will require widespread training and elimination of duplicate roles and functions. Decentralization or integration of certain contraceptive logistics functions requires a significant investment in human capacity development, information systems, and logistics training at different levels; without this training, the result may be less effective supply system performance. The time and effort required reorienting staff and providing logistics and supervisory training is often underestimated.
 - A pilot test approach can help ensure smooth implementation of, for example, an integrated logistics information system that, subsequently, will be instituted on a larger, national scale.
 - Throughout the planning stage, family planning and logistics experts must be included for advice and analysis of the effects of decentralizing and integrating the contraceptive logistics system. This will help protect the family planning program and its positive effects on maternal and child health and will ensure contraceptive availability at all levels.

For countries that are just beginning to plan for health reform, and for those that are already in the implementation stage, it is important to proceed cautiously when considering decentralizing or integrating the logistics system. Other countries' experiences have shown that unanticipated problems may occur when supply chain management has not been considered an integral part of the health reform process. A lack of careful planning can seriously degrade the logistics system, interrupting the efficient flow of commodities to the client, which is an essential component of any effective health program.

This paper complements a recent shorter paper developed by DELIVER, entitled *Decentralizing and Integrating Contraceptive Logistics Systems in Latin America and the Caribbean: Considerations for Informed Decision Making throughout the Health Reform Process*, which summarizes many of the more detailed cases presented here (Sánchez, Anabella, Wendy Abramson, Nadia Olson, and Nora Quesada 2006). The summary paper highlights many of the factors that policymakers should consider throughout the planning process to ensure the continuous availability of contraceptives before, during, and after reform is implemented. This paper, however, is a longer, more technical document that provides detailed case studies and in depth examples of how various logistics functions are affected by health reforms, namely decentralization and integration, and technical considerations for health managers and logistics staff as they implement these changes.

INTRODUCTION

BACKGROUND

Declining donor support for contraceptives in Latin America and the Caribbean

Traditionally, international donors have partially or completely supplied contraceptives in the Latin American and Caribbean (LAC) region. As a result, in-country ministries of health (MOHs), social security institutes, and NGOs have set up, financed, and managed vertical contraceptive logistics systems that function separately from essential medicine and other specialized (also vertical) supply systems, such as vaccine, HIV/AIDS, tuberculosis (TB), and malaria supply chains¹. In several Latin American countries, nongovernmental organizations (NGOs)—affiliates of the International Planned Parenthood Federation (IPPF)—have traditionally played a major role in distributing the donated contraceptives; only recently have governments become more involved in the process.

In recent years, however, donor support for contraceptives has started to decline worldwide. In the early 1990s, Latin America was the first region to begin experiencing a decline in contraceptive donations from the U.S. Agency for International Development (USAID) and other donors. Mexico, Chile, and Colombia were the first to become completely donor independent, assuming total financial and managerial responsibility for contraceptive procurement and distribution. Then, Brazil and Costa Rica soon followed when donor contraceptive support ceased.

In 2006, nine LAC countries received some reproductive health support (primarily from USAID and the United Nations Population Fund [UNFPA]). However, donor investment in the region continues to decline. As a result, several countries are beginning to plan for the phaseout of external donations, primarily by developing and strengthening their own national Contraceptive Security plans, including policy, procurement, financing, service delivery, logistics, and market segmentation strategies.

The status of donor contraceptive support for the nine LAC countries can be summarized as follows:

- The Dominican Republic and Ecuador no longer receive USAID contraceptive donations, but the public sector in the Dominican Republic continues to receive limited donations from UNFPA.
- El Salvador and Peru are nearing the end of a phaseout of USAID contraceptive donations. Assistance to El Salvador is scheduled to end by 2009.
- Guatemala ended a USAID phase out plan in 2006. The MOH received the last donation of intrauterine devices (IUDs) from USAID in 2005, and the USAID donations to MOH contracted-NGOs (orals, injectables and condoms) ended in 2006.
- Nicaragua is expected to begin phasing out USAID contraceptive donations in a few years; the Honduras Secretariat of Health has a written agreement with USAID that all donations will end in 2008.

¹ The term supply chain refers to the entire chain of storage facilities and transportation links through which supplies move from manufacturer to consumer, including port facilities, the central warehouse, regional warehouses, district warehouses, all service delivery points, and transport vehicles.

- The government of Bolivia no longer receives donations from UNFPA or the United Kingdom's Department for International Development (DFID); the Japan International Cooperation Agency (JICA) will provide the contraceptives for 2006. Phaseout of USAID's donations to the nongovernmental organization (NGO) PROSALUD's social marketing program is planned for 2008.

Increased decentralization and integration as part of health sector reform

Health sector reform (HSR) emerged as a major focus in the 1990s. Although its antecedents go back many decades, HSR was initially discussed by the World Bank in its *World Development Report 1993: Investing in Health* (World Bank 1994). The increasing burdens of disease—especially infectious diseases and those for which there are immunizations—coupled with high population growth and weak economies have created a need to stretch limited health care resources. HSR is rooted in the desire of governments and lenders to provide expanded health care within limited budgets and resources. The goals of HSR include improving the quality, equity, and financial sustainability of essential services as well as increasing access to these services.

During the past two decades, HSR and sector-wide health-strengthening initiatives—supported by bilateral donors, multilateral agencies, and development banks—have had an impact on contraceptive logistics systems in most LAC countries. Two components of HSR in particular—decentralization of the health sector and integration of vertical health programs—have created both positive effects as well as disruptions in the MOH and social security supply systems throughout the region. Challenges may be magnified by gradual decreases in donor contraceptive support and by a growing demand for contraceptives in the region.

Goal of This Paper

To help countries during their transition from donor support to self sustainability and enhanced human capacity to manage the logistics system, this paper intends to aid health managers and technicians to carefully guide the decentralization and /or integration planning processes taking place in LAC countries in order to improve or maintain the efficiency of the contraceptive logistics system.

Relevance of this paper for health reform and the supply chain management:

The examples provided throughout this paper aim to demonstrate the importance of prioritizing logistics throughout the health reform process. Logistics—or supply chain management—is the set of activities that moves products to people. In all circumstances, supply chain management requires careful and detailed planning, policy-level visibility and support, sufficient human and material resources, and a commitment to the collection and use of accurate and timely information to drive supply chain decision making. With these conditions, supply chains are robust and bring enormous benefits in terms of program impact, efficiencies and cost savings, quality of care, and customer satisfaction—all important objectives of most health reform initiatives. However, without such conditions, supply chains are vulnerable to disruption and waste, and many of the goals of health reforms can be lost.

Building on several previous documents produced by DELIVER, the authors review specific opportunities and challenges and lessons learned from LAC countries and countries in Asia and Africa related to preserving the integrity of the supply chain during the process of integration and decentralization. In addition, the appendix provides an update on the status of decentralization and integration reforms in various LAC countries and their affects on the contraceptive supply system.

In addition, the following paper complements a recent shorter paper developed by DELIVER, entitled *Decentralizing and Integrating Contraceptive Logistics Systems in Latin America and the Caribbean: Considerations for Informed Decision Making throughout the Health Reform Process*, which summarizes many of the more detailed cases presented below (Sánchez, Anabella, Wendy Abramson, Nadia Olson, and Nora Quesada 2006). The summary paper highlights many of the factors that policymakers should

consider throughout the planning process to ensure the continuous availability of contraceptives before, during, and after reform is implemented. The following longer, more technical document provides detailed case studies and in depth examples of how various logistics functions are affected by health reforms, namely decentralization and integration, and technical considerations for health managers and logistics staff as they implement these changes.

Who Needs to Read this Paper

The target audiences for this paper are MOH managers and technical staff working in logistics and family planning as well as policy makers from host country governments and the international donor community. The following analysis illustrates two important aspects. First, the supply chain can be designed to succeed in almost any environment, as long as policymakers and program managers are committed to making and keeping products available to their clients. Secondly, the experiences compiled through the LAC region suggest that higher system performance may result from keeping some logistics management functions centralized while decentralizing others. The same is true when making decisions about integration.

METHODOLOGY

This paper was developed using an extensive document review, and selected interviews and correspondence with senior health officials based in-country or with an expert knowledge of Contraceptive Security issues. See the references for a complete list of all documents reviewed. Senior health officials (primarily MOH, social security, and DELIVER staff) in 14 LAC countries (Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Paraguay, and Peru) provided input. Where possible, the report draws on quantitative data (primarily from Strategic Pathways to Reproductive Health Commodity Security [SPARHCS] assessments conducted in the region). A draft of the paper was extensively reviewed by DELIVER experts on logistics integration and decentralization and health sector reform.

Although it is difficult to directly determine the effects of decentralization or integration initiatives on logistics systems without applying extensive monitoring and evaluation tools, this study identifies key challenges and opportunities, and provides an overview of the experiences in the LAC region.

Roadmap to the Report

The following section, “Contraceptive Logistics: A Brief Overview,” is an introduction to what is meant by contraceptive logistics and Contraceptive Security. The second section, “Decentralization and Integration,” includes definitions and examples of each. The third section, “Lessons Learned: Experiences from the Field about the Effects of Decentralization and Integration on the Logistics System,” highlights what is known about the effects of decentralization and integration on each function of the contraceptive logistics system. Examples are drawn from LAC regional experiences. They are summarized in a matrix that compares the countries that have decentralized and/or integrated various logistics functions.² A few key experiences from other countries and regions are also provided. The final section, “Key Considerations,” highlights the most significant ideas to consider for future health reform planning. In addition, a glossary is available with key technical terms defined for the reader and the appendix provides various case studies on the status of decentralization and integration reforms in a number of LAC countries.

² Individual country-specific decentralization and integration efforts are also detailed in case studies in the appendix.

CONTRACEPTIVE LOGISTICS: A BRIEF OVERVIEW

WHAT IS MEANT BY “CONTRACEPTIVE LOGISTICS” AND “REPRODUCTIVE HEALTH COMMODITY SECURITY,” AND WHY ARE THEY IMPORTANT?

Reproductive Health Contraceptive Security (RHCS) or Commodity Security (CS) is said to exist when all people are able to choose, obtain, and use quality contraceptives and other essential reproductive health products whenever they need them.

In practical terms, to achieve contraceptive/commodity security, programs must—

- know their commodity requirements;
- have or be able to coordinate the resources required to meet commodity requirements for the medium to longer term (5 to 10 years);
- and effectively procure, distribute, and dispense the supplies (or have them procured, distributed, and dispensed) to all end-users and clients whenever they need them.

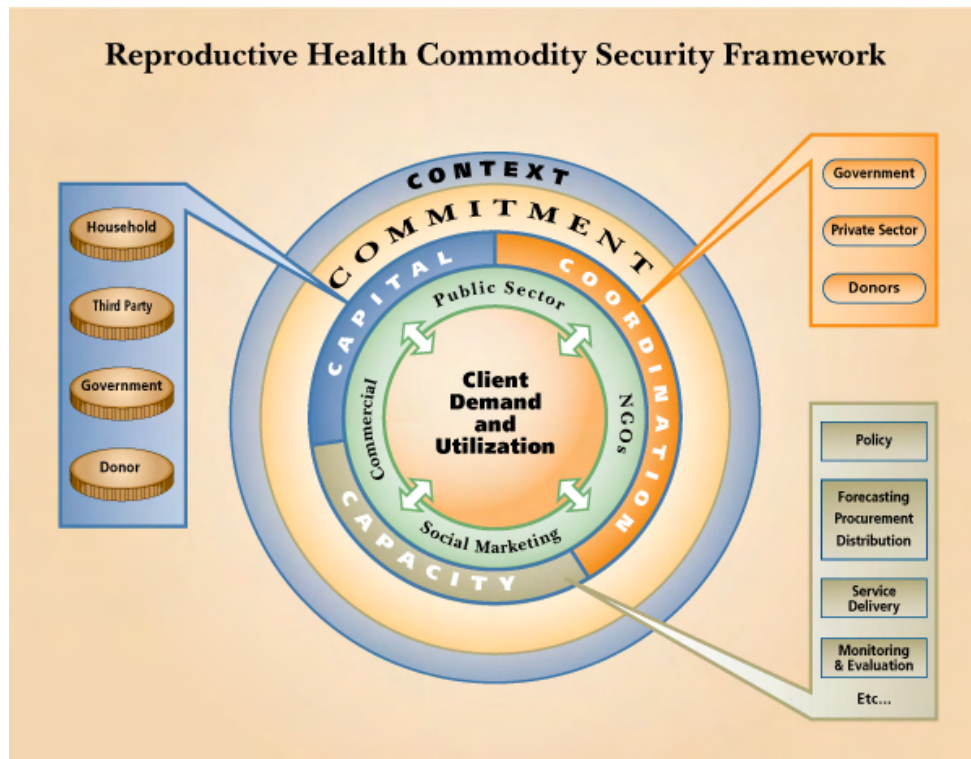
Figure 1³ depicts several interrelated elements that make up an effective approach to RHCS. In every country, there is a *context* that affects the prospects for RHCS: (1) national policies and regulations that influence family planning/reproductive health (RH), particularly the availability of RH supplies; and (2) broader factors such as social and economic conditions, political and religious concerns, and competing priorities. Within this context, *commitment*—shown in part by supportive policies, government leadership, and focused advocacy—is a fundamental underpinning for RHCS. Commitment is the basis from which stakeholders will invest the necessary *capital* (financing), *coordinate* for RHCS, and develop the necessary *capacities* (the third circle in the figure). The boxes in the figure visually explain each of the three components. Coordination involves government, the private sector, and donors ensuring more effective allocation of resources. Households, third parties (e.g., employers and insurers), governments, and donors are all sources of capital. Capacities must exist for a range of functions—policymaking; forecasting, procurement, and distribution; service delivery; monitoring and evaluation; and so on.

Moving closer to the client in the figure, capital, coordination, and capacities are necessary for the public sector, NGOs, social marketing, and commercial sector to efficiently meet the needs of the entire range of clients—from those who need subsidized products to those who are able to pay for commercial products.

Clients (women and men), at the center of the figure, are the ultimate beneficiaries of RHCS as product users. They are represented by the double-headed arrows, which are the drivers of the system through their demand.

³ Figure and text for this paragraph come from Hare, et al. (2004).

Figure 1: Reproductive Health Commodity Security Framework



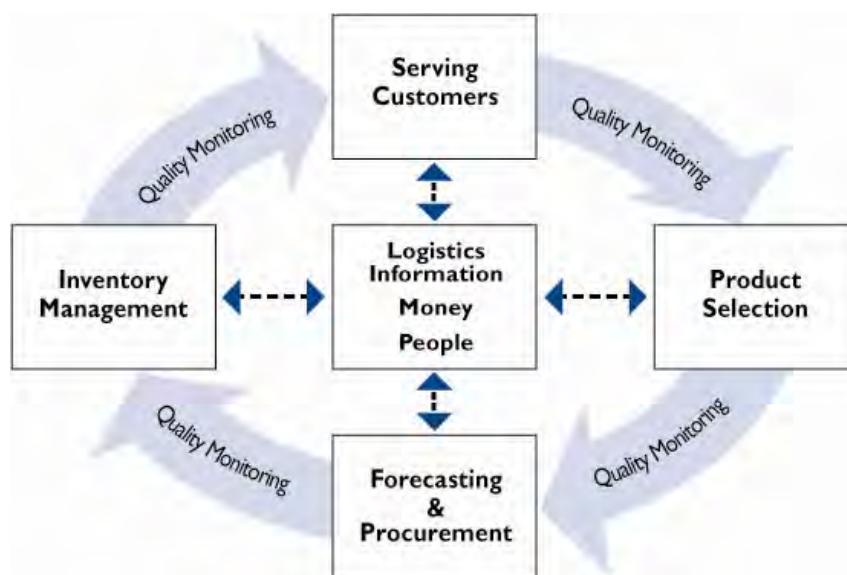
THE LOGISTICS CYCLE AND LOGISTICS FUNCTIONS⁴

Logistics management is the coordination of various organizations and functions to source, procure, and deliver goods to the customer. Logistics management includes several components that must be in place and functioning effectively to move products through the pipeline⁵ to ensure that Contraceptive Security is achieved. Activities around each component are organized according to a logistics cycle. The core focus of the cycle is the consumer of medicines and contraceptives, referred to as the “customer.” Indeed, providing dependable customer service is what drives modern commercial logistics systems. Figure 2 below shows the customer at the top of the logistics cycle, with all functions ultimately returning to serve him or her. Responsibility for ensuring that customers are appropriately “served” to their satisfaction is shared by everyone involved in the process outlined below.

⁴ This section draws from Bates, et al., (2000) and John Snow Inc./DELIVER (2001).

⁵ Pipeline is defined as the entire chain of storage facilities and transportation links through which supplies move from manufacturer to consumer, including port facilities, the central warehouse, regional warehouses, district warehouses, all service delivery points, and transport vehicles.

Figure 2: Logistics Cycle



Accurate **product selection** ensures that the right product is available based on what the client wants, and the system and client can afford. Data-based **forecasting and procurement** project future needs and ensure that the right quantity and the right product will be available. Forecasting relies on historical consumption, demographic, and program planning data to create projections of short- and medium-term needs—roughly one to two and three to five years into the future, respectively. The purpose of the forecast is to clarify future financial requirements for maintaining adequate supplies in a given program. **Inventory management** includes (1) inventory control systems that, if well designed and implemented, prevent under- and overstocking; (2) warehousing that maintains the quality of the product while in storage; and (3) transportation, which ensures that the products reach the service delivery points safely and in good condition. If good inventory management practices are followed, this component helps ensure distribution of the right quantity of commodities to the right place in the right condition at the right time.

Logistics information is critical to informed decision making. A logistics management information system (LMIS) should collect data on stock-on-hand (the quantities of usable stock available at each level in the system), rate of stock consumption, losses, and adjustments.⁶ An LMIS is an essential logistics function for good overall system performance, running manually or automated. An LMIS that provides data on consumption, stock positions, and losses from all levels of the system is an absolute necessity for effectively carrying out other functions, such as forecasting, procurement, storage, and distribution. Even for the relatively short lists of products managed by vertical contraceptive logistics systems, whenever feasible automation of the LMIS helps to tabulate, analyze, and feed back data. Implementing good logistics information management practices helps ensure the right quantity of commodities at the right time at the right place, increases efficiency, reduces waste, and improves accountability of the system. An LMIS works only if the essential data flow efficiently throughout the system and decisions are based on these data. Finally, **organizational support** (in the form of human resources, training, supervision, procedures and guidelines, and equipment) and adequate **financial resources** are crucial to the efficient functioning of the cycle. **Quality monitoring** should take place during all stages of the cycle.

Finally, political leadership helps support the efficient functioning of the logistics system. The logistics cycle must be supported by an effective policy and legal framework, which is addressed at the national

⁶ Losses are the quantity of stock removed from the pipeline for any reason other than consumption by clients (e.g., theft or damage). Adjustments are made when quantities are issued to or received from other facilities at the same level of the pipeline.

level. Program managers, technical assistance providers, and donors must understand and articulate how each component in the cycle affects health service delivery and specific objectives that policymakers care about: health reform, cost recovery, commodity security, and program expansion. Political leadership is a necessary instrument to establish a legal and regulatory framework that supports commodity availability, including affordable prices, adequate financing, and sound supply chain management.

Figure 3 below shows how everything from the supply of raw material to the role of policymakers and the need for warehouses leads towards ultimately serving the customer.

Figure 3: Supply Chain



THE LOGISTICS FUNCTIONS

Understanding and examining the essential logistics functions, which are part of the logistics cycle described above, are fundamental when prioritizing supply chain management throughout the reform process. Table 1 lists the essential logistics functions that must be efficiently carried out throughout the logistics cycle to ensure commodity availability for the client.

Table 1

Functions of the Logistics System
Treatment protocols
Product selection
Forecasting and needs quantification
Budgeting
Procurement
Inventory control
Transportation
Human resources/Personnel
Training and supervision
Monitoring and evaluation/Quality assurance
Logistics management information system
Warehousing and distribution
Organizational support

The logistics system can be customized to any setting as long as international donors and agencies, as well as national policymakers, in close coordination with MOH family planning and logistics staff, carefully analyze the effects of health reforms on each function of the logistic cycle and on the logistics system as a whole, and then determine the most effective way to proceed with these reforms. More specifically, before program managers and policymakers begin to decentralize or integrate, they need to understand and examine each logistics function to determine the extent to which that function is currently effective, who manages and performs the function, and the resources required to ensure that each function is correctly carried out. After these determinations are made, steps can be taken to ensure that resources, functionalities, and efficiencies are preserved, and possibly even improved upon, while reforms are carried out throughout the health sector. By preserving and deepening logistics function performance, policymakers and program managers can help guarantee a successful health reform process. Sustained commodity availability is a key component of any successful health program (Bossert et al. 2003).

The following sections provides lessons learned from various decentralization and integration reforms, which were carried out primarily in the LAC region. These lessons illustrate how various logistics functions can be negatively affected when they are not prioritized throughout reform processes, while some reform measures can have positive effects on the supply chain when given priority attention throughout the planning and implementation process.

DECENTRALIZATION AND INTEGRATION

DECENTRALIZATION⁷

WHAT IS DECENTRALIZATION? AN OVERVIEW OF DIFFERENT TYPES OF DECENTRALIZATION

Decentralization in health systems typically pushes varying degrees of responsibility for management functions from the central to the regional or district level or even the municipal or facility level. Degrees of decentralization vary between functions and between countries, and discrepancies exist between policy and practice. While decentralization can be beneficial, it poses significant challenges, particularly where capacity is minimal. Most LAC countries have adopted or are planning to adopt varying models of decentralization reform in coming years. Degrees or levels of decentralization can be understood as follows:

- *Deconcentration* is the most limited and most common level of decentralization, under which authority, functions, and/or resources are transferred to regional and local field offices of the central government.
- *Delegation* transfers authority, functions, and/or resources to an autonomous private, semipublic, or public institution.
- *Devolution* cedes autonomy and authority to autonomous local governments (usually municipalities), which, at least to some degree, take responsibility for service delivery, administration, and financing of the health system.

Country- and function-specific examples of the different types of decentralization are provided in the boxes below.

Deconcentration of storage in Mexico⁸ and of procurement in Guatemala⁹

To reduce costs and storage space requirements, **Mexico**'s Social Security Institute (IMSS) eliminated its central warehouse. IMSS now ships new products immediately to each of 37 delegations (district) stores. Elimination of the separate central warehouse reduced the need for storage space and warehouse staff, shortened the pipeline, and thus reduced costs. This action resulted in savings at the central level, and significantly reduced the transit time of the supplies, by placing them closer to the SDP levels.

In **Guatemala**, procurement responsibility deconcentrated to the departmental Health Area Directorates. At this time, deconcentration of the procurement function applies only for essential medicines, not for contraceptives. Once donations of contraceptive commodities are completely phased out, however, procurement responsibility for contraceptives may be considered to be deconcentrated to the local level. This arrangement seems to be working well, as Health Area Directorates procure from pre-qualified suppliers registered by the central level, and has resulted in storage and distribution savings for the program.

⁷This section is based on the following materials: Bates et al., (2000), Bossert (no date), and John Snow, Inc./DELIVER (2001).

Delegation of forecasting, procurement, distribution, and LMIS in Peru¹⁰ and of all functions in Costa Rica¹¹

For a long time in **Peru**, PRISMA, an NGO contracted by USAID, was responsible for the MOH's contraceptive forecasting, procurement, planning, warehousing, and distribution. The NGO managed the national warehousing information system, supported a central warehouse where contraceptives were stored, coordinated and funded quarterly distribution of contraceptives to 184 points in the country, and provided training and technical support to MOH staff. However, the system has now changed and PRISMA is transferring this responsibility to SISMED, the national essential drugs public system.¹² The impact of such transfer still remains to be seen, as the MOH takes on this additional role, under a highly decentralized and integrated system.

In the early 1990s, as part of HSR, **Costa Rica's** MOH delegated all responsibility for health care provision (including family planning) to the Costa Rican Social Security Institute (*Caja Costarricense de Seguro Social*—CCSS). The MOH retained only a normative function. In 2002, 88 percent of the population was officially registered with the CCSS, and the organization served as a safety net for the remainder of the population. (Health care facilities are required by law to provide care even to those not officially registered.). In 2005, the CCSS provided services to more than 72 percent of family planning users.

Devolution of all aspects of administration and management in Bolivia

In **Bolivia**, the central government transferred authority for all aspects of administering the family planning program to local governments at the district level. Municipalities are now responsible for managing all aspects of family planning, including securing adequate funding for purchasing contraceptives and managing forecasting and procurement. Since contraceptives are still donated, Municipalities haven't included a budget to purchase these supplies, despite the fact that under the Universal Insurance for Mother and Child each Municipality should provide contraception to all women of reproductive age who choose it. One of the great barriers to benefit from economies of scale is the autonomy each Municipality has for procuring essential drugs and contraceptives, especially in a system where each Municipality can procure supplies even from nearby pharmacies.

WHY DECENTRALIZE?

The Theory

Why do countries choose to decentralize? There are several perceived gains to decentralization:

- Improved allocation efficiency, as the mix of services to be provided and expenditures to be used is influenced by local-level users. The assumption is that local needs will be better met.
- Greater cost consciousness at the local level.

⁸ Quesada and Reynoso (2002).

⁹ Abramson, Sánchez, and Olson (2006).

¹⁰ Taylor et al, (2003)

¹¹ Cisek and Olson (2006)

¹² See case study on Peru in the appendix for more information.

- Service delivery innovation through experimentation and adaptation at the local level. Again the assumption is that delivery will adapt to local needs better than centrally run programs.
- Improved quality, transparency, accountability, and legitimacy because of user oversight and participation in decision making.
- Greater equity through distribution of resources toward traditionally marginal regions and groups.

The Reality

A review of the literature developed under both the Family Planning Logistics Management project (FPLM) and DELIVER reveals that in practice, decentralization in the health sector seems to often simply reflect larger decentralization forces within the country. Health care decentralization is usually not the result of a data-based, well-thought-out, and planned process. Indeed, in Brazil and the Philippines, decentralization of most responsibilities to the municipal level was a purely political decision, and the health sector simply followed suit. In some respects decentralization runs counter to many global trends for logistics systems where greater efficiencies can be obtained by centralizing decision making, for example in areas like procurement and information systems. In Bolivia, for example, the inventory control and the LMIS functions were not disrupted because the central level released national norms for municipalities to manage their inventory and the LMIS.

Sometimes governments or MOHs prefer not to decentralize but must respond to reforms to “modernize the state” as well as international pressures. This so-called “decentralized centrism” enacts reforms in a way that perpetuates central control, and the reforms that claim to grant local decision-making authority may, in fact, grant very little. Sometimes, however, the intent to decentralize is genuine but does not work out as intended (for example, because of a lack of planning, training, or getting stakeholders on board). For instance, often decentralization efforts do not receive vigilant guidance from central-level leaders to ensure that national family planning policies are implemented at lower levels and, as a result, contraceptive logistics systems weaken and contraceptive availability is compromised.¹³

POSSIBLE IMPACT OF DECENTRALIZATION ON CONTRACEPTIVE LOGISTICS

There are many possible advantages and disadvantages to decentralizing different contraceptive logistics functions. A summary of some of these is provided in Table 2 below.

Table 2: Examples of Advantages and Disadvantages of Decentralizing Some Contraceptive Logistics Functions¹⁴

Function	Advantages	Disadvantages
Treatment protocols	Service delivery based on local needs.	Reduced control over prescribing practices.
Product selection	Selection based on local needs.	Reduced influence on— treatment guidelines; products for priority essential services; and priority of preventive products like contraceptives.
Forecasting and needs quantification, budgeting, and procurement	Quantification based on local requirements. Local <i>ownership</i> of commodity requirements and commitment to ensure	Greatly increased prices. Increased— forecasting labor; forecasting error; inadequacies in local financial budgets;

¹³ Taylor et al, (2003)

¹⁴ Table elaborated based on John Snow Inc./DELIVER (2001).

Function	Advantages	Disadvantages
	<p>product availability.</p> <p>Visibility and accountability at local level for forecasting and budgeting mistakes and procurement irregularities.</p>	<p>and procurement complexity without basic guidelines for procurement procedures.</p> <p>Commodity quality control difficult if procurement is decentralized.</p> <p>If staffs are not trained properly, wastage can occur.</p>
Inventory control, transportation	<p>Local control over reordering decisions.</p> <p>Local control of shipping schedules and transportation means.</p>	<p>Lack of standardized guidelines and procedures that enhance accountability and transparency</p> <p>Impossible to rationally allocate scarce products.</p> <p>Local resources (staff and transport) may be unavailable.</p>
Logistics management Information system	<p>Experience has demonstrated that this function performs efficiently only if it remains centralized.</p>	<p>During the decentralization process, the LMIS for contraceptives may lose importance.</p> <p>Lack of standardized forms, guidelines, and flow of information</p> <p>As a feedback mechanism, information no longer flows from the lower to the central level.</p>
Human resources management, personnel, training and supervision	<p>If leadership is exercised, resources are available, and local capacity is institutionalized, local levels have demonstrated good judgment to resolve human resources gaps to carry out logistics functions.</p>	<p>In most cases, local trained staff may be absent or lacking necessary skills.</p>
Quality assurance	<p>Experience has demonstrated that this function performs efficiently only if it remains centralized.</p>	<p>Often, local levels do not have the skills or specialized equipment to perform formal quality assurance measures. Commodity quality control is difficult to manage if procurement is decentralized.</p>

Furthermore, human resources management and the proper clarification of new roles and responsibilities of local-level staff in times of health reform and decentralization are of the utmost importance for the proper functioning of the logistics system. During the decentralization process, health managers need to work closely with both the human resources directorate at the central level and staff at the local levels to ensure that logistics functions, responsibilities, and authority are explicitly delegated. This can help develop an enabling environment for local staffs to perform their new roles and responsibilities.

The Ministry of Health in Guatemala, for example, in 2004 began to transform their health care provision and the health management models. The principle guiding this effort is the strengthening of the management capacities of the secondary health care level (districts) below the Health Area Directorates. During such initiatives, health managers need to closely work with human resources directorates at the central level, and with local staff to make sure that authority, logistics functions, and responsibilities are explicitly delegated and included in position descriptions to guarantee an enabling environment for staff to perform their new responsibilities. Often times the oversight of these steps limits the capacity of local personnel who are expected to run an effective commodity logistics system.

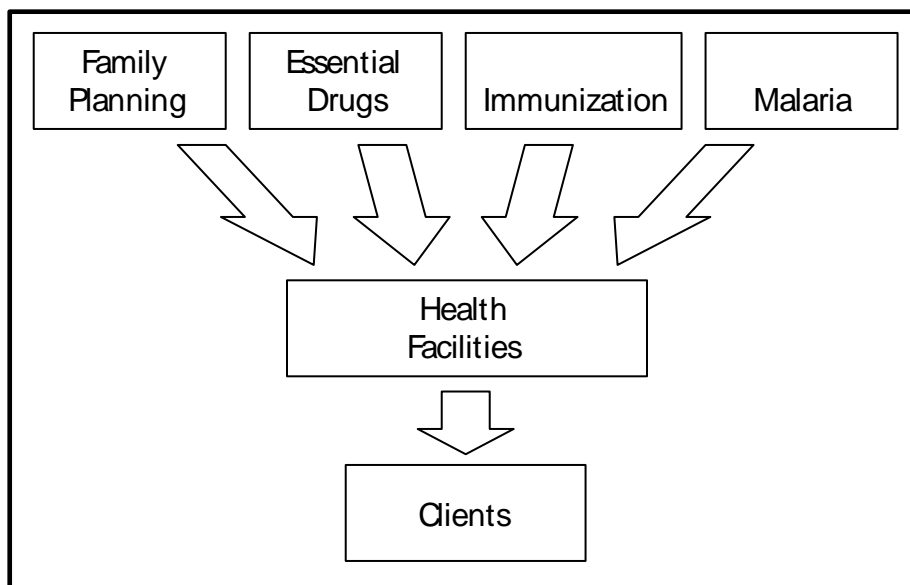
INTEGRATION¹⁵

WHAT IS INTEGRATION?

For many decades, family planning and vaccine supplies have been managed independently from other essential medicine supply chains. This is primarily because vertical programs, such as family planning and immunizations, have also received a significant level of donor support. Moreover, the immunization programs have benefited from strong political will to make vaccines available throughout the entire public health system. The result has often been the implementation of well-run commodity management systems and improved product availability. Recently, however, the rise in the essential medicines movement led by the World Health Organization, and the Expanded Programme on Immunizations (EPI) in the LAC region, have highlighted the need to deal with drug management issues across programs; in general, vertical logistics systems have shifted to integrated logistics systems that manage and supply health commodities for several or all health programs at once.

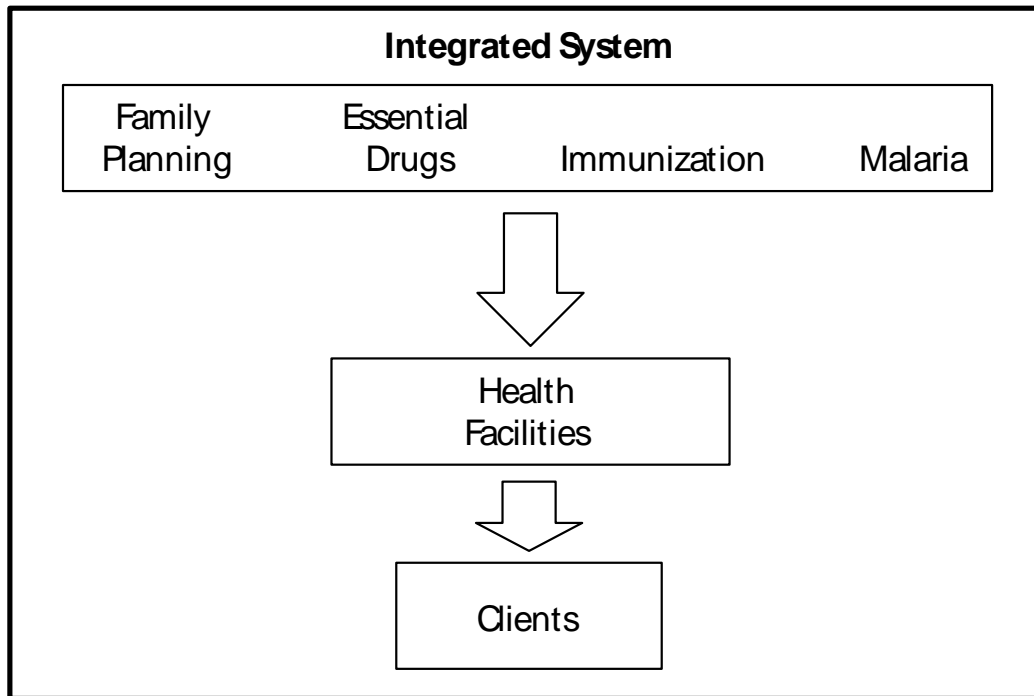
Integration can best be defined as the merging of vertically managed health services and management activities—logistics, for example. The following figures provide examples of how vertical and integrated systems operate, highlighting their basic differences.

Figure 4: Vertical Logistics System



¹⁵ This section draws on Bates et al. (2000).

Figure 5: Integrated Logistics System



While these figures depict a general illustration of vertical and integrated logistics systems, it is important to consider that every logistics function, and its performance, is affected by integration efforts. The following case examples illustrate different types of integrated and/or partly vertical systems throughout LAC and other regions of the world.

Vertical vs. Integrated: Distribution of family planning products in Ghana and Nepal

Until 2001, the MOH in **Ghana** operated more than four vertical logistics systems of health commodities (including contraceptives). The family planning program was primarily a vertical system, with its own managers who were in charge of the forecasting, logistics information system and inventory control. In the storage facilities contraceptives were kept in a separate area. Later the MOH identified the need to integrate the vertical logistics systems to make them more efficient. The DELIVER project provided technical assistance to assess four logistics vertical logistics systems related to: contraceptives, essential drugs, non-drug consumables and vaccines. As a result, today the contraceptive logistics system is integrated with essential drugs and non-drug consumables. The warehousing, transportation, and inventory control management functions are working integrated, while the contraceptive forecasting and procurement remain vertical, mainly because UNFPA is the contraceptive procurement agent for the MOH and some of the contraceptives are also provided by USAID and DFID. The logistics information system is expected to be integrated in the near future.

In contrast, the **Nepal** system has always been integrated. The LMIS manages more than 300 medical products (everything from scalpel blades to Depo-Provera). A central MOH procurement unit forecasts and orders supplies and works with donors to ensure continuous availability. Storage spaces are organized according to space requirements rather than by program, and all products are distributed at the same time. The FP program has its own managers, separate from other programs but below the national level. Logistics personnel have responsibility for all 300-plus products: all items must be ordered on the same form, and orders are delivered at the same time.

Vertical vs. Integrated: Delivery of family planning products in Mexico, Chile, El Salvador and Nicaragua

In Mexico, Chile, and El Salvador, the FP has maintained most of its logistics functions vertical, whereas warehousing and distribution may be integrated. To protect the proven success of the FP program, and even though these countries have decentralized systems, programs continue to run most of these functions in a vertical manner. In these three countries, family planning is an integral part of the MOH programs, and even though it has its own managers who are in charge of the LMIS for FP products, they work closely with other essential drugs managers to prepare forecasts and estimate needed supplies. However, in these countries, the FP program does not have a separate budget for logistics management, nor does it have a budget line item to procure contraceptives. Despite this, Mexico (IMSS, and partly SSA) and Chile manage to allocate funds to procure enough contraceptives, whereas El Salvador has to struggle every year to get funds to procure at least 50% of their total needs.

In Nicaragua, the system was vertical until 2005, when the Essential Drugs Unit of the Ministry of Health decided to take advantage of the successes of the contraceptive logistics system, and integrated essential drugs with contraceptives. A pilot test of the new integrated system took place in 2005, and the experience has been very successful. As of now, only 10 tracer drugs and 4 contraceptives are integrated, and once the automated system for the integrated LMIS is ready, all essential drugs will be integrated. This decision will reduce from 7 to 1 the number of vertical systems. Warehousing and distribution of supplies are now fully integrated as well. Careful planning and coordination have guaranteed the smooth integration of these functions, which are expected to result in savings for the MOH, in both human and financial resources.

Depending on the context, integration may require adding essential drugs and vaccines into a well-functioning contraceptive logistics system, the incorporation of contraceptives into an existing essential drugs logistics program, or the creation of an entirely new system incorporating products of more than one program.

As with decentralization, some functions of the logistics cycle can be integrated, while other functions might need to remain separate to work effectively. In practice, this often is the case. For example, contraceptives, oral rehydration salts (ORS), and vitamin A capsules might be procured by separate programs yet stored and transported together. In this case, the procurement system is a vertical organization, while the storage and transport functions are integrated.

When carrying out integration, many functions will need to be merged and coordinated, among and between different levels. This change may require shifts in the mix of necessary skills, training, possible alterations in infrastructure, and development of norms and guidance at the central level as well as among and between different levels. Consider, for example, the case of Nicaragua, described below in table 3, and note how some logistics functions continue to be vertical, while others have recently been integrated.

Table 3: Integration of Logistics Systems in Nicaragua¹⁶

Function	Contraceptive Logistics System	Medical Supplies Logistics System
Procurement	Donations	Budgets, loans, and donations
Forecasting	Consumption based	Based on budgets and prioritized health problem areas
Needs quantification	Yearly to twice a year; flexible depending on consumption and available donor budgets	Annual needs estimates; little flexibility
Logistics management information system	Contraceptive-specific information system	Medical supplies-specific information system, but integration of contraceptive LMIS is in progress
Inventory control	According to established max/min levels	No reserve levels
Distribution	Integrated: either (1) from central warehouse to regional integral health care systems (or SILAIs) or (2) from central warehouse to municipalities. In addition, in a few instances in the case of essential medicines, suppliers distribute directly to selected municipalities and hospitals.	
Storage	Integrated: storage and control norms pertain to all products.	

WHY INTEGRATE?

The Theory

The theory underpinning integration is that integration will result in more efficient finance and systems operations when vertical systems are merged. Some experts believe that vertical systems are less desirable because commodities are forced to compete for the same scarce resources: budgetary allocations, facilities, equipment, and trained personnel working in logistics management. Other experts believe that it is important to maintain priority programs through vertical systems so that public health gains are not lost and commodity management information systems maintain data flowing from lower to higher levels throughout the health system.

¹⁶ Taylor, et al. (2004)

The Reality

In practice, many countries, especially those experiencing graduation from donor support, see integration as a logical step. Often the contraceptive logistics system works more efficiently than that for other products, so integration becomes a way of capitalizing on the strengths of that logistics system by incorporating additional products and supplies.

Integration in Nicaragua and Bolivia

In both Nicaragua and Bolivia, where the contraceptive logistics system set the example, other drugs were integrated into the system. In Bolivia, more than 100 drugs are integrated under SNUS (Unified National Supply System), including contraceptives. In Nicaragua, first 10 tracer drugs and later other essential drugs will be integrated into the contraceptive logistics system.

Though it is uncommon, integration can be “pushed” by outsiders and resisted by governments and MOHs. For example, in Bangladesh, where integration was being pushed by an international organization, the government chose to integrate only from the district level down. This was a stalling tactic; after the national election was held, all efforts for full-scale integration were reversed.

In Bangladesh, Political Change Can Upset the Integration Process

In August 1999, in the context of a World Bank–funded HSR program, the Bangladesh Ministry of Health and Family Welfare (MOHFW) communicated its intention to begin the unification of the health and family planning services and management support systems at the district level. The term “unification” was used because MOHFW objected to the term “integration.” The decision to limit integration to this lower level was actually a delaying tactic and reflected the ministry’s reluctance to integrate its health and family planning wings from top to bottom, as called for by the World Bank plan. In March 2000, DELIVER carried out a situation analysis, one result of which was to call attention to the extreme animosity that existed between health and family planning staff over the issue of integration. The health staff perceived integration as adding to their resources and responsibilities, while their family planning staff perceived it as an end to the family planning program.

In April 2001, MOHFW decided to proceed with the integration plan. At MOHFW’s request, DELIVER devoted considerable time and expense to clarifying the details of how both health and family planning commodities should be planned for, ordered, received, stored, controlled, reported on, and issued under the new system. Significant problems arose from the fact that MOHFW was limiting integration activities to the district level, without integrating the health and family logistics operations at higher levels, thus preserving most of the duplicative effort that integration was supposed to eliminate.

Nevertheless, a manual was created, training took place, and DELIVER staff used the district store as the focus of a rollout effort to merge systems nationwide. While this work went forward, the family planning workers union brought lawsuits to halt integration, a national election took place, and the government changed. By July 2003, when about half of the country’s 462 district stores had been merged, the new MOHFW leadership decided to halt and reverse all work on integration.

POSSIBLE IMPACT OF INTEGRATION ON CONTRACEPTIVE LOGISTICS

Contraceptive logistics experts had previously viewed integration as having a negative impact on contraceptive supply. In recent years, however, experiences in various countries have revealed mixed impacts: integration of contraceptive and essential medicines systems may have a positive impact on some functions of the logistics system and a negative impact on others. For example—

- In **Bolivia**, integration was a disrupting factor to the contraceptive data quality of the LMIS, but at the same time, integration contributed to improved standards or norms for LMIS reporting. The

contraceptive logistics system was the basis upon which an integrated logistics system for essential medicines and medical supplies was developed. When integration first took place, some disruptions occurred and, therefore adjustments have been made, particularly in the information systems and merging of forms. As a result of these adjustments, the contraceptive system, although integrated, will be temporarily maintained parallel to other information systems to avoid any potential loss of information during the transition from a vertical to an integrated logistics information system. This practice will remain until the integrated information system is fully piloted, adapted, and put in place. At the same time, integration in Bolivia has also had some favorable effects in that it implemented national norms and standards that health facilities and municipalities are expected to follow when managing information systems.

- In **Nicaragua**, integrating the distribution of essential medicines and contraceptives improved the availability of both types of products at the regional level, as contraceptives and essential drugs are now treated with the same level of priority; they have the same distribution schedule, which represents savings for the national program.
- In **Zambia**, integration contributed to the deterioration of the LMIS while improving central storage (see more detailed case below).
- In **Tanzania**, integration compromised data quality, but it also lowered distribution costs to the system (see more detailed case below).

Integration in Zambia and Tanzania¹⁷

Before integration of stores management in **Zambia** in 1997, the capital city maintained separate storage sites for as many as eight different health programs, making transportation arrangements complicated. After integration, when supplies for all vertical programs except EPI were shifted to the Medical Stores Limited (MSL), the new system with its one-stop shopping made resupply visits to Lusaka from the districts much easier. On the other hand, Zambian officials inadvertently created major logistics problems when they moved to an integrated HMIS that tracked the availability of only a small number of tracer drugs: they stopped using data collection forms that provided essential information on consumption, stock positions, and losses at all levels of the system. The confusion between the functions of HMIS and LMIS stopped the flow of contraceptive logistics information. As a result, the central level no longer received the data it needed to estimate future contraceptive needs and lost the capacity to monitor and respond to stockouts at peripheral levels.

In **Tanzania**, the central medical stores department (MSD) demonstrated greatly improved performance for procurement, storage, and distribution as integration took place. It was able to take over distribution of contraceptives from the vertical system, and annual distribution costs fell from \$342,000 to \$169,000. However, the contraceptive system had a much stronger LMIS than the MSD. Consequently, the designers of the contraceptive LMIS were entrusted with the development of a completely integrated LMIS for all products under management of the MSD.

¹⁷ Bates et al., (2000)

In addition, as revealed by the case of Mali, described in the box below, poorly implemented integration efforts can result in system breakdown.

In Mali, Unplanned integration efforts caused system breakdown
<p>In 1998, Mali introduced some major organization reforms in public health logistics. The government created the National Pharmacy, a new organization with commercial incentives for using national wholesalers, including one that held the sole contract to provide USAID contraceptives. The vertical contraceptive system was dismantled and integrated into the system managed by the National Pharmacy. However, the managers at the National Pharmacy disagreed with the idea that they should obtain contraceptives from the designated supplier and refused to do so. No mechanism existed for reversing this position.</p> <p>It was not long before stockouts began to occur, discovered through site visits mainly and most likely due to the integration effort including a major change in information management. Health reform advocates had assumed that “issues” data provided by the new integrated LMIS would be sufficient for forecasting needs and ensuring distribution, and that the “dispensed to user data” supplied by the old contraceptive LMIS would not be missed. Under the new system, supervisory visits that had been used to collect data from health establishments ceased—and so did the flow of information.</p>

Table 4 below highlights examples of challenges that may result from integration of logistics systems. Possible solutions are also provided.

Table 4: Examples of Challenges Resulting from Integration of some Logistics Functions and Possible Solutions¹⁸

Function in an integrated system	Challenge	Possible solution
Logistics Management Information System	Dozens or hundreds of products must be managed.	<p>Automate LMIS at either the central or regional level of the distribution system.</p> <p>Use ABC/VEN¹⁹ analysis to categorize products by cost and health priority to establish differing levels of management attention for each product. (Contraceptives should be “V”, i.e., “Vital.”)</p> <p>Eliminate nonessential, inexpensive items from the supply chain by increased use of local purchase.</p> <p>Design data collection instruments to maximize ease of use (e.g., customized forms for each type of facility, preprinted product codes).</p>
Product selection	Budgets for essential drugs are almost always insufficient to meet needs.	<p>Establish national formulary and therapeutics committees and essential drugs lists, along lines already well defined by WHO.</p> <p>Limit procurements at all levels to generic products found on the national essential drugs list.</p> <p>Maintain a separate line item/earmark for contraceptives.</p> <p>Assure availability of those products required for treating highest-priority health problems, as identified by national policies.</p>

¹⁸ FPLM/JSI (1998).

¹⁹ ABC analysis is a tool by which items are compared according to their annual usage, allowing the planner to prioritize the management of class A items (10-20% of items that account for 70-80% of funds spent) in selection and procurement decisions. VEN analysis is a system of setting priorities, in which drugs are classified according to their health impact: vital, essential, and non-essential.

Function in an integrated system	Challenge	Possible solution
Forecasting	Morbidity/service data needed for essential drug forecasting are incomplete.	Strengthen morbidity reporting systems (<i>very hard</i> , except at hospital level). Use a consumption-based forecast, but adjust if necessary to account for shortages, using expert judgment while avoiding graft/corruption. Develop rational rationing schemes if procurement is centralized.
Procurement	Integrating the procurement of contraceptives with that of other products can detract from the importance placed on them and the time needed to guarantee accessible prices and high quality products.	Maintain the purchase of contraceptives as a priority, guaranteeing their financing and the personnel necessary to efficiently manage the procurement process.
Warehousing and storage	Large numbers of different products must be managed at each storage facility.	Use the forced-order version of Max-Min (in which orders are placed up to the maximum amount at the end of the review period) to ensure adequate supply of products. Automate inventory control procedures at least at the central level (if system is centralized). Consider bar-coding technology at the central-level facility. Use ABC/VEN analysis to identify less-important, less-expensive products, and remove them from the distribution system in situations where they can be locally purchased.
Distribution	Increased number of products that must be delivered means that transport capacity is insufficient, resulting in essential or bulky products being left behind.	Ensure that available transport capacity is devoted to highest priority (“V” or full-supply) products regardless of bulk (e.g., condoms). Increase the frequency of deliveries to reduce per-delivery volume requirements. Use private carriers to augment program transport capacity.
Treatment protocols	Contraceptives are not dispensed according to protocols.	Develop local dispensing protocols based on client/visit type. Provide training and supervision to providers in implementing dispensing protocols.
Organization and staffing	Integrated distribution systems are often run by pharmacists, who have little or no logistics training.	Include logistics staff in system design, development, and testing. Prepare and update appropriate job aids, reference manuals, and training curricula in all above areas. Train pharmacists, storekeepers, and other staff, and establish mechanisms and resources for continuous performance assessment and improvement.
	Integrated service systems may provide few or no incentives to accord priority status to contraceptives.	Train pharmacists, storekeepers, and providers to give priority to <i>all</i> “V” or full-supply items.

INTEGRATION POLICIES AFFECT FAMILY PLANNING AND EVERY FUNCTION OF THE CONTRACEPTIVE LOGISTICS SYSTEM

Every logistics function is affected by the plans and policies that a country institutes as it carries out integration measures. In some cases, the integration of the family planning program and its corresponding logistics system may lose priority when integrated if the program lacks political support throughout the

reform process. For example, in 2001, Peru (see appendix) began to integrate the FP program into all other health programs. This integration process greatly compromised the family planning and contraceptive logistics system, particularly by a reduction in management staff and the merging of budgets because the MOH had little commitment to taking over contraceptive supply chain management from an outside entity. PRISMA, a local NGO, had previously managed the contraceptive supply system, but careful planning did not take place to ensure these functions would be smoothly absorbed by the MOH. These disruptions ultimately compromised the adequate availability of contraceptives. Because of such experiences, policymakers need to analyze the efficiency of maintaining some functions as vertical—such as management of logistics information and forecasting and/or procurement—while integrating others, such as warehousing and distribution. In addition, throughout the reform process, if a new institution is going to absorb new functions, careful planning and advocacy work must take place to make sure there is political will at all levels to transfer these responsibilities from one institution to another and to ensure the new management unit has the ability and willingness to absorb these new functions.

Policymakers may also consider keeping priority programs, such as family planning and immunization, vertical to protect the important health gains assured by these programs. Even though they operate under decentralized settings, some countries—Ecuador, Mexico, and Chile, for example—have kept the family planning program and the contraceptive logistics system vertical to ensure that women have access to the contraceptives they want and need and to protect maternal and child health gains guaranteed by increased access to family planning services.

Moreover, before integration policies are outlined by health policymakers, it is essential to consider the following factors when integrating health systems:

- Earmark funds or maintain separate budget line items for preventive programs such as vaccines and contraceptives.
- Donors often drive the decisions about integrating health programs or changing from integrated to vertical programs. It is important that such decisions also be based on a thorough analysis of the advantages and disadvantages of integrating each separate logistics function before implementing integration of health programs.
- Unifying only products and system functions for which integration will improve the efficiency of the logistics system is often a good approach that enables countries to derive benefit from the advantages of both vertical and integrated systems.
- Remember that integration is a continuous process and the logistics system will, at certain stages, be partially integrated, with some functions working vertically while others are working in an integrated way.
- Integration is sometimes implemented before policy decisions and public health priorities have been clearly identified and communicated at both the central and the local levels. Before communicating these policies, analyze and redesign the logistics system to operate in an integrated manner, pilot test its implementation, and trail the tracer products, including family planning commodities. This will avoid interferences in the flow of contraceptives to clients.
- To guarantee efficient control and management of the system, if the information system is to be integrated, ensure that automation is part of the plan.
- Ensure that family planning and logistics management *champions*, including civil society advocates, continue to provide priority or *vertical* attention toward ensuring sustained contraceptive availability during, throughout, and after integration has taken place.

LESSONS LEARNED: EXPERIENCES FROM THE FIELD ABOUT THE EFFECTS OF DECENTRALIZATION AND INTEGRATION ON THE LOGISTICS SYSTEM²⁰

This chapter highlights what countries have experienced about effects of decentralization and integration **on each function of the logistics system**. For some functions, existing evidence suggests that centralization is preferable to decentralization or that integration is preferable to a vertical function. However, in several cases, there are advantages and disadvantages to each approach. In these cases, when possible, advice is provided on mechanisms and processes that facilitate implementation of the function in the given setting (decentralized vs. centralized, integrated vs. vertical). Examples are primarily from LAC, with a few from other regions.

The chapter concludes with a matrix summarizing some of the functions that are decentralized/centralized and integrated/vertical in each LAC country. For further details on individual country experience, see the appendix, which provides individual country case studies for the Latin American region.

PRODUCT SELECTION

CENTRALIZED VS. DECENTRALIZED

Most countries in the region appear to be keeping this function centralized by using a standardized national essential drugs list (NEDL). This makes sense because, at least in theory, if approved standard treatment guidelines (STGs) for priority health problems are used, centralization ensures that the drugs, contraceptives, and vaccines delivered by logistics systems are safe, efficacious, and cost-effective. Centralized product selection may also be a better way to achieve efficiency of allocation than unregulated local-level selection. In some cases, however—notably Brazil and Ecuador—selection is the responsibility of lower level health care officials (municipalities in Brazil and the area level in Ecuador).

Perhaps the best way to involve local decision makers in product selection is to include them in the development of STGs and revisions of NEDLs through local, regional, and national therapeutic committees. Although quality and effectiveness of these processes will be uneven across lower administrative units and will most likely take considerable time and investment, creating and working with a network of therapeutics committees that contribute to STG and NEDL development (which create

²⁰ This section draws primarily from SPARHCS assessments, interviews and correspondence with experts in the field, Taylor et al, (2003), and Family Planning Logistics Management Project/JSI (1998).

buy-in through participation in the process) should be an objective of any initiative that decentralizes responsibility for product selection.

INTEGRATED VS. VERTICAL

If a country is considering integration of contraceptive supplies, it is important that the required contraceptives, including the non-hormonal products (e.g., IUDs and condoms) are on the NEDL. In most of the LAC countries, the family planning or reproductive health program is responsible for selecting reproductive health products. El Salvador is an exception to the typical practice of vertical organization. In El Salvador, selecting the contraceptive products is part of an integrated exercise; the Technical Unit for Medical and Nonmedical Supplies (UTMIM) brings the heads of the various health care programs together annually to discuss (at the central level) the selection of products. A similar process takes place each year at the CCSS in Costa Rica.

FORECASTING AND NEEDS QUANTIFICATION

CENTRALIZED VS. DECENTRALIZED

Forecasting in LAC is almost always conducted centrally, using data - some combination of demographic, service statistics, program planning, and historical consumption- collected at local levels. In a few cases, however, lower levels are responsible for forecasting; in Ecuador, for example, districts do their own forecasting, based on demographic data; and in Brazil, municipalities forecast for condom procurement, and some hospitals may do their own forecasting as well. In El Salvador, the health establishments make their needs known to the regions, which, in turn, negotiate with the central FP program and with UTMIM. In Chile, the process is similar. So, in some countries, forecasting is decentralized, although it may be coordinated through the central level.

Decentralized forecasting is only feasible when local staff have the necessary skills to effectively carry out this function and clear instructions on standard procedures for forecasting, which help ensure data is comparable and can be aggregated between and among all levels. In addition, even when commodities are managed at a lower level, the central level may also need access to aggregated information in order to prepare national-level forecasts and/or financing and procurement plans. Thus, information-sharing and standard procedures between and among all levels are essential, in any system, whether decentralized or centralized.

Bolivia: Need for timely and appropriate forecasting training in decentralized settings

As Bolivia moves toward decentralizing all logistics responsibilities to the municipal level, municipalities will be required to forecast and procure their contraceptive needs in the near future. The needs will be identified at the lower levels, and municipalities will procure supplies either directly or through the health facilities.

The municipalities will themselves determine the amounts of different products needed and will procure them from either the central medical store or other sources. To accomplish both objectives (forecasting and procurement), local staff will need to acquire forecasting and quantification skills. Even though the DELIVER project has assisted the *Ministerio de Salud y Deportes (MSD)* with the provision of some training activities, the MSD has no clear plans for continuing the implementation of such an ambitious training program, and most municipalities still do not see logistics as crucial for the success of their local programs.

Needs quantification also tends to be centralized but, as with forecasting, it relies on regular and accurate input from local levels. Deciding on the types and quantities for a specific procurement action (whether a donation or a direct purchase) requires a logistical skill that might be more difficult to find at local levels. Normally, local units participate in the process, either by providing quantifications for their own needs—hopefully according to standard procedures—or by providing data to be compiled and processed at the central level. Because quantification requires data provided by the logistics management information

system (LMIS), local units also contribute when they periodically send forward information on standard forms. Where staff with the requisite skills are in place, needs quantification can be carried out at local levels as long as these data are easily shared and transferred to other levels. Unfortunately, however, the training and supervision requirements for ensuring that the work is done correctly at the local level are often underestimated.

PROCUREMENT

CENTRALIZED VS. DECENTRALIZED

Most countries in the LAC region (except Colombia, Mexico, Brazil, and Ecuador) procure or receive donations of contraceptives centrally. Centralized purchasing allows for economies of scale; large-quantity purchases generate the lowest possible unit costs. Lower administrative levels (individual hospitals, clinics, districts) could not achieve these economies of scale if they were to procure for themselves.

When local authorities are given purchasing responsibility and the accompanying funds, economies of scale are often not available and the price of contraceptives is not as low as it could be.

Some countries that have decentralized procurement use complementary central management of purchasing by mechanisms such as pooled procurements and cash-and-carry systems. For low unit costs and quality assurance, it is possible that these mechanisms, working in the context of centrally managed procurement, are more likely to produce good results than completely decentralizing purchasing to hospitals and districts.

Costa Rica: Centralized procurement²¹

In the early 1990s, Costa Rica's MOH delegated all health service provision functions to the CCSS. The CCSS has an obligation to cover all citizens, regardless of whether they are registered with the agency. CCSS procures all drugs, contraceptives, and other health commodities centrally for all public sector facilities/services giving it leveraging power vis-à-vis commercial suppliers and resulting in the CCSS obtaining good prices. Other Latin American countries could explore the option of centralized procurement across public institutions or in collaboration with NGOs.

Decentralized purchasing in Ecuador and Bolivia²²

In **Ecuador**, responsibility for health care is devolved to 167 health areas (JA in Spanish)—the administrative level below the Province (Departments or States in other countries). The health areas purchase contraceptives locally from a pre-qualified group of suppliers. Prequalification provides some assurance of quality and reliability; however, no clause is included in the contract to maintain contraceptive price during the contract duration. As a result, there have been considerable price fluctuations, and each Health Area pay different prices for the same products.

In **Bolivia**, one of the greatest barriers to achieving economies of scale and low prices for commodities is the fact that each Municipality has autonomy to procure essential drugs separately and locally—in some cases even from the nearby pharmacies. Because bulk price negotiations do not take place, the country does not benefit from the economies of scale achieved when purchasing for higher volumes of commodities.

²¹ Cisek and Olson (2006) and Taylor, et al, Regional Report: Contraceptive Security in Latin America and the Caribbean (2004)

Some systems, such as El Salvador's, centralize most purchasing but allow for some local purchasing. In addition, pooled procurement for contraceptives to achieve economies of scale can be carried out through the use of procurement agents such as UNFPA.²³ Currently, Guatemala, Paraguay, Peru, Mexico, Dominican Republic, and El Salvador MOHs all procure some or all of their contraceptives through UNFPA at competitive global prices.

Procurement can also be done, in conjunction, with other organizations involved in the country's health programs. (In LAC, this specifically means social security institutes, NGOs, etc.). Whether centralized or decentralized, contracts developed with suppliers should stress product quality and service reliability, and should ensure that little to no product price variations are allowed.

Health services in most Latin American countries are provided by a number of public bodies—usually the MOH and the social security institute. Under this scenario, both decentralization and integration can become even more complicated if one body chooses to decentralize while the other does not, or one integrates FP commodities into essential drugs while the other does not. In Mexico, for example, where the Health Secretariat (SSA in Spanish) decentralized and the Mexican Social Security Institute (IMSS) and the Instituto de Seguros Sociales para Trabajadores del Estado (ISSSTE) remained somewhat centralized, potential gains from joint procurement were lost—there was little, if any, coordination between SSA and IMSS for jointly leveraging commodity purchases. This may not always work, however. In Mexico, volumes purchased by the IMSS are large enough that one would think that economies of scale would be achieved through joint SSA and IMSS procurement. That is not the case, however, because local suppliers have not offered lower prices for bulk purchasing between SSA and IMSS.

El Salvador: Centralized bulk negotiations and procurement

In **El Salvador**, currently the MOH health system is divided into 5 Regions, which in turn are divided into 27 Basic Health Care Systems (SIBASI). Currently, each SIBASI receives and manages its own budget which includes the provision of essential drugs.

Although each SIBASI may independently forecast the need for essential drugs and contraceptives, the Essential Drugs Unit has successfully implemented a mechanism for consolidating forecasts to help lock in bulk prices for essential drugs. This process includes tallying up product needs for each SIBASI and negotiating bulk procurement with vendors for these products. Financial resources are then pooled from each SIBASI for a one-time procurement contract and payment action. For contraceptives, the forecasting process as well as the funding mechanism is similar to that of essential medicines and supplies. The only difference is that essential drugs are procured locally, whereas contraceptives are procured through UNFPA. This has resulted in numerous benefits including substantial savings of limited government resources, more transparent, simplified and efficient procurement processes, and stronger procurement capacity at the local level. This type of innovative strategy for ensuring centralized procurement under a decentralized system illustrates the MOH capacity to ensure cost-effective procurement while devolving decision-making strategies to the local level.

VERTICAL VS. INTEGRATED

Procurement of contraceptives in most countries in the region is a vertical function, mainly because governments have entered into agreements with a United Nations Organization that serves as an intermediary for the financing and procurement of contraceptives. It is integrated, however, in Honduras and Brazil (for products on the essential drugs list), and in Ecuador and Colombia. Before integrating commodity supply systems, countries that are now procuring through the U.N., at extremely competitive

²² Uribe et al., (2005)

²³ For more information about procurement through UNFPA, please refer to Sarley, et al. (2006).

prices, should seriously consider whether or not to maintain vertical management of the procurement function.²⁴ Unless similarly competitive prices can be obtained through an integrated system, countries should think carefully about the costs and the benefits of integrating this function.

STORAGE AND DISTRIBUTION

CENTRALIZED VS. DECENTRALIZED

In most LAC countries, responsibility for both storage and distribution is decentralized and shared among various levels. Usually, the central level distributes to the regional level, which in turn distributes to the district level, where health establishments go to pick up contraceptive products. In some cases, distribution is managed directly from the central level to municipalities (Brazil), or warehouses are considered “transit points” with limited storage capacity (such as at the area level in Honduras). In Brazil, distribution of some FP products has been subcontracted to an independent non-government firm. In decentralized settings, the distribution routes that are supposed to be followed may at times be bypassed. For example, when they are concerned about impending stockouts, staff at lower levels may go to higher levels to obtain supplies (from health establishments to the district level, for example, bypassing the area warehouses). This can diminish the efficiency of the system and inhibit the FP program’s ability to quantify its needs, thereby potentially interrupting a continuous supply of contraceptives.

VERTICAL VS. INTEGRATED

Most Latin American countries have integrated both storage and distribution of contraceptive products with other essential health commodities. The exceptions are the Dominican Republic, El Salvador, Guatemala, and Brazil. The Dominican Republic and El Salvador have kept storage vertical while integrating distribution. Guatemala has kept storage of contraceptives vertical while integrating, to some extent, the distribution of contraceptives and certain essential drugs at lower levels (health establishments). Brazil has a vertical storage and distribution system for products that are part of the reproductive health contraceptive kits program, the *Farmacia Popular* program, and the national AIDS program. In addition, in most countries, storage and distribution of antiretroviral (ARV) drugs and related supplies remain vertical. Integration makes most sense for functions such as storage and distribution; savings in these two areas are substantial when managed efficiently, as they reduce management, warehousing and transportation costs.

²⁴ For more information about procurement through UN organizations, please refer to Sarley, et al. (2006)

LOGISTICS MANAGEMENT INFORMATION SYSTEM (LMIS)

CENTRALIZED VS. DECENTRALIZED

Historically, in LAC, most successful LMISs have been centralized. However, with the introduction of new technologies and good training, this is changing in some countries. Logistics Management

Information Systems (LMIS) either working manually or automated seem to be one of the weakest links in the logistics chain in the LAC region. Some countries are just beginning the development of the LMIS (Honduras); others are involved in design and implementation (Dominican Republic and Guatemala); and still others are using a non-standardized LMIS in various decentralized districts (Ecuador). Brazil has three different programs that deal with contraceptives; each has its own LMIS at the municipal level and there does not seem to be any overlap/coordination among the three programs.

Even for the relatively short lists of products managed by vertical contraceptive logistics systems, whenever feasible, automation of the LMIS helps to tabulate, analyze, and feed back data. Implementing good logistics information management practices helps to ensure the right quantity of commodities at the right time at the right place, increase efficiency, reduce waste, and improve accountability of the system. In cases where computers are not readily available, health managers may need to negotiate their government budgets, or lobby resources with donors and health reform decision makers to pool resources for procurement of computers for LMIS purposes. Explaining the enormous benefits of automating the LMIS to increase management accountability and transparency of one of the most important budget line items of the ministries of health can help overcome this financial barrier.

Reporting in a decentralized integrated setting: the Bolivian experience²⁵

Transferring certain functions and responsibilities without adequate preparation of staff can easily disrupt a functional family planning logistics system. Experience in Bolivia reveals that decentralization and integration do not necessarily lead to poor reporting levels; indeed, an independent assessment in 2003 found that 91 percent of staff were using all logistics forms and 89 percent were sending reports to higher levels. Unfortunately, good reporting does not automatically translate into good use of data. The same study found that higher level staff were not using the reported data to inform forecasting or ordering, which most likely contributed to widespread facility-level stockouts. It is important to note that when this evaluation took place, the National Unified Supply System (SNUS) had been approved the year before.

²⁵ The information and study referred to in this box comes from Taylor et al, (2003)

Given the significant software programming requirements, it seems that automated LMIS systems would be most effectively and efficiently handled at the central level. Historically, in LAC, most successful data processing operations have been centralized. However, with the introduction of new technologies and good training, it is now possible to consider the option for lower levels to help manage their data as long as standardized forms, guidelines, and information flows are preserved.

LMIS management is a centralized function that, in practice, involves local levels in its operations. An LMIS cannot succeed without a constant two-way flow of quality data between the central and local levels. One of the most important purposes of an LMIS is to send processed data, in the form of standard tables and graphics, as feedback to local levels in a timely fashion so they can be used to improve the quality of local logistics decision making. Therefore, local staff should be involved in LMIS design, both through consultation about specific questions, such as form layout, and field testing of new or revised systems. As new technologies such as the Internet and wireless telephones are introduced, there is more scope for local levels to participate in data processing and analysis. In some cases, where central LMIS operations have been understaffed and underfunded, good results have been obtained by aggregating data at district and regional levels before forwarding them to the central level.

It is important to highlight some potential problems with information and product flow in decentralized systems. Some of the strengths of centralized contraceptive information systems have been the well-designed forms, as well as the ease with which information flows on a regular basis from the health establishments to the central level. With decentralization and integration, forms often become more complicated, and the lower levels of the health systems, such as districts and municipalities, have less need to report up to higher levels, because they are managing their own funding and supplies. However, where procurement continues to be carried out at the central level, the lack of essential data affects the ability of the central level to forecast and ensure that adequate quantities are procured. Likewise, where procurement is decentralized the MOH at the central level, as the regulatory body of the public sector, can not develop LMIS standards and norms for decentralized units to effectively run the logistics information system unless they have access to the appropriate lower-level information needed to design these systems. The central level will also need access to aggregated data in order to have a national perspective of product availability and use; this can be obtained through a well functioning LMIS that ensures a constant flow of quality, comparable data between central and local levels.

Using computers for logistics: the Kenyan MOH example²⁶

Commercial organizations may be willing to decentralize everything but their logistics systems. Large companies would never consider decentralizing procurement to lower levels. Their solution is to centralize supply chain functions, with a small group of experts using powerful computers to do all the work. Resupply calculations are mechanical. Instead of training thousands of people to do them by hand and then supervising them, commercial organizations teach their computers to do the work. The health systems of low- and middle-income countries cannot mimic these companies, but they can adopt similar solutions for improving logistics management. The **Kenyan MOH**, for example, has developed a system of computerizing the decisions for some logistics functions. Kenya implemented an automated technique called “distribution resource planning,” in which the computer schedules deliveries, plans the delivery routes, and dispatches the trucks, based on its understanding of stock levels at the district. With enough financing and systems development, such solutions are possible elsewhere.

²⁶ John Snow Inc./DELIVER (2001)

VERTICAL VS. INTEGRATED

Some LAC countries have vertical LMIS systems, and some maintain integrated LMIS systems. El Salvador, Honduras, Mexico, Chile, and Paraguay have vertical systems. The other LAC countries have an integrated LMIS for all essential drugs list products (for example, Bolivia, which includes contraceptives on its national essential drugs list [NEDL]) or are in the process of developing an integrated LMIS (for example, Nicaragua and Guatemala).

Integration often requires considerable staff training as existing staff take on new functions or, in the case of accompanying decentralization, new staff are hired. Important skill areas include data recording and information management of several products, needs quantification for procurement, and analysis of stock status reports from clinical facilities. Countries should plan for gaps in human resources, knowledge, and experience, and allocate sufficient resources to provide adequate training and regular supervision.

Nicaragua: Gradual integration of logistics functions

One possibility during transition from a vertical to an integrated LMIS might be a gradual approach, i.e. integrate some functions or activities while separately managing others. For example, in Nicaragua, the central warehouse receives stock status reports for all categories of products it stores and distributes, but for contraceptives, regions send all reports to the FP program for analysis and approval.

As mentioned in the introductory section on integration, the former Family Planning Logistics Management (FPLM) Project found that integration can result in both improvements and disruptions in logistics management information systems.

INVENTORY CONTROL

CENTRALIZED VS. DECENTRALIZED

Most LAC countries have centralized inventory control norms. Although the actual management of inventory is an important function at every level in which commodities are issued or dispensed, decentralized inventory control norms may lead to lack of standardized inventory control management, where every level chooses its own mechanism/system—some choosing forced ordering, others choosing a standard system—and the upper level is left with having to manage the differences. This in turn may disrupt product availability and subsequent stock outs can occur. Inventory control is closely tied to the LMIS; in a centralized mode, if the reporting forms or LMIS forms include the methodology for determining order quantities, discretion at the lower level is reduced. One of the advantages of having management of the inventory control function centralized is that it ensures standardization, which in turn leads to increased efficiency and transparency of essential drugs management. Furthermore, maintaining a standardized inventory control system guided by the central level serves to respond to the increased interest on the part of governments to show accountability and transparency in their logistics system. This process can also work in systems where procurement is deconcentrated to lower levels of the system.

VERTICAL VS. INTEGRATED

Most LAC countries with vertical LMIS systems also have vertical inventory control systems. Moving contraceptives into an integrated system may be complicated, for example, if maximum/minimum ordering levels are not defined for various products or if the system is budget-based and supplies end up being “rationed” because of limited funding. Guatemala is a recent example where the LMIS used for contraceptives is beginning to be integrated with the essential drugs. The MOH in Guatemala is facing the challenge of how to determine maximum-minimum levels that will respond to local vendors lead times and health areas’ funding availability.

HUMAN RESOURCES

CENTRALIZED VS. DECENTRALIZED

Limited feedback from LAC countries indicates that responsibility for human resources (HR) decisions tends to remain centralized. Even in very decentralized scenarios (Chile and Bolivia, for example), municipalities do not have a full range of choice over HR; the central level retains considerable control, in some cases because of government-wide regulations. There is a tendency over time to narrow local-level responsibility for HR, as was the case in Chile, for example, which initially gave a very wide range of HR responsibility to the local level.

Decentralization of certain logistics decisions to local levels often creates a need for personnel and skills that are not in place at lower administrative levels (regions, districts, and health establishments). For example, giving districts the authority to decide for themselves the types and quantities of drugs and contraceptives they need requires staff that have specific skills for quantifying needs based on logistics, public health, or program information. Allowing districts to execute local purchases assumes that staff understand the relevant procurement procedures. Where these skills are lacking, the deficits can be made up by training, but the training has to be of good quality to produce good results.

The need for central level guidance in Ghana²⁷

Under the HSR program's decentralization initiative, districts were allowed to identify local training needs and plan and budget accordingly. Although the number of training activities increased at districts and health establishments, there was significant variation in quality, content and application of a competency-based approach. Contraceptive logistics was included in fewer than half of the 10 regional training plans. Although one person in each facility in a sample survey had received contraceptive logistics training, no facility had a procedures manual for inventory management, LMIS reporting, or storekeeping in place. Neither district nor SDP staff carried out logistics tasks effectively for these functions. Moreover, this limited staff from implementing standard operational procedures for improved management and accountability.

Ecuador: Insufficient human resource training and organizational support for logistics following devolution²⁸

In Ecuador following devolution, most lower level staff did not receive necessary logistics training. Very few health facilities have procedures manuals or receive supervisory visits that specifically address logistics issues. There is no uniform logistics information system to collect essential data for decision making. Instead some health headquarters strive to collect detailed consumption and market information, while others simply collect data on family planning consultations. Finally, there is no standardized distribution system that clearly establishes how frequently health headquarters should purchase or distribute to lower levels. As a result, although sufficient funding exists to provide the necessary contraceptive supplies at all levels, both oversupply and stock-outs are common.

VERTICAL VS. INTEGRATED

Historically, the management of human resources in the LAC region has been carried out in a vertical fashion. However, as programs are progressively integrated, the same human resources formerly responsible for managing one or two health programs are often being asked to assume responsibility for overseeing various programs at once. For example, in Guatemala, the head of logistics for the family

²⁷ Bates et al., (2000)

²⁸ Uribe et al., (2005)

planning program has recently assumed management of the entire logistics unit, responsible for all essential medicines (including contraceptives). In an integrated system, the same person is likely to manage selection, procurement, and delivery of contraceptives and essential drugs. Such broad attention may negatively impact priority programs, such as family planning, by diffusing oversight throughout a much larger and cumbersome system. In such an environment, it is important to continue to strengthen contraceptive logistics by ensuring proper training and tools for staff who manage contraceptives at all levels of the supply chain, and that they receive regular supervision, specifically for logistics functions. It is also important to ensure that the human resources in charge of a multitude of programs understand the importance of family planning programs and reproductive health commodities (including contraceptives) and give these programs the priority attention they deserve. Over the long term, integration of human resources can support contraceptive security objectives as investments strengthen the management of supply chains for all commodities. However, over the short term, it can create problems, as the process of integration disrupts existing roles and management structures and staff must prepare for and be trained in new procedures to ensure contraceptive availability at all levels.

Tanzania: Human Resource Impact on Integration

When integrating logistics systems, it is easy to delete responsibility from a certain party's portfolio but neglect to add it to another's. In addition, it is easy to underestimate the effects that changing roles and responsibilities will have on each person and group, as well as on their willingness to cooperate and lead the process forward. In Tanzania, these problems were largely overcome by using memorandums of understanding (MOUs) to clearly specify the roles and responsibilities of each party as change took place.

BUDGETING AND FINANCE

CENTRALIZED VS. DECENTRALIZED

In LAC countries that have graduated or are in the process of graduating from donor support, budgetary responsibility for contraceptives is usually centralized. In some cases, however, local levels (municipalities in Brazil, Chile and Bolivia, for example) are allowed to establish budgets for contraceptive procurement. Honduras conducts central budgeting and procurement not only for contraceptives but for all medicines. The former government required that all public sector purchases be done through UNDP, and funding is still centralized in Honduras.

Pricing is an important part of the decision whether or not to decentralize budgetary responsibility. However countries may opt to decentralize procurement but maintain the price negotiation with vendors at the central level. For example, in Guatemala, purchasing of essential medicines is decentralized at the health area level but prices are negotiated at the central level through the open contract mechanism to ensure economies of scale. In Ecuador, on the other hand, the price is higher and contraceptives are purchased at the local level.

In decentralized settings, formal budgetary mechanisms (such as a specific line item in the national budget for contraceptives) may be needed to ensure that funding for contraceptives is safeguarded at the decentralized level. With increased local-level financial autonomy and decision making, there is a danger that reproductive health and family planning may cease being priorities. Additionally, it is important to regulate local purchase of contraceptives and condoms from a central source or sources certified by the MOH and ensure training of staff in decentralized units to accurately estimate requirements.

Devolving budgetary responsibility in Mexico

In the case of **Mexico**, the MOH did not safeguard contraceptive funding when it devolved planning and

budgetary responsibility to the states. As a result, budgets for contraceptives and essential drugs were merged at the state level, and many fewer contraceptives were purchased. To avoid such a situation, the central level can require that a certain percentage of the state budget be spent on FP commodities. Alternatively, as Mexico now does, the central level can procure at lower prices if the states transfer funds to the central ministry, which then pools funds and procures products centrally through UNFPA. Although not required by law, in 2002, 16 of Mexico's 32 states participated in this coordinated procurement process. By 2005, however, only 11 states remained as participants because of delays in delivery and other challenges.

VERTICAL VS. INTEGRATED

As mentioned above, integration of contraceptive budgets with budgets for other drugs and products can result in inadequate funding and competing priorities. When national governments (and/or regional and municipal governments in decentralized health systems) face inadequate budgets and multiple needs, they may fail to give contraceptives the priority attention they deserve. Inadequate budgets also make it virtually impossible to maintain buffer stocks at the required level. In most LAC countries, contraceptive budgets have remained integrated with the essential drugs budget; however, more and more countries are recognizing the importance of earmarking or guaranteeing funds for contraceptives (Guatemala, Ecuador and Paraguay, for example). Some countries have gone as far as requiring financing by law for both future contraceptives needs and the cost of distributing these commodities (Paraguay).

QUALITY ASSURANCE

CENTRALIZED VS. DECENTRALIZED

In LAC countries that maintain a quality assurance (QA) function for contraceptive products, QA is primarily the responsibility of central authorities. This makes sense, given the centralized procurement and the technical nature of the work involved, and the need for QA to be carried out on a countrywide or system-wide basis. WHO's principles for product selection include safety and efficacy. In fact, many substandard, inactive, counterfeit, and, in some cases, toxic products are available in the world marketplace. Therefore, a centrally managed program for guaranteeing the quality of products purchased, distributed, and used is essential to meet WHO's standards.

Recently, supplier prequalification backed by laboratory-based quality monitoring has come to be recognized as the most effective approach to QA. Supplier prequalification requires evaluation of documentation submitted by potential suppliers and, in some cases, communication with international agencies. Lab-based performance monitoring—whether performed by a country-based or offshore laboratory—requires financing, highly trained staff, well-functioning equipment, and expendable supplies. The magnitude of the QA activity demands central management. Local levels can participate in QA programs by timely reporting client complaints related to product quality. The QA and LMIS systems should facilitate this work by collecting data on losses, including those tied to product quality issues, and providing a mechanism for reporting quality problems, such as a “remarks” section on a monthly report. Tracking products by lot also facilitates the recall of those that demonstrate quality problems. The credibility of the central-local QA partnership rests on rapid central-level responses to complaints and inquiries. In countries where locally managed procurement is allowed, central ministries can prequalify the suppliers with whom local units are expected to work. This may be a highly political issue and easier said than done, but it is one way to promote central QA while supporting local decision making.

In addition to the previous examples from LAC provided above on the benefits and challenges of integrating and/or decentralizing various functions of the logistics cycle, Table 5 below summarizes the status of decentralization and integration reforms, by logistics function, in the region.

Table 5: Summary of Decentralization Status by Country and Logistics Function (U=unclear/unknown)

COUNTRY	TYPE	PRODUCT SELECTION	FORECASTING, NEEDS QUANTIFICATION	PROCUREMENT	STORAGE AND DISTRIBUTION	LMIS	INVENTORY CONTROL	BUDGETING/FINANCING	HUMAN RESOURCES	QUALITY MONITORING
Bolivia	Devolution and deconcentration	Primarily centralized	Mainly central, but in process of being decentralized	Centralized, because of donations. However, some municipalities purchase some products locally.	U In the process of decentralization.	Deconcentrated	Decentralized	Mainly central	Centralized	Centralized
Brazil	Deconcentration	Primarily central. However, some municipalities are able to increase contraceptive method mix on their own.	Mainly central. However, states and municipalities may also forecast for condoms. Some hospitals also may do their own forecasts.	Centralized since 2005. However, some municipalities and hospitals purchase additional contraceptives.	Since 2005, centralized distribution from central warehouse to municipal warehouses. Warehousing and distribution for some contraceptives are subcontracted to an outside firm. Condoms go from central to state to municipality level. Municipalities distribute to health posts and hospitals. All health posts have storage facilities.	Four central-level LMIS, essential medicines list at regional level; and three different LMIS at municipal level (one for each program: RH, HIV/AIDS, and essential medicines)	Central level responsible for general coordination of logistics resources, distribution, and warehousing management; logistics department at regional level; and supply coordination at municipal level	Mainly central with exception of condoms. Municipalities may establish budgets for contraceptive procurement.	U	Centralized
Chile	Devolution	Centralized	A combination of central and regional effort	Centralized	CENABAST distributes to 26 regions.	Centralized	Centralized	Mainly central	Mainly central, but negotiating with regions and municipalities	Mainly central

COUNTRY	TYPE	PRODUCT SELECTION	FORECASTING, NEEDS QUANTIFICATION	PROCUREMENT	STORAGE AND DISTRIBUTION	LMIS	INVENTORY CONTROL	BUDGETING/ FINANCING	HUMAN RESOURCES	QUALITY MONITORING
Colombia	Devolution	A combination: negotiated between central, other service providers, and municipalities	Decentralized	Decentralized	Decentralized	Decentralized	Decentralized	Negotiated between central level and service providers (hospitals, private clinics, etc.)	Decentralized	Decentralized
Costa Rica	Delegation of complete responsibility for health care (including family planning) to the Costa Rica Social Security Institute (CCSS)									
Dominican Republic	Centralized, but in process of devolution	Complete responsibility of the central level	Complete responsibility of the central level, based on demographic data	Complete responsibility of the central level	All levels are involved in both distribution and storage.	Design and implementation are the complete responsibility of the central level, with some input from regions.	Design and implementation are the complete responsibility of the central level.	Complete responsibility of the central level	Complete responsibility of the central level	Monitoring of quality control executed by central level. Other levels must meet certain storage conditions to ensure product quality
Ecuador	Deconcentration	Complete responsibility of the district/area level	Complete responsibility of the district/area level, standardized based on morbidity	Complete responsibility of the district/area level; purchase primarily from local suppliers. Considering doing a pooled procurement centrally.	Complete responsibility of the district/area level	Complete responsibility of the district/area level. LMIS are not standardized across areas.	Complete responsibility of the district/area level. Inventory control is not standardized across areas.	Centralized program reimburses each consultation reported by areas; rates set at central level.	Complete responsibility of the district/area level	Complete responsibility of the district/area level

COUNTRY	TYPE	PRODUCT SELECTION	FORECASTING, NEEDS QUANTIFICATION	PROCUREMENT	STORAGE AND DISTRIBUTION	LMIS	INVENTORY CONTROL	BUDGETING/ FINANCING	HUMAN RESOURCES	QUALITY MONITORING
EI Salvador	Mix of devolution and deconcentration	Responsibility of central and regional levels (SIBASIs)	Responsibility of central and regional levels (SIBASIs)	Responsibility of central and regional levels (SIBASIs)	Responsibility of central and regional levels (SIBASIs)	The design and implementation is responsibility of central and regional levels (SIBASIs).	Responsibility of central and regional levels (SIBASIs)	Responsibility of central and regional levels (SIBASIs). However, funds are requested by the central level.	Responsibility of central and regional levels (SIBASIs)	Responsibility of central and regional levels (SIBASIs)
Guatemala ²⁹	Deconcentration (essential medicines, but not contraceptives)	Complete responsibility of the central level for contraceptives (including NGOs); for essential medicines local authorities (including MOH contracted NGOs) can select as long as products are on a national essential drugs list (NEDL).	Complete responsibility of the health area level, with participation from the central level	Complete responsibility of the central level for contraceptives (because of donations) . Deconcentration of the health area level (for essential medicines)	Centralized for contraceptives---the National Reproductive Health Program has a central warehouse for contraceptives.. All levels are involved in both distribution and storage for contraceptives; there is no central warehouse for essential medicines.	Central level responsible for LMIS guidelines and procedures. Health area level follow central guidelines.	Central level set standard procedures (balance, requisition and delivery of supplies) with high involvement and participation from health area staff	Health area level manage its own budget	Responsibility of central and area levels	Responsibility of central level, and visual monitoring by local levels

²⁹ MOH has delegated to NGOs the provision of a basic health care package for the coverage extension program (including FP services) in the primary health care level. MOH contracted-NGOs receive USAID donated contraceptives. When donations cease in 2007, the plan is to add NGO needs to the MOH forecasting needs at the central level.

COUNTRY	TYPE	PRODUCT SELECTION	FORECASTING, NEEDS QUANTIFICATION	PROCUREMENT	STORAGE AND DISTRIBUTION	LMIS	INVENTORY CONTROL	BUDGETING/FINANCING	HUMAN RESOURCES	QUALITY MONITORING
Honduras	Combination of devolution and deconcentrated	Complete responsibility of the central level	Forecasting is the responsibility of the central level in conjunction with the provincial/regional levels, which submit orders and store products every three months and deliver products to health establishments on a monthly basis. Needs quantification traditionally has been based on historical data; however, the new FP strategy currently being implemented is based on consumption data.	Complete responsibility of the central level	Distribution is handled by all levels. Contraceptives are stored at almost all levels, but the area level rarely has storage space	Presently being developed and will function at warehouses at the central and regional levels. Managed from the central level.	Presently being developed and will function at warehouses at the central and regional levels. Guidelines from central level to standardize the system	Complete responsibility of the central level. Regions are assigned budgets to purchase contraceptives, but they are executed centrally.	Responsibility of central level	Central level norms exist, monitoring is included in all periodic evaluations at regional level and regular monitoring is also ongoing at district level
Mexico	Devolution	Centralized	Decentralized	Decentralized	Distribution is managed at all levels. Contraceptives are stored at almost all levels, except central warehouse.	Responsibility of both central and state levels	Responsibility of both central and state levels	Responsibility of both central and state levels	Responsibility of state level	Responsibility of both central and State levels.

COUNTRY	TYPE	PRODUCT SELECTION	FORECASTING, NEEDS QUANTIFICATION	PROCUREMENT	STORAGE AND DISTRIBUTION	LMIS	INVENTORY CONTROL	BUDGETING/ FINANCING	HUMAN RESOURCES	QUALITY MONITORING
Nicaragua	Deconcentration	Complete responsibility of the central level	Complete responsibility of the central level	Complete responsibility of the central level	Distribution is handled by all levels. Ten regions have warehouses and deliver to municipalities; in those regions without a warehouse, distribution is directly from the central level to municipalities. Contraceptives are stored at all levels.	Responsibility of the central and regional levels.	Responsibility of both central and regional levels.	Complete responsibility of the central level	Responsibility of the central level	Responsibility of the central level
Paraguay	Centralized	Complete responsibility of the central level	Complete responsibility of the central level	Complete responsibility of the central level	Responsibility of the central warehouse and nineteen regional warehouses	Complete responsibility of the central level	Complete responsibility of the central level	Complete responsibility of the central level	Complete responsibility of the central level	Complete responsibility of the central level
Peru	Centralized, but in process of deconcentration	Centralized	A combined responsibility between central level and regions	Centralized	Responsibility of the central and regional warehouses	Responsibility of the central and regional levels	Responsibility of central and regional levels.	Centralized	Responsibility of the central level	Responsibility of the central level

Table 6: Summary of Integration Status by Country and Logistics Function (V=vertical, I=integrated, M=Mixed, U=unclear/unknown)

COUNTRY	PRODUCT SELECTION AND USE	FORECASTING, NEEDS QUANTIFICATION	PROCUREMENT	STORAGE AND DISTRIBUTION	LMIS	INVENTORY CONTROL	BUDGETING/FINANCING	HUMAN RESOURCES	QUALITY MONITORING
Bolivia	P	V	V	I	I	I	I	I	I
Brazil	Mixed. Those products on the essential drugs list are integrated for procurement and distribution, yet vertical for all other functions. Those which are part of the RH "contraceptive kits" program, the <i>Farmacia Popular</i> program, or the National AIDS program are vertical.	I	I	I	V	I	I	I	I
Chile	V	V	V	I	V	V	V	V	V
Colombia	I	I	I	I	I	I	I	I	I
Costa Rica	I	I	I	I	I	I	I	I	I
Dominican Republic	V	V	V	V	V	V	V	I	V
Ecuador	V	V	V	I	V	V	V	V	V
El Salvador	I	I	V	V	V	V	I	I	I
Guatemala	V	V Forecasting is vertical and the responsibility of the National RH Program	M	V ³⁰	³¹	V	V	I	V
Honduras	V	V	I	V There's a central warehouse only for donated contraceptives	V	V	V	V	V
Mexico	V	V	I	I	V	V	I	I	I
Nicaragua	V	V	V	I	In process of integration	In process of integration	V	I	I
Paraguay	V	V	V	I	V	V	M Integrated with delivery kits	M Mostly vertical	V
Peru	I	V	V	I	In process of integration	In process of integration	I	I	I

³⁰ Storage of contraceptives is vertical while distribution is integrated with products from other vertical medicine programs.

³¹ MOH began in 2006 to officially use the LMIS for all essential drugs, not only for contraceptives.

KEY CONSIDERATIONS

The ultimate goal of health sector reform (HSR) initiatives is to improve access to and equity in health care service provision. An essential element of improving access to health care services is to ensure commodity security—to guarantee access to commodities for all individuals who need or want them. Therefore, decisions about decentralization need to be made jointly by donors, ministries of health, and managers of various health programs to guarantee improved logistics system performance and availability of all essential products (including contraceptives) for all the clients who need them. More specifically, if decentralization efforts do not receive vigilant guidance from central-level leaders to ensure that national family planning policies are implemented at lower levels, there is a danger that contraceptive logistics systems will weaken and contraceptive availability will be compromised.

As with other approaches to improving access to health care and commodities, there is no single or *cookie-cutter* approach to improving decentralization and integration of logistics systems, or to ensuring that reforms do not compromise contraceptive availability. Nonetheless, the following recommendations are based on common challenges and opportunities emerging from country experiences that must be addressed if efficient and solid logistics systems are to be attained and maintained and the contraceptive supply chain protected throughout the reform process.

DECENTRALIZATION

COMMITMENT TO FAMILY PLANNING MUST BE SOUGHT AND DEVELOPED AT ALL LEVELS

One common challenge in decentralized systems is the need to develop commitment to family planning at all levels. This begins by raising awareness about the importance of family planning and contraceptive availability among local health authorities, civil society leaders, and community-based groups and mobilizing them to protect contraceptive budgets and monitor supplies. As countries in LAC decentralize, it is essential that political support and leadership for family planning is mobilized at the local level.

PLAN FOR DECENTRALIZATION

DELIVER has recently argued that “none of the failures [of logistics systems witnessed in the context of decentralization] were inevitable, and they do not represent any inherent incompatibility between decentralization and good logistics practices. Rather, they represent lack of planning and preparation for decentralization. With improved advance work, all of these problems could have been averted.”³² Consider the following issues to help identify possible problem areas.

³² Taylor, et al (2003)

Issues to think through when considering decentralization

- What functions should/will be decentralized? To what levels?
- Who will need training? Of what type? At what levels?
- What supervision will be needed? How much? Of what type and at what levels?
- What buy-in is required to make the decentralization efforts more successful? Which stakeholders should be involved? At what levels? What role should they play in planning and implementation? What is the best way to involve them, even if their participation is considered transitory? How is decentralization viewed by those involved? Who is threatened by the process, who gains, and how can potential conflicts be managed?
- Are there any natural “champions” to help guide the process?
- Should we consider developing MOUs to help define specific roles and responsibilities for each actor involved in the process?

MAKE SURE THAT ALL LOGISTICS FUNCTIONS ARE ADDRESSED AND CAREFULLY ANALYZED

Many decentralization efforts have not included a thorough analysis of all the logistics functions. In addition, efforts have dramatically underestimated the amount of money that is required, the organizational constraints that must be overcome, and the amount of time it takes to implement change, while simultaneously overestimating the availability and skills of personnel to take on new jobs and responsibilities. Planners and decision makers have often failed to take into account the volume and technical complexity of the work that needs to be done to ensure continuity of a well functioning logistics system. Careful planning, involving all important stakeholders, is crucial to success. A detailed transition plan should be developed for all functions of the logistics system, and planners should be open and prepared to adapt plans as necessary.

SOME LOGISTICS FUNCTIONS PERFORM BETTER WHEN CENTRALIZED

Health managers need to make decisions about decentralization and integration that will lead to better logistics system performance, which in turn will guarantee availability of commodities when the customer needs them. This is, after all, the bottom-line of health sector reform initiatives: to improve access and efficiency of health care. While the body of evidence is limited, studies undertaken in Ghana and Guatemala in the context of decentralization suggest that higher system performance may result from keeping some logistics management functions centralized while decentralizing others. Specifically, findings from the studies indicate that inventory control, LMIS, storage, and product selection functions probably should be managed by central guidelines (and these guidelines should be enforced). On the other hand, decentralization of planning and budgeting may be associated with higher performance, suggesting that better local information is required for these functions.³³

Studies undertaken in Ghana and Guatemala suggest that higher system performance may result from keeping certain logistics management functions centralized, for example³⁴

- Logistics management information systems

³³ Bossert, et al. (2003) and Bossert, et al. (2004)

³⁴ JSI/DELIVER (2001)

- Design of the inventory control system
- Specifications and enforcement of the essential drugs list
- Product selection and essential service package specifications
- Bulk and international purchasing
- Rationing for scarce essential products
- Quality assurance for all products

BACK UP DECENTRALIZED DECISION MAKING WITH THE POWER TO MAKE THOSE DECISIONS HAPPEN

Decision making should be decentralized only if local managers are given the resources, training, authority and skills to execute those decisions. In the case of Zambia, where the system depended on district managers to determine the quantities of drugs to order, FPLM helped the MOH to find that the drug supply was shrinking because district managers were unable to make appropriate ordering decisions due to both lack of authority and management capacity, thus disrupting system performance.

DECENTRALIZING CERTAIN CONTRACEPTIVE LOGISTICS FUNCTIONS REQUIRES SIGNIFICANT INVESTMENT IN TRAINING AND ONGOING SUPERVISION AT LOCAL LEVELS

Decentralization creates the need for personnel and skills that are often not in place at local levels. For example, giving lower levels the responsibility to determine the types and quantities of drugs and contraceptives that are required means that staff at these levels must have the specific skills for quantifying needs. Allowing lower levels to purchase locally supposes that staff understand the relevant forecasting, inventory control and procurement procedures. Where these skills are lacking, training can fix the situation; however, logistics training has often been overlooked. And when training activities have taken place, quality and results have often been poor. It is, therefore, critical to ensure that logistics training to support decentralization is competency-based and accompanied by periodic follow-up. In Brazil, for example, authority was devolved to municipalities without proper local capacity building or sufficient communication of the implications of change. As a result, product availability was undermined and the family planning supply chain was recentralized.³⁵

STRENGTHENING THE CENTRAL LEVEL MAY IMPROVE THE PROCESS OF IMPLEMENTING DECENTRALIZED SYSTEMS

In countries with relatively well-planned (but by no means problem-free) efforts (Tanzania, Ghana, and Madagascar, for example), it seems that beginning by strengthening the central medical stores eased the process. In Tanzania and Madagascar, the first target of reform was the central medical stores that form the hub of logistics operations in most countries. This is very different than in Bangladesh where no efforts were made to merge systems; and where once central operations were strengthened and demonstrating improved performance, the logistics systems were merged.

FOCUS ON HUMAN CAPACITY AND DEFINING NEW ROLES, AND RESPONSIBILITIES

Human resources management in times of health reform and decentralization is of utmost importance for the efficient functioning of logistics systems. Human capacity becomes even more critical when ministries of health decide to make changes in their health management model in order to advance decentralization. Endeavors such as these represent an opportunity to explicitly include logistics responsibilities in local staff positions. During this process health managers need to closely work with

³⁵ Studart, et al. (2006)

human resources directorates at the central level, and with local staff to make sure that authority, logistics functions, and responsibilities are explicitly delegated and included in position descriptions. This close collaboration will serve to increase the likelihood of the local level effectively assuming new responsibilities in the management of logistics systems.

DECENTRALIZATION IS NOT A REDUCED ROLE FOR THE CENTRAL LEVEL BUT RATHER A CHANGE IN PRIMARY RESPONSIBILITIES FROM PROVIDER OF SERVICES TO REGULATOR AND “NORM SETTER”

Provision of basic guidelines for logistics management, supervision of norms, and training in application of norms may be a big part of the MOH’s new responsibilities. Indeed, one of the basic functions of the central level is to develop regulations, norms and protocols, as well as procedure guidelines for the entire health system. This role is still needed in decentralized settings to provide basic guidelines for local health managers who are now responsible for the health outcomes in their respective jurisdictions. Additionally, it is essential that basic logistics management guidelines, including expected information flows, inventory control norms, etc., be included in supervision efforts. In many cases, although the MOH regularly supervises programs at the local level, it fails to pay attention to the logistics functions.

For example, in Mexico decentralization led to some regions not ordering contraceptives—or not ordering enough—because of budget constraints and competing priorities, which produced stockouts at many levels. To correct this situation, in 1999, the Mexican MOH required states to reserve at least 10 percent of their budget for contraceptive procurement, and the central level gave the states the option to obtain these contraceptives directly from the central level, through a pooled procurement mechanism (UNFPA). States that wish to use this option transfer the funds reserved for contraceptives to the central ministry, which pools funds and procures products, mainly from UNFPA.

STRONG LEADERSHIP CAN BRING ABOUT EFFECTIVE CHANGE

In order for integration or decentralization of logistics systems to be successful it is important that leadership consciously work towards creating these new systems. As mentioned above, in Mexico, where the health system was decentralized, a centralized mechanism was established to coordinate state procurement through UNFPA. This process was led by the head of the Family Planning Department, who personally lobbied the states to encourage them to participate. Where strong local leaders are identified, it might be wise to allow them a prominent role in guiding the decentralization reform process and building up local buy-in for family planning and ensuring Contraceptive Security.

DECENTRALIZATION CAN LEAD TO DEVELOPMENT OF INNOVATIVE LOCAL-LEVEL INITIATIVES

Decentralization can encourage local health establishments to develop innovative solutions to service-delivery and human-resource challenges as well as allow civil society a more active role for social auditing of the provision of health care services. As a result, local concerns and needs can be better addressed in a decentralized setting, which can result positive effects on Contraceptive Security and increased access to family planning services. In Bolivia, for example, municipalities explored adding pharmacies, initiating outreach, providing subsidies to the poor, and developing new organizational arrangements both between municipalities, for coordination and payment exchange, and within the municipality with NGOs and other private providers.³⁶

³⁶ Bossert (2000)

INTEGRATION

Several countries in the LAC region have either integrated or are preparing to integrate their logistics systems, but each country has approached this endeavor in a different way. Because their contraceptive logistics systems were, for the most part, effective and efficient, the MOHs of Bolivia, Peru, and Nicaragua chose to adapt those systems for the management of all medicines and medical supplies. In Guatemala, contraceptive distribution successes are also being used as a model for essential medicines; while the MOH wanted the system to be integrated right from the start, the contraceptive component was developed first and is now being used to ensure that the same improvements take place with essential medicines. In contrast, in El Salvador, integration is occurring in the other direction, with contraceptives being added to broader medicine and medical supply systems.

PLAN FOR SUCCESSFUL INTEGRATION

It is very important to plan ahead for any integration reform of supply systems. Guiding principles need to be established, specifications must be developed, and detailed work plans that clearly articulate the responsibilities and expectations of all partners in an integrated supply system need to be prepared. Disseminating these guidelines and providing technical assistance for the design, testing, and capacity building required to put integrated systems into place are essential to ensuring a smooth transition.

Consider the following issues to help identify possible problem areas, which are similar to those listed for decentralization:

Issues to think through when considering integration

- What functions should/will be integrated? For what products? At what levels?
- Who will need training? Of what type? At what levels?
- What supervision will be needed? How much? Of what type and at what levels?
- What buy-in is required to make the integration efforts more successful? Which stakeholders should be involved? At what levels? What role should they play in planning and implementation? What is the best way to involve them, even if their participation is considered transitory? How is integration viewed by those involved? Who is threatened by the process, who gains, and how can potential conflicts be managed?
- Are there any “champions” to help guide the process?
- Should we consider developing MOUs to help define specific roles and responsibilities for each actor involved in the process?

INVOLVE AS MANY STAKEHOLDERS AS POSSIBLE, INCLUDING FP AND CONTRACEPTIVE LOGISTICS EXPERTS

In many cases, low-quality planning seems to originate with parties who have no expertise in logistics—those who make decisions that affect logistics without understanding the consequences. Involving family planning managers and logistics experts in early planning stages and throughout the reform process will improve the outcomes of integrating various logistics functions. Such expertise will help protect the family planning program and its positive effects on maternal and child health, as well as help maintain an efficient supply chain.

IF POSSIBLE, PILOT, OR AT LEAST IMPLEMENT ON A SMALL SCALE

Design and carefully test integrated supply systems before expanding them to the national level. It is important to revise, test, and then finalize all policies and procedures related to human resources, registers and reports, databases, references and training manuals, and guidelines and tools for supervising, monitoring, and evaluating before introducing a new system countrywide.

FOCUS ON HUMAN CAPACITY: ENSURE WIDESPREAD TRAINING AND AVOID DELETION OR DUPLICATION OF ROLES AND FUNCTIONS.

When integrating logistics systems, it is easy to delete responsibility from one party's portfolio while neglecting to add it to someone else's. It is also easy to underestimate the affects that changing roles and responsibilities will have on each involved person and group or to overestimate their willingness to cooperate and lead the process forward. These problems can be minimized by updating position descriptions or using memorandums of understanding (MOUs) to clearly specify the roles and responsibilities of staff. In many cases, the process of developing written MOUs can also provide an opportunity to identify potential problems and head them off; for example, by helping to identify the best division of labor.

Planning for training in an integrated/decentralized setting: the Bolivia case

Integration of programs means that different areas may not receive the same attention. Integration of FP programs into essential drugs systems combined with decentralization leads to further complications. Integration means FP may lose some of its strong advocates. If the additional move toward decentralization is not accompanied by strong oversight from the central level to ensure that national FP policies are implemented at the municipal level, overall Contraceptive Security can be weakened. Bolivia paid insufficient attention to training and advocacy of municipality personnel regarding the provision of FP products and services when it decentralized and integrated its FP program. Initially, central-level staff were trained with the intent that they would, in turn, train municipal-level personnel. That approach was not successful, however, and municipal staff had to be directly trained in areas such as forecasting, LMIS, and advocacy for family planning.

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STRONG LEADERSHIP IS ESSENTIAL

“Championship”—the active, personal interest of senior decision makers who have the authority to induce forward motion—has been shown to be essential for facilitating successful logistics reform and ensuring sustained contraceptive availability.

SOME FUNCTIONS PERFORM BETTER WHEN INTEGRATED

Integration makes the most sense for functions such as storage and distribution; savings in these two areas are substantial because they reduce management and transportation costs. Another function that may be integrated is the logistics management information system, in which a database may run unified for all essential medicines, contraceptives, and other centrally procured medicines, while still allowing desegregation of data for individual products. Moreover, automation is essential when integrating a large number of products.

The importance of strong leadership in guiding integration efforts: Ghana and Madagascar examples

In Ghana, the champion was a deputy minister who perceived all the various systems to be weak. He took up the cause of reforming the central store and merging separate vertical operations into one improved system. In Madagascar, the champion was a new director of family planning who supported the integration of contraceptive operations into an overall distribution system managed by a strengthened central store. In both cases, the champion played a crucial role in facilitating integration and guaranteeing commodity availability throughout the reform process.

A FEW FINAL WORDS

Both decentralization and integration directly influence the institutionalization of ministries of health capabilities to effectively manage the logistics system; this is one of the principal elements needed to achieve Contraceptive Security. It is therefore essential for donors, international banks, and country health managers to work together to enhance ministries of health logistics capacities to maintain the flow of contraceptives to meet clients' needs.

Health services in most Latin American countries are provided by a number of public bodies; the principal providers are usually the ministry of health and the social security institute. Countries in the region should consider what options currently exist that could be coordinated among institutions to gain increased economies of scale in procurement, distribution, LMISs, and other aspects of logistics management throughout the reform process. For countries that are just beginning to plan for decentralization or integration and for those already in the implementation stage, it is important to proceed cautiously. Other countries' experiences have shown that unanticipated problems may occur when supply chain management has not been considered a priority throughout the reform process. A lack of careful planning can seriously degrade the supply system, thus interrupting the efficient flow of commodities to the client, an essential component of any effective health program. The lessons presented earlier illustrate how various logistics functions can be negatively affected when they are not considered during health reform processes. At the same time, reforms can have a positive impact on the supply chain as long as it is given priority attention throughout the reform planning process and during the implementation phase.

Political situations and priorities change, even to the extent that they might be considered political fashions. They come and go with the passage of time in every society, necessitating systemic reforms and organizational adaptations. Decentralization and integration are two such forces currently abroad in the health sector in Latin America. Supply chains can be designed to succeed in virtually any environment as long as policymakers and program managers are committed to making and keeping products available to

their clients. Under any circumstance—centralized or decentralized, vertical or integrated—supply chain management requires careful and detailed planning, policy-level visibility and support, sufficient human and material resources, and a commitment to the collection and use of accurate and timely information to drive supply chain decision making. Without these, supply chains are vulnerable to disruption and waste. With these conditions, however, supply chains are robustly successful and bring copious benefits in terms of program impact, efficiencies and cost savings, quality of care, and customer satisfaction. Our experience in Latin America with health systems that have contended with a wide variety of decentralization and integration contingencies bears this out.

GLOSSARY

championship. The active, personal interest of senior decision makers who have the authority to induce forward motion (Has been shown to be essential for facilitating successful logistics reform.).

commodity supply systems. Ensures that every service delivery point and warehouse in the system always has an adequate supply of all the necessary commodities and other supplies, in good condition.

contraceptive/commodity security (CS) (also called reproductive health Contraceptive Security) Is said to exist when all people are able to choose, obtain, and use quality contraceptives and other essential reproductive health products whenever they need them.

contraceptive logistics systems. Ensures that every service delivery point and warehouse in the system, at any point in time, has an adequate supply, in good condition, of all the necessary contraceptives and other supplies.

dispensed-to-user data. Information on the quantity of products actually given to customers. Sometimes referred to as dispensed or consumption data. *Also see issues data.*

decentralization. Pushes the responsibility for decision making about health services management to intermediate and district levels rather than a central or national level.

- **deconcentration.** The most limited and most common level of decentralization, under which authority, functions, and/or resources are transferred to regional and local field offices of the central government.
- **delegation.** Transfers authority, functions, and/or resources to an autonomous private, semipublic, or public institution.
- **devolution.** Cedes autonomy and authority to autonomous local governments (usually municipalities), that, at least in some measure, take responsibility for service delivery, administration, and finance.

donor coordination. A process to improve coordination, communication, and efficiencies between donors

essential drugs. Those that satisfy the priority health care needs of the population.

essential drugs list (also called essential medicines list). An official list of national and institutional essential medicines. WHO's Model List is often used as a *guide* for its development.

forecasting and procurement. Project future needs and ensure that the right quantity and the right product will be available. Forecasting relies on historical consumption, demographic, morbidity, and program planning data to create projections of short- and medium-term needs—approximately one-to-two and three-to-five years into the future, respectively.

health sector reform (HSR). A popular approach to achieving expanded health care within limited budgets and resources.

integration. Merging of vertically managed health services and management activities.

integration of health logistics systems functions. A logistics system that supplies and manages products for more than one program. *Also see vertical system.*

intrauterine device (IUD). A small device that is inserted through the cervix and placed in the uterus to prevent pregnancy.

issues data. Information on the quantity of goods shipped from one level of a system to another (not quantities given to customers or users). *Also see dispensed-to-users data.*

inventory management. Includes (1) inventory control system that, if well designed and implemented, prevents under- and over-stocking; (2) warehousing that maintains the quality of the product while in storage; and (3) transportation, which ensures that the products reach the service delivery points safely and in good condition. If good inventory management practices are followed, this component helps ensure distribution of the right quantity of commodities, to the right place, in the right condition, at the right time.

logistics management information system (LMIS). Collects data on stock-on-hand, rate of stock consumption, losses, and adjustments. Is an essential logistics function for good overall system performance; it can be a manual or automated system.

market segmentation analysis (MSA). Process of using survey data and statistical analysis to divide the reproductive health market into sub-populations whose reproductive health needs, characteristics (including ability to pay), or practices might require distinct service delivery or marketing strategies.

pipeline. The entire chain of storage facilities and transportation links through which supplies move from manufacturer to consumer, including port facilities, the central warehouse, regional warehouses, district warehouses, all service delivery points, and transport vehicles.

product selection. Ensures that the right product is available based on what the client wants and what the system and client can afford.

reproductive health Contraceptive Security (RHCS) (also called contraceptive/ commodity security [CS]). Is said to exist when all people are able to choose, obtain, and use quality contraceptives and other essential reproductive health products whenever they need them.

service delivery points (SDP). Any health facility that serves clients directly and where clients (users) receive supplies. Service delivery points are frequently clinics and hospitals but may be district-level hospitals.

Strategic Pathway to Reproductive Health Commodity Security (SPARHCS). A multi-sectoral framework and assessment tool designed to identify RHCS issues.

supply chain management. Coordination of various organizations and functions to source, procure, and deliver goods to the customer.

vertical logistics systems/vertical management. A logistics system that supplies and manages products for only one program. *Also see integrated system.*

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APPENDIX: CASE STUDIES FROM LATIN AMERICA AND THE CARIBBEAN

LAC country-specific experience with decentralization and integration is provided in this section.

Box 1³⁷

Decentralization and integration in Bolivia

Background to Contraceptive Security in Bolivia

Since the 1990s, Bolivia has relied upon donors for contraceptives (principally UNFPA, the British Department for International Development [DFID] for the public sector, and USAID, for the NGO sector). UNFPA provided contraceptives from 1998 to 2001, after which DFID began funding donations and UNFPA moved into managing procurement. Contraceptive assistance from UNFPA ended by 2004, and assistance from DFID is expected to end at the end of 2006. PROSALUD is the largest NGO in the country, and receives USAID donations since the early 1990's. These donations are expected to be phased out at the end of 2008. As part of a sustainability plan, PROSALUD sells the donated contraceptives to other NGOs and to the Ministry of Health for a price that covers replacement and other minor costs. This arrangement works fine for PROSALUD, since the supplies are donated. However, the model may not be sustainable in the future, once PROSALUD procures its own supplies at market prices. At the present time, PROSALUD only procures one of the two brands of condoms with its own funds.

Since the mid-1990s, Bolivia has been moving from a centralized system with vertical programs for contraceptives, essential drugs, and vaccines to one where local municipalities are responsible for an integrated system. While integration and decentralization are part of the same reform and so should be considered together, decentralization seems to be having a much greater impact on Contraceptive Security. Key changes and challenges are highlighted below.

Decentralization: Present status and plans for the future

Beginning in the mid-1990s, Bolivia implemented a number of governmental reforms that decentralized health sector financial and managerial responsibility to the 311 municipalities:

- In 1994, the Law of Popular Participation (LPP) shifted tax revenues and the ownership of infrastructure (clinics, hospitals, warehouses) from the national health and education ministries to the country's 311 municipal governments.
- In 1996, the Maternal and Infant Health Insurance program established that 3.2 percent of tax revenues allocated under the LPP must be used by municipalities to provide twenty-six services to all pregnant and postpartum women and children from birth through five years, free of charge.

³⁷ Information used to develop this box comes from Taylor, et al. (2003) and Bossert (2000).

- In 1996, the Law of Administrative Decentralization gave the departmental prefectures control over the assignment of government health personnel, and the Pharmaceutical Drug Law was passed to regulate the sector in accordance with the needs created by the LPP and the Maternal and Infant Health Insurance program.
- In 1999, the Maternal and Infant Health Insurance program was expanded to cover ninety different services, and LPP revenues were doubled from 3.2 to 6.4 percent.
- In 2002, the Basic Health Insurance was renamed again—Universal Maternal Infant Health Insurance (SUMI)—and for the first time, was established by law. Supplies provided by national health programs (including contraceptives) were included in service benefits to be reimbursed with SUMI funds. Although family planning (FP) services are covered during the six-month post-birth period under with SUMI, as of November 2005, contraceptive purchases had still not been made with these funds, and the National Program for Sexual and Reproductive Health continued to offer free contraceptives to all services, using the donated products.
- In January 2006, in accordance with Resolution 0032, Article 2, SUMI was expanded to include all girls and women between five and sixty years of age, and to cover annual pap smears for prevention of uterine cancer, treatment of precancerous lesions, and mutually consented voluntary contraception. Contraception is to be offered to all women of reproductive age.

The result of all these reforms has been the transfer of responsibility, authority, and funding for most pharmaceutical purchases to health establishments and/or municipal governments. Although SUMI has helped guarantee that funding is available for priority health interventions for women and children, local purchase of essential pharmaceuticals has increased costs and put important product selection and sourcing decisions into the hands of individual health establishments or municipal governments that may or may not be equipped or qualified to make them.

The central ministry of health (MDS) still retains some responsibilities—in procurement and LMIS for those vertical programs that receive donations, for example. Together with the departmental health offices (SEDES), the MDS provides oversight to the 311 municipalities.

LMIS instruments determine contraceptive needs by trimester through June of each year. Contraceptive procurement is not carried out under SUMI on a regular basis because many health facilities restock with contraceptives from the FP program, while others have begun to purchase contraceptives through the social marketing program. In accordance with the established norm, health facilities have just recently begun to purchase contraceptives under SUMI. In Bolivia there are no contraceptive manufacturers, but there are private providers of contraceptives in the retail market. In addition, PROSALUD's social marketing program supplies contraceptive methods at subsidized prices to the public sector.

A particular problem with transportation in Bolivia is that since the central medical stores (CEASS) has no transport, municipalities prefer to obtain supplies from other sources that can deliver—even if these other sources are more expensive. In addition, there is a shortage of essential medicines under the SUMI program at the local level. Bolivian law requires that three price quotations be obtained to purchase any medicine, and one of those quotations must come from the CEASS. However, medicine may not be purchased from a provider whose prices are higher than those capped by the MDS, which serve as reference prices.

In the past, Bolivia has lacked resources for monitoring, supervision, and on-the-job training for the logistics management information system (LMIS or SIAL, for its acronym in Spanish) at health establishments and for the distribution of contraceptives. Consequently, errors went undetected and were simply passed on from health establishments to the regional and central levels. Because the central level did not systematically monitor or consolidate information from the SIAL or have a team assigned to

update the SIAL on a regular basis, central-level MOH contraceptive forecasts were being generated with incorrect information, and distribution was too often based on products available in the central and regional warehouse versus quantities required. Just recently, however, the government has placed priority on monitoring and supervision and has designated funds from the hydrocarbon taxes that are collected for increased supervision of the SIAL.

Before and during decentralization, municipality personnel did not receive enough training on providing and advocating for FP products and services. Initially, central-level staff were trained with the expectation that they would, in turn, train municipal-level personnel. That was not successful. Subsequently, municipal staff had to be directly trained in areas like forecasting, LMIS, and advocacy for family planning.

Integration: Present status and plans for the future

As mentioned above, SUMI has helped guarantee funding for priority health interventions for women and children following integration at the municipal level. This step was taken when authorities realized that several municipalities were investing little in health following integration; indeed, over time the earmark that targets health interventions for pregnant and postpartum women and children up to age five was increased from 3.2 percent to 6.4 percent.

Bolivia's SIAL, which uses actual consumption data to develop forecasts and procure and distribute contraceptives, was expanded in 2002 to include all pharmaceutical supplies that made up SUMI. In 2002, the MDS further integrated its multiple supply systems, creating one national unified pharmaceutical supply system (SNUS) that was again based on SIAL, although vaccines continued to be managed vertically.

Following full integration of the LMIS/SIAL, reporting rates from the facility level to the central level in 2003 were high: for contraceptives, 91 percent of staff were using all logistics forms and 89 percent were sending reports to higher levels. However, higher-level staff were not using the reported data to inform forecasting or ordering contraceptives, which resulted in widespread stockouts in facilities. (Sixty percent of public sector health facilities experienced a stockout during the first nine months of 2003.) This shortfall reveals the inherent capacity problems at the central level that can hamper the success of any integration effort. This is not a problem, however, for essential medicines and medical supplies, for which an integrated logistics system was implemented in 2003, and drugs are procured locally.

Decentralization in Brazil

Background to Contraceptive Security in Brazil

Initially, family planning in Brazil was implemented largely by private and international organizations. For example, beginning in 1965, USAID channeled financial assistance to Brazil through sponsorship of selected NGOs. In 1988, the new constitution formally gave FP responsibility to the states; additional national legislation further delegated FP responsibilities to the states and municipalities. USAID support was phased out over the period 1992–2000. During that time, interventions focused on two states—Ceara and Bahia—with the goal of assisting programs in the transition to self-sustainability and focusing the FP strategy on increasing the available method mix, building capacity of health care professionals, and improving FP services. Brazil graduated completely from USAID donor support for contraceptives in 2000; since then, the government has been actively involved in family planning provision and contraceptive procurement, with a somewhat mixed record of success.

Decentralization: Present status and plans for the future

In Brazil, it is important to differentiate between decentralization of health care service delivery in general and the decentralization of contraceptive procurement in particular:

Health Care

The Unified Health System (SUS) is currently the main mechanism of public health care delivery in Brazil. SUS consists of a decentralized network of public health care institutions and services at federal, state, and municipal levels. Its administration is the responsibility of the three levels of the public sector; the government players have assigned functions, roles, and competencies with respect to each other and to management of the system at their level of responsibility. The legal provisions governing the health care system operations allocate primary responsibility for management and administration of the SUS to municipalities, while the financial and technical assistance is supposed to come from the federal and state governments. A tripartite management commission, composed of representatives from each level, oversees the overall integration and coordination of the system.

Contraceptive Procurement

Brazil's contraceptive procurement has shifted back and forth between centralization and decentralization over the past decade. Family planning logistics were decentralized in 1997. Then, in 2000, the government of Brazil decided to recentralize the logistics (primarily because of insufficient progress in the area of family planning) and to expand supply. Just one year later, in 2001, influenced by storage and distribution problems between states and municipalities and a lack of technical capacity among state health coordinators to provide adequate reproductive health services in municipalities, contraceptive distribution was again decentralized. In 2005, distribution for FP was again centralized, and the MOH will assume the chief responsibility for procurement and distribution of contraceptives and for improving the method mix available in the country. However, even though the federal government now centralizes all contraceptive procurements, some municipalities (with the administrative status called Gestao Plena, which carries a higher level of autonomy in management) purchase additional contraceptive methods on their own.

³⁸ Information used to develop this box comes primarily from Studart, et al. (2006).

Integration: Present status and plans for the future

A vertical system exists within the framework of reproductive health programs and the national STD/AIDS program. However, certain contraceptive methods (i.e., orals, condoms, emergency pills) are also included on the essential drugs list of the MOH, and in that sense they are integrated into the distribution system. The acquisition and distribution of contraceptives is coordinated at the central level by the Program of Assistance with Pharmaceutical and Strategic Supplies (PAFIE), which is responsible for strategic health commodities and items on the essential drugs list.

Possible future directions

In February 2005, the government started implementing the new procurement policies, and 5,200 municipalities have already begun to receive reproductive health kits with contraceptive methods. Government guidelines³⁹ further specify the following intentions:

- Inclusion of contraceptives on the essential drugs list for basic health care, acquisition of which is to be the responsibility of the federal level
- Procurement of contraceptives at a rate that shall progressively meet 100 percent of the need of the 5,561 municipalities of the federation for the following oral methods: low-dose combination pill and progestin-only pill
- Provision of oral emergency contraception and injectable methods (monthly and quarterly) for 5,223 municipalities of the federation that, until March 2004, maintained registered teams of family health care providers or participated in the Program of Improvement of Prenatal Care and Delivery (PHPN)
- Provision of IUDs and diaphragms to gradually meet 100 percent of the need, initially in 1,200 municipalities in 2005, with an expected yearly increase of 350 municipalities during 2006 and 2007.

The present intention of the federal government is to commit to effectively procure, distribute, and facilitate use of contraceptives by creating better policies related to contraceptive procurement on all levels (federal, state, and municipal). Previous experiences in the area, however, point to the continued need to improve the infrastructure and logistics systems so they can provide quality reproductive health services and products to the entire population, especially those in the central parts of the country, where government reach has traditionally been less effective.

³⁹ This information comes from a conversation with Miguel Fontes, JSI/Brasil on March 8, 2006 regarding the 2005 government guidelines on sexual and reproductive rights.

Box 3⁴⁰

Decentralization and integration in Chile

Background to Contraceptive Security in Chile

USAID donations in Chile ended in 1995. Since then, the public sector has assumed complete responsibility for procurement (from both international and local suppliers), distribution, and provision of family planning services. In early 2006, the National Commission for HIV/AIDS (part of the MOH) began massive distribution of condoms as part of the Global Fund to Fight AIDS, TB and Malaria.

Decentralization: Present status and plans for the future

Decentralization of the health sector in Chile began under the Pinochet administration in the early 1980s. Indeed, Chile was the first country in the region to pursue extensive health sector decentralization, devolving ownership, authority, and responsibility over primary care clinics and health care staff to 308 municipalities. Regional MOH authorities became responsible for hospitals and for supervising the municipal level. Social security reform was undertaken at the same time in Chile; however, it had little impact on the decentralization process. In Chile, the public sector had always been the lead sector in family planning provision, so decentralization did not have a radical impact on family planning in the country.

The system is funded through a fee-for-service mechanism set by the central level. These budgets are not allowed to increase beyond that of the previous year following negotiation between the central and municipal levels. In addition, municipalities contribute some of their own source revenues. By law, wealthier municipalities must also contribute to a horizontal equity fund (called the Municipal Common Fund), which is used to redistribute some funding from richer municipalities to poorer ones.

CENABAST, a central-level public warehousing and purchasing agency, procures contraceptives and distributes them to the 26 regional health authorities, which, in turn, deliver them to the network of public first-line clinics. Stock-outs do not seem to be an issue. The MOH pools funding from the 26 health regions and transfers the funds to CENABAST, which places tenders, stores, and distributes the contraceptives.

Integration: Present status and plans for the future

A budgetary line specific to FP commodities was recently introduced; this should protect funds for family planning, solve some operational bottlenecks, and ensure the durability of FP policies.

⁴⁰ Information used to develop this box comes primarily from Morales (2006), from an interview/correspondence with Christian Morales (2005), and from Bossert (2000).

Box 4⁴¹

Decentralization and integration in Colombia

Background to Contraceptive Security in Colombia

In the past, the government of Colombia received donor support for contraceptives primarily from USAID (through Engender Health, former AVSC project), Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ), and UNFPA. USAID also provided support through the IPPF – affiliate PROFAMILIA. Colombia graduated from USAID contraceptive donation assistance more than 10 years ago, in 1995. Since then, the public sector and PROFAMILIA have assumed responsibility for procurement, distribution, and provision of family planning services and products.

Before and after donations ceased, PROFAMILIA continued to retain all of its logistics functions centralized. This decision has proven to be very effective for reducing procurement costs, negotiating better prices with international and local suppliers, and has helped PROFAMILIA maintain its focus in Family Planning, while diversifying services to ensure cross-subsidies of certain services.

Decentralization: Present status and plans for the future

Before 1987, Colombia had a centralized health care system. Decentralization began in 1987 with the passing of Decree 77 and continued further with Law 10 in 1990. The real impetus, however, was Law 100 of 1993, which established a mechanism whereby public and private service provider institutions (called *Empresas Promotoras de Salud*—EPS) that are regulated and supervised by the government compete to insure the population. This mechanism was supposed to cover 100 percent of the population by 2000; by that time, however, only 58 percent were covered.

As a result of decentralization, 1,070 municipalities assumed responsibility for prevention and promotion, primary health care, and first-level hospitals. The 32 departments assumed responsibility for secondary and tertiary health facilities, teaching hospitals, and major public health campaigns. Municipalities received two kinds of government transfers, each with a percentage range earmarked for health. To qualify for and receive intergovernmental transfers (*situado fiscal*), municipal authorities must meet certain criteria. Almost 300 municipalities were certified to receive the *situado fiscal* by 1997.

As in Chile, decentralization in Colombia was accompanied by reform of social security. However, while social security reform in Chile had little impact on decentralization, in Colombia the creation of competitive public and private insurance organizations (including EPS and *Empresas Sociales del Estado*—ESE) has directly affected decentralization. For example, municipality funding through the *situado fiscal* has been reassigned to EPS and ESE in a phased process. EPS and ESE receive a per capita payment for each person they enroll and purchase care for these people from networks of service providers. It is important to note that while in Colombia the private sector was the leading sector in FP provision, in Chile the public sector had been the leader. That is why decentralization has had a larger impact on family planning in Colombia than in Chile.

Contraceptive procurement occurs at all levels: Departments, municipalities, and even hospitals, if they follow certain criteria. If contraceptives are procured at departmental level, they are then distributed to municipalities. Hospitals can also go directly to the municipality to obtain supplies in those cases when a municipality is promoting a special campaign (i.e. TB Prevention), and channels the efforts through hospitals. For the rest of supplies, Hospitals have to procure their own drugs with the funds they receive from the central government.

⁴¹ Information used to develop this box comes primarily from Agudelo and Quesada (2006) and Bossert (2000).

Advantages and disadvantages of decentralization in Colombia include the following:

Advantages

- Coverage has increased.
- Procurement and contracting processes are more flexible.
- Use of resources is more flexible.

Disadvantages

- Possible corruption—there is potential for double payment by the state (a person can be registered by the department and by the municipality and be considered two people, as information systems are not integrated). There are also problems of poor communication/coordination among different levels (department, municipality, etc.).
- Less than optimal product quality—despite the fact that purchasing regulations are in place, many hospitals purchase locally at the lowest cost, and this does not ensure best quality.
- No economies of scale for the procurement of supplies.

Integration: Present status and plans for the future

The contraceptive LMIS is currently being integrated with other systems in the public health sector. The system is weak, especially in the areas of planning, forecasting and needs estimation.

Decentralization and integration in Costa Rica***Background to Contraceptive Security in Costa Rica***

Until 1993, Costa Rica received periodic contraceptive support from UNFPA (1974–1978) and USAID (1983–1993). Since its complete graduation from donor support, Costa Rica has maintained a relatively high level of contraceptive prevalence, most likely as a result of clear political will, evidenced through a continued strong emphasis on reproductive health and family planning.

Decentralization: Present status and plans for the future

In the early 1990s, as part of health sector reform, Costa Rica's MOH delegated all responsibility for health care provision (including family planning) to the Costa Rica Social Security. The MOH retained only a normative function. In 2002, 88 percent of the population was officially registered with the CCSS, and the organization serves as a safety net for the remainder of the population, as health care facilities are required by law to provide care even to those not officially registered. In 2005, the CCSS provided services to more than 72 percent of family planning users.

The central CCSS is responsible for procurement, through a system of pre-enrolled international and local bidders. The fact that CCSS procures centrally for the entire public sector means that it has a strong leveraging power vis-à-vis commercial suppliers, resulting in good prices. Commodities are distributed from the central warehouse to hospitals and other large polyclinics, which in turn distribute them to affiliated basic health care teams (called EBAIS). In case of emergencies or impending stock-out, health facilities are allowed to purchase contraceptives directly from suppliers.

The procurement process is somewhat transparent and autonomous; procurement orders are generated automatically by the central warehouse system on the basis of supply levels and projected consumption. This means that there is little room in the process for political pressure or stalling tactics that could be used to inhibit contraceptive procurement. Indeed, although no data are available on contraceptive-specific stock-outs, the overall central warehouse stock-out rate is very low, around 2 percent.

Integration: Present status and plans for the future

At around the same time as decentralization, an integrated health service model was adopted that incorporated prevention, health promotion, increased social participation, and integrated primary health care with EBAIS throughout the country.

⁴² Information used to develop this box comes primarily from Cisek and Olson (2006)

Decentralization and integration in the Dominican Republic

Background to Contraceptive Security in the Dominican Republic

UNFPA, GTZ, and USAID are the main donors involved in contraceptive support in the Dominican Republic. UNFPA provided support to the entire country until 1997, when it began to reduce support and the government began to procure. The UNFPA phase-out is still undetermined. Donations might continue in the future for some Provincial Health Directorates; however, quantities and sources are still to be defined. Two USAID-supported projects are involved in the Dominican Republic: Family Health International and Abt Associates. PROFAMILIA, the IPPF affiliate, procures all its contraceptives either through IPPF/NY or directly from international suppliers, to benefit from low prices.

Decentralization: Present status and plans for the future

Health care in the Dominican Republic has traditionally been centralized under the Secretariat of Health and Public Assistance (SESPAS). However, in 2001, the General Health Law established a new public health model characterized by decentralization of services and functions. As part of this model, oversight responsibility is expected to be deconcentrated to the nine regions (made up of provinces); the central level is expected to provide guidance, while the provinces will be responsible for adapting the guidance to the provincial level and for implementation. Additionally, service provision will be decentralized and autonomous regional networks created. In each region, hospitals, health centers, and clinics will be responsible for procuring supplies, including contraceptives.

Despite the existence of the General Health Law, as described above, the implementation process has been very slow. As of March 2006, only three of the nine regions had implemented the new system, with coverage of 95,000 affiliates under the subsidized regimen. By the end of the year, the system plans to have 600,000 affiliates under this regimen. The model in the Dominican Republic remains centralized; regions are not procuring their own contraceptives yet, because the National Council on Population and Family (CONAPOFA), has been procuring contraceptives with central funds on behalf of SESPAS. Additionally, warehousing, distribution and LMIS continue to be centralized. CONAPOFA distributes contraceptives to those Provinces where UNFPA does not provide donations and technical support. Provincial authorities are responsible for collecting contraceptives from the CONAPOFA central warehouse and distributing them to the health establishments. In some cases, health establishments collect the supplies directly; in other cases, the municipal level (Municipal Directories of Health -) receives the supplies and delivers them to health establishments.

Consumption and inventory data continue to be collected at the SDP level, passed up to the provincial then the regional level, and consolidated at the central level— on a monthly basis in most cases. An annual needs estimate, using these data, is supposed to be generated at the central level. In theory this system should work well; however, in practice there are considerable problems:

- Different forms are being used in different regions, depending on the source of the contraceptive supply (SESPAS, UNFPA, etc.). Consequently, LMIS information is often inconsistent. Additionally, because some health establishments do not complete forms as required, data are often incomplete.
- As mentioned above, consumption and inventory data are supposed to be used to estimate needs. However, it appears that different health establishments are using different data to estimate their needs; for example, consumption, inventory, service statistics, demographic data, and population/coverage

⁴³ Information used to develop this box comes primarily from Agudelo, et al. (2005).

rates. In 2005, 33.7 percent of health establishments did not know what kind of data were used to estimate needs, and up to 35.8 percent of health establishments waited for stock-outs to occur before they estimated needs.

Integration: Present status and plans for the future

The contraceptive logistics system is a vertical program that functions independently from other MOH programs. Storage and LMIS are done through CONAPOFA, the body responsible for all population matters. However, transport is integrated: SESPAS relies on the provincial health directorates to ship contraceptives and products for other programs.

Possible future directions

- The Dominican Republic found the results of the recent *Contraceptive Security* (CS) study to be very informative. The CS committee is composed of many different organizations involved in family planning, from the public, private, and NGO sectors, and is very active. They meet on a monthly basis, and attendance is mandatory by Ministerial decree.
- The family planning/reproductive health program has experienced a high level of personnel turnover. There is evidence of well-trained staff moving on to other programs and new staff not being trained sufficiently, especially in logistics management. With decentralization, this challenge will almost certainly intensify.
- Further discussions need to take place on how the health reform will coordinate efforts with SESPAS for the procurement of contraceptives and provision of FP services, given the important role that CONAPOFA has played in this area.
- The central level should provide guidance and norms to the lower levels to ensure consistency in the process of needs estimation and explore options for LMIS standardization. Staff at all levels will need training in this system.

Decentralization and integration in Ecuador

Background to Contraceptive Security in Ecuador

Donors, primarily USAID and UNFPA, were responsible for most contraceptive provision in Ecuador until 2001. This support dropped off dramatically in 2002–2003, and Ecuador began to purchase contraceptives in considerable quantities. Ecuador graduated completely from donor support for contraceptives in 2005.

Decentralization: Present status and plans for the future

In Ecuador, health care responsibility is deconcentrated to 167 Health Areas (JAs for its acronym in Spanish), which fall below the Provincial level (Departmental level in other countries). Some health centers and hospitals are also considered to be large enough and to have sufficient administrative capacity to constitute a JA. Logistics responsibilities are fully devolved to the JAs, which are responsible for all logistics decisions, such as estimating needs, defining the forecasting methodology that should be used, deciding which data should be reported, and deciding the frequency of stock replenishment. As a result of this devolution, logistics system functions vary considerably from one JA to another.

The logistics system for contraceptives is decided by the guidelines in the Free Maternity Law. Under this law, the health area receives funding corresponding to the number of FP consultations reported by health facilities in their area. However, data are not compiled on the type of FP product distributed during these consultations; only the type and volume of visits is recorded. Both consumption data and service statistics are not collected.

Health Areas purchase contraceptives on an annual basis from a pre-approved list of suppliers. While this ensures product reliability and quality, it does not seem to ensure good prices, as there are considerable price fluctuations from year to year. Although they are allowed to purchase internationally, health areas tend to procure locally. Health facilities rarely purchase contraceptives.

The Free Maternity Law ensures that enough funding is available for contraceptives. Funds come from the \$15 million allocated annually to a “solidarity fund” and 3 percent of a “special consumption tax” assigned by the ministry of finance. Although funding is sufficient to cover needs, the decentralized health areas choose to purchase locally and consequently spend about five times more than they would if they used UNFPA as a procurement agent or another international source.

Data are not available on the volume of contraceptive purchases. Although bills for the purchases made by health areas arrive at the central level, they are not tabulated to determine total funds spent nor amount procured per method.

There is no standardized system that clearly establishes the frequency of contraceptive procurement or delivery to lower levels. Many JA staff members lack training in logistics. Moreover, very few health facilities are equipped with procedures manuals or receive supervisory visits that specifically address logistics issues. Lower levels do not follow any standardized approach to calculate requirements, and the majority of facilities do not appear to have any sort of inventory control system. There is no uniform logistics information system to collect essential data for decision making. Instead, some JAs strive to collect detailed consumption and market information, while others simply collect data on FP consultations. As a result, although sufficient funding is in place to provide the necessary contraceptive

⁴⁴ Information used to develop this box comes primarily from Uribe, et al. (2005).

supplies at all levels, both oversupply and stock-outs are not uncommon.

Integration: Present status and plans for the future

The logistics system for contraceptives is vertical (although oral contraceptives are included on the essential drugs list). There seem to be no plans for integration. The main advantage of not integrating contraceptives with essential drugs is that under Free Maternity Law, adequate funds for contraceptives are ensured. If the contraceptive logistics system were integrated with other health programs, funds would not be ensured for a full supply.

Possible future directions

- Explore the possibility of health areas pooling procurement for contraceptives to achieve economies of scale. This could be done through procurement agents such as UNFPA. Pooled procurement could also be done with other organizations involved in health care in the country (social security institute, NGOs, etc.).
- Consider including a clause in the prequalification contract that requires approved suppliers to maintain product price levels for the duration of the contract.
- Make efforts to include all contraceptives on the essential drugs lists of the ministry and the social security institute.
- Strengthen the central level's role in developing and implementing norms and procedures, establishing guidelines, and ensuring that guidelines are followed at the local level, especially for estimating needs and inventory control.
- Ensure that health area staff are trained in these norms and procedures and that training is standardized across the country.

Box 8

Decentralization and integration in El Salvador

Background to Contraceptive Security in El Salvador

For more than 30 years, three primary providers of family planning services in El Salvador have been the MOH, the Social Security Institute (ISSS), and the IPPF affiliate (ADS—now PROFAMILIA). However, since 1998–1999, the role of the public sector has increased significantly as the MOH began to improve its logistics system and contraceptives became available through its 400 health facilities nationwide. With support from USAID and UNFPA, the MOH is currently the main provider of family planning services in the country, and its network of promoters has contributed significantly to this expansion.

Donors (primarily USAID and UNFPA for the past three decades, and IPPF in a lesser degree) have been responsible for the financing of most of the contraceptives in El Salvador. In 1998, USAID phased out contraceptive support of the ISSS, and the ISSS started to procure its own contraceptives, using its own funds. In 2003, USAID announced the MOH and ADS decision to phase down contraceptive donations so that both institutions could implement a transition plan between donations and local procurement efforts. ADS was phased out of contraceptive support in September 2005, and the MOH is in the process of being phased out by 2009. To guarantee the procurement of contraceptives at low prices, the government of El Salvador signed a procurement agreement with UNFPA; UNFPA would purchase contraceptives (except IUDs) for the public sector, and USAID would continue to donate IUDs, until funding is secured to procure this method, because it's considered medical supply and is not part of the essential drugs list.

In 2005, the MOH procured through UNFPA nearly 80 percent of total contraceptive needs, spending \$920,000. The MOH saved nearly \$2.5 million, compared with purchases in 2005 at local prices. In 2006, a similar budget was requested from the ministry of finance, but out of a total need of \$750,000, only \$375,000 was approved from the national treasury. In June 2006, the MOH was still struggling to get the remaining \$375,000 to procure nearly 85 percent of its needs. USAID expects the MOH to absorb 100 percent of contraceptive costs as of 2008 and to continue to use a procurement source that offers low prices.

Decentralization: Present status and plans for the future

Decentralization in El Salvador began in 1995–1996 when purchasing of essential drugs was deconcentrated to regional levels (SIBASIs), giving them autonomy to procure from pre-qualified local suppliers. Despite deconcentration, contraceptive supplies continue to be managed vertically, mainly because these supplies are donated. With the USAID phase-out plan, the national FP program decided to take advantage of the economies of scale from bulk purchases through UNFPA, and as mentioned before, signed a procurement agreement with this UN agency.

Contraceptives are administered at the central level of the MOH and are provided from UNFPA to the central warehouse, from there to the 27 SIBASIs, and on to the 397 health establishments (hospitals and health centers). Usually, the SIBASIs pick up the supplies at the central warehouse, and the health establishments pick up supplies from the SIBASIs.

Since 1998, the MOH has introduced a number of interventions to improve and redesign some of the elements of the contraceptive logistics system. In 2001, it designed and implemented an LMIS for contraceptives, which was also computerized at the SIBASI and central levels. It has since established delivery norms, developed documentation for logistics management procedures, introduced the software PipeLine for consumption-based projections, designed a maximum/minimum distribution and inventory control system, improved storage conditions, and deployed the LMIS nationwide.

Integration: Present status and plans for the future

While contraceptives for the most part continue to be managed vertically, a few functions have been integrated with other medicines. For example, the same basic LMIS source document is used by storage and health facilities for micronutrients and contraceptives, and data are aggregated at the SIBASI level. Additionally, forecasting is integrated in many cases, with the people in charge of programs and finances at the SIBASI level getting together annually to discuss forecasting procedures for essential drugs and contraceptives. Basically, the MOH has been incorporating consumption-based estimation for most of the essential drugs. The integration of forecasting needs has resulted in more accurate forecasts and an advocacy tool for mobilizing resources.

Possible future directions

- Strengthen the national Contraceptive Security committee by formalizing it through a ministerial/presidential resolution
- Involve the participation of PROFAMILIA in efforts to achieve Contraceptive Security
- Include a line item for contraceptives in the national budget
- Implement a continuous training program to deal with personnel turnover

Decentralization and integration in Guatemala

Background to Contraceptive Security in Guatemala

For more than 35 years, the primary provider of FP services in Guatemala was APROFAM, the IPPF affiliate in Guatemala. However, since 1998, the role of the public sector has increased significantly, and the MOH is presently the main provider of FP services in the country, mainly because of improved availability of contraceptives throughout its supply chain. Moreover, an innovative MOH mechanism of contracting out basic service provision to local NGOs is also beginning to increase access to contraceptives in hard-to-reach areas.

Donors (primarily USAID for the past four decades and the Canadian Agency for Development Assistance [CIDA] from 2002 to 2005) have been and still are responsible for providing most contraceptives in Guatemala. In 2001, with increasing demand for contraceptives as donation levels fell, USAID and UNFPA began conversations to help the MOH, the national social security institute, and NGOs (primarily APROFAM) overcome the gap. It was agreed that UNFPA (using Pipeline for quantification of needs) would purchase contraceptives (except IUDs) for the public sector, and USAID would purchase contraceptives for APROFAM and NGOs contracted by the MOH to provide basic services (including family planning since 2003). USAID also developed a plan to decrease donations so that each organization would achieve financial sustainability for contraceptive purchasing by the end of 2006. At present, the public sector no longer receives donations from USAID, but the NGOs still do. Complete phaseout of donations to NGOs is expected by the end of 2006. In 2004 the Guatemalan Congress passed the new law on taxation to alcoholic beverages, mandating the Government to earmark 15% of its revenue for the National Reproductive Health Program of the MOH which represents an important source to secure funding after donations cease in 2007. In 2006 Congress passed another unprecedented law on Universal Access to Family Planning

As part of the agreement with UNFPA, the MOH has purchased an increasing percentage of the country's contraceptives each year since 2002. The MOH expects that it will be able to absorb 100 percent of contraceptive costs by 2008; if this is the case, UNFPA will cease partial donations. The MOH is planning to cover 100% of its contraceptive needs with the 15% revenue on alcoholic beverages.

Decentralization: Present status and plans for the future

Decentralization in Guatemala accelerated in 1996 when purchasing of essential drugs was deconcentrated to Health Area Directorates (DAS) using a purchasing mechanism called the open contract. As a result, the 29 different DAS now purchase essential medicines listed on the NEDL locally but prices are negotiated centrally by an "open contract" committee. Despite deconcentration, contraceptive supplies continue to be managed centrally, because they are obtained from UNFPA and USAID.

Contraceptives are administered at the central level of the MOH. They are provided from UNFPA to the central warehouse, from there to the 29 areas, on to the municipal health districts, and then to the health establishments (hospitals, health centers, and health posts). The municipal level is skipped with health areas distributing directly to municipal health districts and health establishments. Usually the area level picks up supplies at the central warehouse; the districts pick up supplies at the area level, and most health establishments pick up supplies from the districts.

⁴⁵ The information used to develop this box comes primarily from Abramson, et al. (2006) and Bossert, et al.. (2003).

During the past eight years, the MOH has launched a number of efforts to improve and redesign some of the elements of the contraceptive logistics system. From 2000 to date, a number of interventions (such as training) have been implemented to strengthen delivery norms, documentation for logistics management procedures, consumption- and population-based projections, distribution and inventory control systems, storage conditions, LMIS, and national inventories of contraceptives.

One major step in 2003 was the inclusion of the FP services in the health care package provided by MOH-contracted NGOs. These NGOs provide basic services (including family planning) and to administer contraceptives (oral contraceptives, trimester injectables, and condoms) separately from the MOH supply chain. The contraceptive logistic system MOH-contracted NGOs is managed vertically by the MOH's central level; the distribution function is outsourced to APROFAM. APROFAM headquarters receives supplies for these NGOs from USAID and distributes them via local courier service to the departmental head of each NGO at the distribution fee mutually agreed upon with the MOH. APROFAM uses PipeLine software to monitor USAID donations to the NGOs and estimations for future supply requests. The MOH, on the other hand, is responsible for assigning financial resources to each NGO to cover APROFAM's distribution costs. Each NGO is then responsible for distributing supplies to its local-level affiliates (community centers). The logistics information system used by the NGOs is the same as that used by the MOH, and the information flows up to each NGO headquarters and then to the district and the central MOH office, the Services Provision Unit, which should in turn send information to APROFAM to ensure that the PipeLine database is up to date. However recent observations have concluded that information does not always flow upward as well as it should, so it is difficult to keep essential logistics data in PipeLine up to date.

Integration: Present status and plans for the future

While contraceptives continue, for the most part, to be managed vertically, a few functions have been integrated with other medicines. For example, the same basic LMIS source document is used by storage and health facilities for both essential drugs and contraceptives, and data are aggregated at the district and regional levels. Needs forecasting is also integrated in many cases, with the nurse at a given facility forecasting medicines, contraceptives, and vaccinations together. Since 2003, the MOH has been developing an automated system that, in addition to capturing essential logistics data, collects information on purchasing and payment for medicines. This system was originally developed for contraceptives, anticipating its adaptation and expansion to all medicines.

In Guatemala, it was found that facilities with an integrated LMIS (defined as a facility filling out the same form for all products—drugs, contraceptives, and vaccinations) were more likely to always submit the form; facilities that created their own reporting form for drugs and contraceptives were less likely to report on time. It was also found that integrated supervision did not increase or decrease supervisory visits or performance, while personnel and warehouse integration (although most warehouses are vertical or mixed) were not found to be related to any performance indicators. Finally, facilities that integrated needs quantification resulted in more accurate forecasts of essential drugs compared with what they consumed, but there was no relationship between these variables for contraceptives or vaccinations.

Possible future directions:

- When USAID donations to MOH-contracted NGOs stop the MOH is planning to merge the logistics system for all three levels of care (hospitals, health centers, health posts and NGOs)
- When MOH absorbs 100% of its contraceptive needs in 2008, the MOH is planning to fund contraceptives with the revenue of the 15% tax to alcoholic beverages and will possibly continue to buy from UNFPA.
- In 2006, the MOH is beginning an integration process, to learn from successful experiences of the

contraceptive logistics system and benefit essential drugs. They recently began to form a new “Logistics Unit” that will report directly to the General Manager, which will bring logistics, for the first time at a higher political level. The Logistics Unit is under a design and planning phase to put together staff, resources and strategies to improve availability of essential drugs in all decentralized health areas.

Decentralization and integration in Honduras***Background to Contraceptive Security in Honduras***

Donors are primarily responsible for contraceptive provision in Honduras. USAID was the main donor from 1995 to 2003, supporting 90 percent of all donations. From 1995 to 1998, and again from 2000 to 2001, USAID was the sole donor of contraceptives. UNFPA also contributed in 1999 and 2002.

The Government of Honduras began to purchase contraceptives in 1999. In 2003, the country began purchasing most of its contraceptives and all medicines through an agreement with UNDP. However, the new government (inaugurated at the end of January 2006) has not yet finalized any procurement for 2006, and it appears that the UNDP mechanism will no longer be used. USAID continues to donate some contraceptives.

Planning for this graduation began in 1999, and Honduras will graduate from USAID contraceptive support in 2009, according to the phase-out plan endorsed by USAID and GOH.

Decentralization: Present status and plans for the future

Regional deconcentration began in Honduras in the mid-1970s. By 2004, nine administrative health regions existed. However, all important decision making and purchasing power remained at the central level. In 2005, a further decentralization process began, reorganizing the nine health regions into 20 administrative areas (18 regional departments and two metropolitan areas). This reorganization process is ongoing; the division of roles and responsibilities for oversight, service provision, and surveillance within the health sector is still being defined. As part of this further decentralization, responsibility for administration and budgetary issues was deconcentrated to the 20 administrative areas in Honduras. Purchasing, however, has remained centralized: while orders and budgets for medicines and contraceptives are taken from the 20 regions, procurement is done centrally to take advantage of economies of scale. A small portion of the budget is designated for local emergency purchases by regions and hospitals, although this fund cannot be used for purchasing contraceptives.

Integration: Present status and plans for the future

In Honduras, contraceptives are integrated with essential drugs. A central warehouse manages all commodities, does all purchasing, receives all donations, and distributes all commodities directly to regional warehouses and hospitals. A section of the central warehouse is reserved for contraceptives, ARVs, and tuberculosis (TB) medicines; one person is responsible for these products. Regional warehouses, in turn, distribute to area warehouses, which act as transit points and from which health establishment personnel collect the contraceptives. In practice, health facility staff also obtain products at higher levels (central or regional).

Regional warehouses and hospitals receive commodities on a quarterly basis. Needs estimates, however, are calculated on an annual basis, using historical data. Many health establishments do not include contraceptives in their orders. As a result of these factors, the system has faced serious stock failures: in some warehouses, there is an overstock problem, where products have expired or become damaged; other locations face contraceptive stockouts.

A recent proposal would have health facilities restock their contraceptives each month according to

⁴⁶ Information in this box comes primarily from an interview and e-mail exchanges with Jose Ochoa in 2005 and March-April 2006, and from Quesada, et al., Honduras: Contraceptive Security Assessment, April 26–May 7, 2004. (2004).

average monthly consumption data, and a max/min inventory control system. Every three months, essential drugs and contraceptives would be delivered; in the months in between, only contraceptives would be delivered. To minimize distribution costs, authorities are exploring the possibility of using staff to transport the contraceptive supplies (distributing them, for example, during monthly meetings). The proposal to use consumption data has already been accepted, and staff are being trained to use the data to estimate needs.

Possible future directions

- Honduras is presently exploring the possibility of purchasing contraceptives via UNFPA. Local purchasing of contraceptives does not seem to be a likely future option.

Decentralization and integration in Mexico

Background to Contraceptive Security in Mexico

USAID initiated support to Mexico's FP program in 1978 and, for many years, was the largest foreign donor. Beginning in 1991, commodity donations were slowly phased out; they ended in 1995, although technical assistance continued through 1999. In 1999, outside technical assistance ended and phase-out was complete.

Health care in Mexico is provided primarily by the Instituto Mexicano del Seguro Social (IMSS), covering approximately 51 percent of the population in 2005; the Secretaria de Salud (SSA), covering Mexico's uninsured population; and the ISSSTE, covering state and municipal employees. The public sector is the primary provider of FP services, covering 72.3 percent of all users in 2005. Family planning in all public health facilities is free, and all institutions must provide free services, even to non-beneficiaries.

Decentralization: Present status and plans for the future**SSA**

Decentralization began in the early 1980s but stalled; in 1997, the SSA continued decentralization—devolving planning, budgetary, and procurement authority to the state departments of health—while the IMSS and ISSSTE functions remained largely centralized. Devolvement coincided closely with USAID contraceptive donation phase-out in 1999. Despite the fact that this phase-out process was perceived as well-planned and implemented, at the time of decentralization, states had little experience in planning, budgeting, and procuring contraceptives, and no regulatory framework (to unify purchasing criteria for example) was provided by the central level. As a result, many states experienced contraceptive stock-outs shortly after decentralization and graduation from contraceptive support. To correct this situation, in 1999, the MOH required states to include funds for contraceptives in their budgets and to obtain these contraceptives directly from the central-level SSA. Some of the States (departments) now transfer funds reserved for contraceptives to the central ministry, which pools them and procures products centrally through the international market using UNFPA's procurement mechanism. Although required by law, in 2002, 16 of Mexico's 32 states participated in this coordinated procurement process. By 2005, however, only 11 states remained as participants because of delays in delivery caused by lack of registration of some products, and other challenges. Using UNFPA as a procurement agent has allowed states to gain in terms of lower prices (in 2002, estimated savings were US\$3.9 million over commercial market prices); however, UNFPA procurements cannot access all FP products because of registration requirements. Condom procurements have been particularly troublesome, and UNFPA and the SSA have had to make emergency procurements from local providers. In 2006, the SSA is expected to conduct two coordinated procurements to allow states to decrease their initial capital outlays.

IMSS and ISSSTE

The IMSS FP program has traditionally been a more vertical and centralized program than that of the SSA, with central oversight and management. IMSS was never totally dependent on donations; indeed, it has procured contraceptives since the early 1990s. Both IMSS and ISSSTE obtain contraceptives primarily from local suppliers. However, recently, the IMSS decentralized contraceptive procurement to the local level. The process works as follows: each SDP (called a family medical unit [UMF]) is

⁴⁷ Information used to develop this box comes primarily from Cisek (2006).

responsible for calculating needs on the basis of existing supplies and consumption; the Health facilities send their needs to the delegation level; and each delegation procures directly from local suppliers. The selected supplier delivers products directly to the delegation warehouse.

IMSS considered joining the SSA in using the UNFPA coordinated procurement mechanism, but ultimately chose not to. IMSS feared a long procurement process and the stock-outs that could create, and was unsure about real cost savings, because distribution costs are not included in UNFPA prices. IMSS, however, remains under pressure to improve transparency around the procurement process, as it has faced criticism for purchasing too many medications from multinational pharmaceutical companies.

Decentralization and integration in Nicaragua

Background to Contraceptive Security in Nicaragua

All contraceptives in Nicaragua are donated by USAID (approximately 75 percent of the total) and UNFPA (approximately 25 percent). It is expected that USAID will gradually begin to reduce donations by 2008, with a view to eventual complete phase-out. There are no known plans for UNFPA to phase out its donations.

Decentralization: Present status and plans for the future

Decentralization efforts in Nicaragua, unlike those in most other countries in the region, were led by the health sector. In 1992, administrative responsibility was rapidly deconcentrated to 17 Local System for Integral Health Care (SILAIS), which are treated as extensions of the central MOH. This was followed by decentralization of other ministries. Inadequate supervision has been raised as a concern, both from the central level over the SILAIS and from the SILAIS over the municipal level.

Original decentralization plans envisioned increased transfer of functions to lower levels, although the pace has slowed down. The Nicaraguan health system, therefore, remains more centralized than many others in the region. Two exceptions are the health offices of the Autonomous Region of the North Atlantic (RAAN) and Autonomous Region of the South Atlantic (RAAS); these are administered by MOH personnel but report to local government authorities.

Ten SILAIS have warehouses and distribute to municipalities; in the other SILAIS, contraceptives go directly from the central level to municipalities.

Integration: Present status and plans for the future

Integration efforts began even before recent approval of the new health care model (MAIS). Family planning was integrated into other maternal and women's health subprograms (previously called Integral Care for Women (AIM). Integration seems to have negatively affected the number of persons assigned to family planning but not the strong support that FP receives throughout the system. Publication of AIM's new Reproductive Health Strategy is a very positive signal that FP in Nicaragua remains a priority and that integration of services under MAIS will not have a negative effect on family planning.

Merging of the contraceptive and essential medicines logistics systems began in 2003 with the creation of a single system for storing and distributing both types of products. There has also been a certain amount of skill transfer from those with experience in contraceptive logistics management to those responsible for managing the logistics of all other medicines and medical supplies.

AIM (previously responsible for contraceptive logistics management) and the National Directorate of Medical Supplies (DNIM—previously responsible for logistics management for essential medicines) have shown a considerable desire to work together to design and implement an integrated supply system. However, the complications of integrating the two systems should not be underestimated. For example, a single supply system based on consumption (as the AIM system was) may prove difficult to design, because medicines are currently requisitioned and procured by the MOH on a fixed-budget basis at each management level. It is not clear whether DNIM and AIM have sufficient control or influence over drug budgets at the lower levels of the health system to make necessary changes in allocation formulas or to

⁴⁸ Information used to develop this box comes from Taylor, et al. Nicaragua: Contraceptive Security Assessment, February 2–13, 2004. (2004) and correspondence with Carolina Arauz in March 2006.

allow greater flexibility in moving budget allocations among management units. Another priority for AIM and DNIM is to design an information and administration system that combines the two existing systems and to agree on a single system for monitoring, evaluating, and supervising contraceptive and essential medicine use. However, recent pilot test results of the integrated 10 tracer drugs and contraceptives look promising, and both DNIM and AIM plan to move forward with integration of essential drugs and contraceptives, under the new management and logistics system called SIGLIM (sistema de información gerencial y logística de insumos medicos).

Possible future directions

- The MOH plans for greater decentralization of authority and responsibility to the departments and local integrated health service systems (SILAIS). If decentralization applies to control of the contraceptive supply, informed leaders and advocates for family planning will be required not only at the central MOH level, where they currently reside, but also in the SILAIS and at the departmental level of government.
- The MOH is planning further integration of functions at the central level. If key support functions such as contraceptive logistics are integrated, efforts will be required to make sure that those who assume responsibility for these key functions at each level of the health system understand the importance of family planning and their role in its support.

Box 13⁴⁹

Decentralization and integration in Paraguay

Background to Contraceptive Security in Paraguay

Donors, primarily USAID and UNFPA, have been responsible for most contraceptive provision to the Government of Paraguay (GOP) since 1988. In fact, they were the only donors of contraceptives until 2001, when IPPF also began contraceptive support to CEPEP, who used to be one of USAID's recipients for donated contraceptives. Paraguay has a history of requesting insufficient amounts of contraceptives from UNFPA, resulting in the need for emergency procurements through USAID. Complete graduation from USAID contraceptive support is expected by 2009, and from technical assistance by 2011.

The government of Paraguay has played an active role in family planning efforts since the 1970s (with a gap in support from 1979 to 1988). Family planning is a priority of the present government. In 2002, for the first time, funding for contraceptives was earmarked at the national level; however, although the line item was approved by the government, it was not fully funded, owing to serious budget deficits. The government procured contraceptives for the first time in 2002, although it only covered 5–10 percent of total MOH contraceptive need. While it appears that Paraguay relies heavily on donor contraceptive support, the annual value of donations has never exceeded \$500,000, which suggests that it might not be too difficult for the government to replace these subsidies in the short term. Moreover, in 2006 legislators sanctioned the Law on “Funding Partum Kits and Reproductive Health Commodities”, which directly earmarks funds to procure reproductive health commodities, including contraceptives. This political decision will most likely secure funding when donors' support cease. Also, in 2006, the Ministry of Finance approved \$260,000 for the MOH for contraceptive procurement, and a memorandum of understanding was signed between the MOH and UNFPA to procure contraceptives with the allocated funds. However, as of August 2006, the funds had not been disbursed yet, and the MOH is moving very quickly in order to get these funds disbursed before the end of the year. Otherwise, they will lose the money.

Decentralization: Present status and plans for the future

Decentralization efforts are in the nascent stages in Paraguay, with discussions about possibly transferring funding and program responsibility completely to the 18 regions. To date, few decentralization measures have been implemented, and each region continues to depend on the central government for financial and human resources and supplies. Funds collected at the regional level return to the central administration and are redistributed according to poverty levels and regional need.

A few steps toward decentralization have been taken:

- In 2004, the regional MOH budget had a separate line item for contraceptives for the first time. Exactly how these funds will be assigned to the 18 regions and how they will be managed is unclear. It is expected that some decision making for family planning will also be decentralized.
- Some local governments have set aside funding to support local efforts, such as basic health insurance or revolving pharmacy funds, but it is not clear whether any of these funds will be used for contraceptives. (For example, revolving pharmacy funds do not buy or provide contraceptives.)
- In May 2006 the Congress sanctioned the Law on “Funding Partum Kits and Reproductive Health Commodities”, which directly earmarks funds to procure reproductive health commodities, including contraceptives. This is a major achievement that will contribute to securing financing and procurement

⁴⁹ Information used to develop this box comes from Quesada, et al. Paraguay: Contraceptive Security Assessment, March 8–19, 2004. (2004).

mechanisms in place.

Integration: Present status and plans for the future

Administration of the contraceptive central warehouse is independent from the Family Planning Program and Reproductive Health Directorate, which results in communication and coordination problems and affects the amounts of contraceptives that are ordered. Central warehouse decisions on quantities to distribute to each region often are not based on facility-level information. The result has been stock-outs and emergency procurements. However, this situation has improved significantly, by adopting a newly redesigned information system and training MOH staff at central, regional, and SDP levels in contraceptive logistics management, and the implementation of the LMIS. Contraceptives at the local level are also managed separate from essential drugs and other health commodities. The need remains to improve coordination and the use of information among various MOH offices and programs at the central level.

Possible future directions

Conditions at the central warehouse are poor, so there are plans to find a separate place for contraceptives. The central warehouse will be supervised by the Family Planning Program and a recently hired logistics director. The government of Paraguay will invest \$260,000 in contraceptive procurement in 2006, and that amount will gradually increase. A redesign of the LMIS is under way; there are no plans to integrate FP supplies with other essential drugs in the near future.

Decentralization and integration in Peru

Background to Contraceptive Security in Peru

During the past fifteen years, the role of the Peruvian government in family planning has changed dramatically. Beginning in 1995, all FP services were provided free of charge. In 1999, an earmark was established for the purchase of contraceptives; the ministry of health (MINSa), first purchased contraceptives that year. Each year since that time, a portion of MINSa's annual budget has been designated for contraceptive purchases (increasing quantities each year). Contraceptives have been purchased and provided through the MINSa (serving approximately 60 percent of users in 2004), the social security institute (ESSALUD, serving approximately 10 percent of users), the armed forces, and the police. NGOs used to play a much larger role in contraceptive delivery; however, with the growth of public sector involvement, and the phase-out of USAID donations, the role of NGOs has decreased considerably. In 2004, NGOs served only about 1 percent of all users, and during the same year, private medical practitioners and private clinics reached 5.3 percent of users.

USAID was Peru's largest contraceptive donor from 1993 to 2004, when support ended (except for ongoing support to PRISMA, an NGO, which is expected to phase out in 2006). In the past donors have included UNFPA, DFID, GTZ, and others. All have ended donor activity, except for UNFPA, which continues to donate condoms for HIV/AIDS prevention. In 1999, MINSa and UNFPA signed a memorandum of understanding empowering UNFPA to act as the contraceptive procurement agent of the Peruvian government. By combining procurement requests from a number of countries, including Peru, with those of its own UNFPA-funded country programs, UNFPA offers MINSa economies of scale for the purchase of the 3-month injectable. National purchase of medicaments includes the purchase of combined oral contraceptives since year 2004.

Peru used to be recognized for having one of Latin America's most effective public sector contraceptive logistics systems when the system was managed outside of MINSa and was financially dependent on USAID. From 1999 to 2005, when Peru began integration efforts, PRISMA was responsible for all of MINSa's contraceptive forecasting, procurement planning, warehousing, and distribution. PRISMA managed the national warehousing information system and its database, supported a central warehouse where contraceptives and other strategic medicines and supplies were stored, coordinated and funded quarterly distribution of contraceptives to 184 points in the country, and provided training and technical support to MINSa staff. Recently MINSa and PRISMA began to work together to transfer the logistics system responsibilities over to MINSa. It is hoped that with time, the benefits of the system run by PRISMA will encompass not only contraceptives, but also all commodities integrated into the larger system.

Decentralization: Present status and plans for the future

Devolution of funding and responsibility for health to the thirty-four regional health offices (DISAs) began in 2004, as a result of MINSa reorganization and the merging of family planning into an integrated health service model. Basically, regions are now responsible for managing the logistics system and ensuring the distribution of supplies to the health facilities. Fortunately, the procurement of contraceptives is still centralized although regional decentralized purchase is allowed under circumstances of scarcity. MINSa has expertise in FP at the central level in planning, supervising, and monitoring FP services. It

⁵⁰ Information used to develop this box comes primarily from Taylor, et al. Peru: Contraceptive Security Assessment, September 1–12, 2003. (2004), and Godinez and Papworth (2000).

remains responsible for the regulatory aspects of this area.

Integration: Present status and plans for the future

Beginning in 2001, the FP program was integrated into all other health programs. It appears that of all recent reforms, “integration has affected family planning and contraceptive logistics most negatively,” in terms of management being reduced, budgets being merged, and staff being lost. Integration also affected all other MoH programs since it began in 2000; however the situation has improved since 2004 with the creation of National Strategies of Health which included the National Strategy of Sexual and Reproductive Health.

In 2002, MINSA approved plans for a fully integrated supply system, called SISMED, which was tested in 2004 and is expected to be operational in 2006. During the transition period to this fully integrated system (2002–2004), previously vertical programs (TB, vaccines, and contraceptives) were called “strategic programs” and continued to be managed at the central level, financed at least in part by donations. Other products, referred to as “individual programs,” were financed, purchased, and managed by the thirty-four DISAs.

SISMED is not yet fully operational nationwide and PRISMA continues to manage contraceptive logistics and to warehouse all contraceptives for MINSA. During this transition, there is evidence that the system is no longer performing as effectively as it did prior to MINSA’s reorganization, primarily because consumption and inventory data received from the DISAs are no longer complete. Additionally, information flow within MINSA appears to be problematic. Under the new SISMED system, health facilities are supposed to send their information to the DISAs and then to SISMED.

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DELIVER

John Snow, Inc.

1616 North Ft. Myer Drive, 11th Floor

Arlington, VA 22209 USA

Phone: 703-528-7474

Fax: 703-528-7480

www.deliver.jsi.com