



# Integrated Pharmaceutical Supply Management as a Strategy for Strengthening the National Health System in the Dominican Republic

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## Summary

*The degree of fragmentation, inefficiency, and inequality with which national health service systems operate in the Americas and other regions<sup>ii</sup> is one of the greatest obstacles preventing Disease Control Programs (DCPs) from obtaining expected results, even with significant investments by financial aid agencies. Accordingly, within the framework of the eighth and ninth regular meetings of the Global Fund to Fight Malaria, AIDS and Tuberculosis, cross-cutting interventions aimed at strengthening health systems have been recognized as a fundable component since 2008.<sup>iii</sup>*

*The complexity of health service systems and the differences in systems among countries make implementation of universally applicable recommendations for strengthening those systems impossible.<sup>iv</sup> Addressing a specific problem within the complexity of a given health system can, however, contribute to the development of more integrated and deep-reaching solutions for the entire system. The integration of pharmaceutical supply management is one such priority intervention for strengthening national health systems.*

*Experience with integrated supply management in the Dominican Republic suggests that this intervention has contributed to improving efficiency and equality in service provision, as well as to promoting both sector reform and decentralization and transparency in public administration. All of these results have strengthened the health service system.*

## Background

The Dominican Republic took the initial steps in its process of health sector modernization and reform in 2001, following approval of General Health Law 42-01 and Law 87-01, which creates the country's Social Security System. The core elements of the reform process focus on separating the national health system's central functions—oversight, insurance, procurement, and financing—and reorganizing the system around functional decentralization and administrative deconcentration.<sup>v</sup> From the outset, the health sector reform process proposed the integration of pharmaceutical supply, viewing it as having the potential to put an end to the fragmentation and inefficiency created by multiple “vertical” systems of pharmaceutical supply management.<sup>vi</sup> The concept put forward by the reform process was that responsibility for management of the supply of medicines and related commodities under the new procurement model would be vested in the Regional Health Service Centers (Servicios Regionales de Salud; SRSs).<sup>vii</sup> The proposal to organize a single supply system did not materialize until 2008, when a study of the situation prevailing at the time<sup>viii</sup> revealed that the aforementioned system fragmentation contributed to stock-outs and to losses from expired products. The decision made by the Ministry of Public Health (MoPH) was to implement a single supply management system (Suministro de Medicamentos e



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Insumos; SUGEMI) that would resolve all of the problems identified in the baseline assessment. This decision was endorsed by a ministerial decree in July 2010.

### Integration of Disease Control Programs into SUGEMI

Before implementation of SUGEMI, DCP supply systems operated with varying degrees of internal efficiency, ranging from those which, based on anecdotal information, operated adequately (such as the Expanded Programme on Immunization) to those in which significant deficiencies had been documented.<sup>ix</sup> At any rate, all contributed to (a) the overall inefficiency of the system as a result of fragmented purchasing; (b) the use of multiple fleets of vehicles traveling to the same destinations; and (c) the existence of separate warehouses, inventory management systems, dispatch, and requisitions for each DCP. At the point of service delivery, it was not uncommon to find multiple forms and/or electronic applications that had to be filled out by each health service provider.

The cornerstone of SUGEMI is the integration of the DCP supply processes into a single system. Van Damme points out that integration can range from collaboration in specific strategic components to complete and total assimilation.<sup>x</sup> In the Dominican Republic, it was felt that system efficiency would be possible only by transferring *distribution chain* components to recently created specialized units, i.e., the National Pharmaceutical Supply Management Unit (Unidad Nacional de Gestión de Medicamento; UNGM), and equivalent SRS units (Regional Pharmaceutical Supply Management Units), while coordination of the *selection* and *use* components would continue to be handled by each individual DCP. Table 1 has been used as a theoretical framework for guiding the integration of the DCPs into SUGEMI.

**Table 1. Primary responsibilities of the DCPs and SUGEMI**

Supply management components	Disease control	
	programs	SUGEMI
Drug selection	X	
Planning (for the annual purchase)	X	X
Procurement		X
Transportation		X
Storage		X
Requisition and dispatch	X	X
Quality assurance		X
Use (prescribing, dispensing)	X	
Supply information system		X

On this basis, the recently created UNGM has developed, with support provided by technical and financial cooperation agencies, operating procedures for all components of the supply management system and has begun implementing those procedures in critical areas. Table 1 identifies tasks requiring priority attention, as well as tasks requiring collaboration (those containing two X's on each line). In this division of responsibilities, the following considerations were taken into account for each component:

- **Selection:** The implementation of treatment regimens, the preparation of therapeutic guidelines and treatment protocols, and the inclusion or elimination of medicines from the basic medicine list are responsibilities that fall to each DCP.
- **Planning (for the annual purchase):** The principal responsibility falls to SUGEMI, which oversees the UNGM and Regional Pharmaceutical Management Units (Unidades Regionales de Gestión de Medicamentos; URGMs). These offices call the annual planning exercise and forward the results to the purchasing units. However, this function operates as a *collaborative* activity, given that planning requires epidemiological data, which are provided by the DCPs.
- **Procurement:** This activity falls under the responsibility of the agency charged with organizing the various purchase mechanisms, the Essential Medicines Program and Logistical Support Center (Programa de Medicamentos Esenciales y Central de Apoyo Logístico; PROMESE/CAL). It is suggested that PROMESE/CAL should even be responsible for direct purchases made by individual DCPs from international cooperation agencies.
- **Transportation, storage, requisitioning, and dispatch:** Supply chain management is the responsibility of the UNGM/URGMs. Requisitioning and dispatch appear as a *collaborative* activity because the schedules for distribution from the SRSs to the health facilities require an epidemiological analysis.
- **Quality assurance:** This activity *cuts across* all supply components. However, it appears as a SUGEMI responsibility because of the emphasis on including quality requirements when vetting providers and products, and on the need for pharmacopeial control over the products procured.
- **Use:** Tasks involving the dispensing of medicines and supplies in accordance with therapeutic guidelines or protocols and use of dispensing practices that will ensure adherence to treatment are the responsibility of the DCPs.

#### **Integration of the National Tuberculosis Control Program and the National Program for Integrated Care of HIV and AIDS into SUGEMI**

The National Tuberculosis Control Program (PNCT) and the National HIV and AIDS Program (PNAI) were the first to be integrated into the SUGEMI. The PNCT participated in the joint planning exercise carried out in 2011, and the PNAI was added in 2012. These planning exercises will provide the basis for purchases to be made through international agencies over the coming months.

Following the national-level inventory taken in February 2012, the medicines and supplies used by both programs were transferred from the Provincial Health Directorates (Direcciones Provinciales de Salud (DPSs) to SRS warehouses. This involved the physical transfer of 434,933 units.

Beginning in April 2012, the SRSs, in coordination with technical staff from both programs, submitted their restocking requirements to the central warehouses and scheduled the distribution of medicines and supplies to health facilities using standardized forms and procedures.

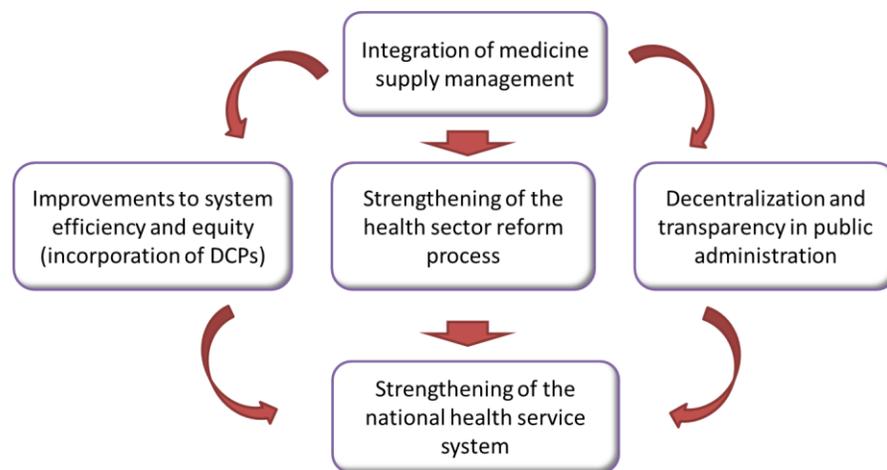
As of May 2012, SUGEMI had not fully resolved the prevailing chronic medicine shortage problems, although it had accurately identified a number of deficiencies in the system and begun taking action to correct them.



- **Supply information system:** With the integration of the DCPs into SUGEMI, the multiple vertical manual and/or electronic subsystems have been eliminated. Responsibility for the administration of this unified system falls to SUGEMI. The DCPs become users of the information generated.

### Supply Management Integration as a Strategy for Strengthening the National Health System

Strengthening of the national health system is dependent not only on improvements in efficiency and equity but also on the consolidation of certain *structural* components that will ensure the necessary political, legal, and financial support and, ultimately, the sustainability of interventions. In the case of the Dominican Republic, these *structural* components involve the implementation of the health sector reform and public administration decentralization and transparency (Figure 1). The following sections describe the way in which SUGEMI has contributed to these objectives.



**Figure 1. Factors involved in strengthening the national health service system**

#### *SUGEMI as a strategy for promoting efficiency and equity*

Incorporation of the DCP supply systems into SUGEMI has introduced efficiency, at least in the following areas:

- Transportation of medicines from the central warehouse to the SRS, and from the latter to health facilities, takes place in conjunction with the transportation of other medicines, thereby reducing expenditures in terms of transportation and the time required of staff, who previously made trips to the capital city or to Provincial Health Directorates (Direcciones Provinciales de Salud; DPSs) to replenish their supplies.
- Requisitioning and dispatch take place using a single form, thereby reducing staff time previously devoted to completing the multiple forms required by the DCPs.
- The multiplicity of small warehouses located in DPSs and health facilities was replaced by better equipped warehouses where improved inventory management is now possible.

- Transfer of the responsibility for pharmaceutical management to specialized staff in the SRSs and health facilities.

In terms of its contribution to equity, the health system includes three subsystems: (a) *contributive*, for users insured through payroll deductions; (b) *contributive-subsidized*, for independent workers and urban and rural employers; and (c) *subsidized*, for the unemployed, handicapped, and indigent in both urban and rural areas.<sup>xi</sup> Each subsystem uses a means of financing that is consistent with its nature and with the contributive capabilities of the general public and the government of the Dominican Republic. All informal workers in the *contributive-subsidized* subsystem and all beneficiaries of the *subsidized* subsystem receive care from the MoPH and the National Social Security System (Seguro Nacional de Salud; SENASA). In theory, both groups should receive the same service, differentiated only by the source of financing. In practice, however, patients affiliated with SENASA have benefited from greater variety and availability of medicines, because reimbursement to providers through SENASA was more effective. This process, which is neither official nor authorized, has contributed to a differentiated system of pharmaceutical management, with frequent medicine and supply shortages affecting nonaffiliated users whose coverage was financed by the MoPH.

The joint planning exercise for 2012 purchases provided for a more efficient purchasing process, with a corresponding decrease in medicine and supply shortages in public facilities. The planning exercise made no distinction as to which medicines would be given to SENASA patients and which to MoPH patients, as a result of which the purchase, distribution, and stocking of medicines and supplies in first-tier facilities for the provision of outpatient pharmaceutical services was in fact integrated. According to SUGEMI procedures, only at the time medicines or supplies are dispensed does differentiated recording of usage occur for these subsystems so that the provider can obtain reimbursement. In this way, SUGEMI broke with a practice that created inequality in health service provision.

#### *SUGEMI as a mechanism for implementing sector reform*

Health sector reform in the Dominican Republic establishes a division of responsibilities among the recently created SRSs, which are charged with service provision, and the DPSs, which are responsible for system oversight. This provision had not become fully operational until SUGEMI mandated the transfer and management of medicines from DPS warehouses to regional warehouses. The meetings at which the new responsibilities taken on by pharmaceutical management providers and pharmaceutical management oversight entities were discussed served as a point of reference for establishing the implications of sector reform as it affected the routine provision of health services and consolidation of the roles played by the decentralized entities (DPSs) in their oversight function.

## *SUGEMI as an expression of government decentralization and transparency in public administration*

In the public health sector, government decentralization can be seen in the creation and functioning of the SRSs. By virtue of this structure, SUGEMI called for the creation of the URGMs, which are responsible for pharmaceutical management in their respective areas of coverage. This responsibility, with its concrete expression in the operation of the service facilities, has contributed to strengthening the decentralization of entities providing health care services.

SUGEMI has contributed to transparency in pharmaceutical management. Following the national inventory taken in February 2012, all medicines, together with the prices paid for each, are recorded and their management assigned to a single responsible individual in each URGM. The national planning exercises allow the general public to know exactly what amounts will be procured, together with their potential providers and procurement prices.

### Conclusion

The implementation of an integrated pharmaceutical system in the Dominican Republic is correcting critical problems in medicine supply and, as an unexpected effect, is contributing to the completion of the health reform process and to the implementation of public administration decentralization and transparency. Based on this experience, we suggest that the integration of the DCPs (for example, those dealing with malaria, tuberculosis, and HIV/AIDS) into a single supply system is a priority task for contributing to the integral strengthening of the health services system.

### Notes

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<sup>i</sup> Consultants to the Systems for Improved Access to Pharmaceutical Services (SIAPS) program being implemented by Management Sciences for Health.

<sup>ii</sup> Pan-American Health Organization. 2010. *Redes Integradas de Servicios de Salud: Conceptos, Opciones de Política y Hoja de Ruta para su Implementación en las Américas*. Serie: La Renovación de la Atención Primaria de Salud en las Américas No. 4. Washington, DC: OPS.

<sup>iii</sup> Global Fund. 1 March 2008. Fact Sheet: The Global Fund's approach to health systems strengthening. Global Fund Fact Sheet Series, 5 of 5. <http://www.theglobalfund.org/documents/rounds/8/R8HSS>.

<sup>iv</sup> Van Damme, Wim, et al. 2011. "Which health systems for disease control? How can disease control programs contribute to health system strengthening in Sub-Saharan Africa?" Working Paper Series of the Studies in Health Services Organisation and Policy Nr. 1. Institute of Tropical Medicine, Antwerp, Belgium.

<sup>v</sup> Reglamento de Rectoría y Separación de Funciones Básicas del Sistema Nacional de Salud (635-03). [Implementing Regulations for the Oversight and Separation of Basic Functions of the National Health System (635-03).]

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<sup>vi</sup> Comisión Ejecutiva para la Reforma del Sector Salud. 1997. Nuevo Sistema de Suministros para el Sector Salud de República Dominicana; Propuesta SISUM. [Executive Commission for Health Sector Reform. 1997. New Supply System for the Health Sector in the Dominican Republic; SISUM Proposal.]

<sup>vii</sup> Secretaría de Estado de Salud Pública y Asistencia Social (SESPAS). 2005. Modelo de Red de los Servicios Regionales de Salud: Una guía para el desarrollo de los servicios de salud para la atención a las personas. Disposición 00024; SESPAS, Santo Domingo, República Dominicana. [Ministry of Public Health and Social Welfare (SESPAS). 2005. Model Network for Regional Health Service Centers: A Guide to the Development of Health Service Facilities for Providing Care to Individuals. Regulation 00024; SESPAS, Santo Domingo, Dominican Republic.]

<sup>viii</sup> Barillas, Edgar, and Claudia Valdez. 2009. *Informe Técnico: Análisis de la gestión del suministro de medicamentos en República Dominicana*. Submitted to the United States Agency for International Development by the Strengthening Pharmaceutical Systems (SPS) program. Arlington, VA: Management Sciences for Health.

<sup>ix</sup> Management Sciences for Health. 2010. *Estudio de línea basal sobre la situación de la gestión de suministros de ITS, VIH y SIDA en República Dominicana*. Submitted to the United States Agency for International Development by the Strengthening Pharmaceutical Systems (SPS) program. Arlington, VA: Management Sciences for Health.

<sup>x</sup> Van Damme, Wim, et al. 2011. "Which health systems for disease control? How can disease control programs contribute to health system strengthening in Sub-Saharan Africa?"

<sup>xi</sup> El Congreso Nacional. 2001. Ley 87-01 que crea el Sistema Dominicano de Seguridad Social. Santo Domingo, República Dominicana. [National Congress. 2001. Law 87-01 creating the Dominican Social Security System. Santo Domingo, Dominican Republic.]

