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## Analysis of Alternatives for Funding Antiretroviral Medicines in the Dominican Republic, November 2012

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Between 2003—when antiretroviral (ARV) therapy began in public institutions—and the present (November 2012), ARV medicines have been funded mainly with resources donated by the Global Fund to Fight AIDS, Tuberculosis and Malaria (GF) (table 1). Official data<sup>1</sup> show that through 2009, the increase in the number of cases being treated was on pace with funding. From 2009 to 2012, however, the number of cases grew at an average rate of 33.4 percent (2,958 cases) per year, whereas funding experienced an average decrease of 21.7 percent (965,382 US dollars, or USD) per year (figure 1). The prices of medicines have remained almost constant in this period, and as a result, the reduction in funding has translated into a drop in the amount of medicines purchased.

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<sup>1</sup> Report of ARV cases 2004–2012, DIGECITSS.

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**Table 1. Funding Sources for ARVs in the Dominican Republic, 2003–2012**

ARV Resources (USD)	2003	June 1, 2004	Year 2 (2005)	Year 3 (2006)	Year 4 (2007)	Year 5 (2008–2009)	Year 1 (2009–2010)	Year 2 (2010–2011)	Year 3 (2011–2012)	Year 4 (2012–2013)	Year 5 (2013–2014) <sup>d</sup>	Year 6 (2014–2015) <sup>d</sup>
Global Fund <sup>a</sup>		1,623,471	1,871,071	3,333,711	5,910,000	8,390,960	2,936,034	7,363,421	7,599,474	3,013,855	5,342,098	5,042,574
World Bank <sup>b</sup>	26,897	289,374	67,892	1,929,735								
Dominican Government–PEPFAR <sup>c</sup>							175,000					
PEPFAR								355,000				
Clinton Foundation	500,000	500,000		350,000	700,000							
Dominican Government–DIGECITTSS/MSP			350,000	560,000								

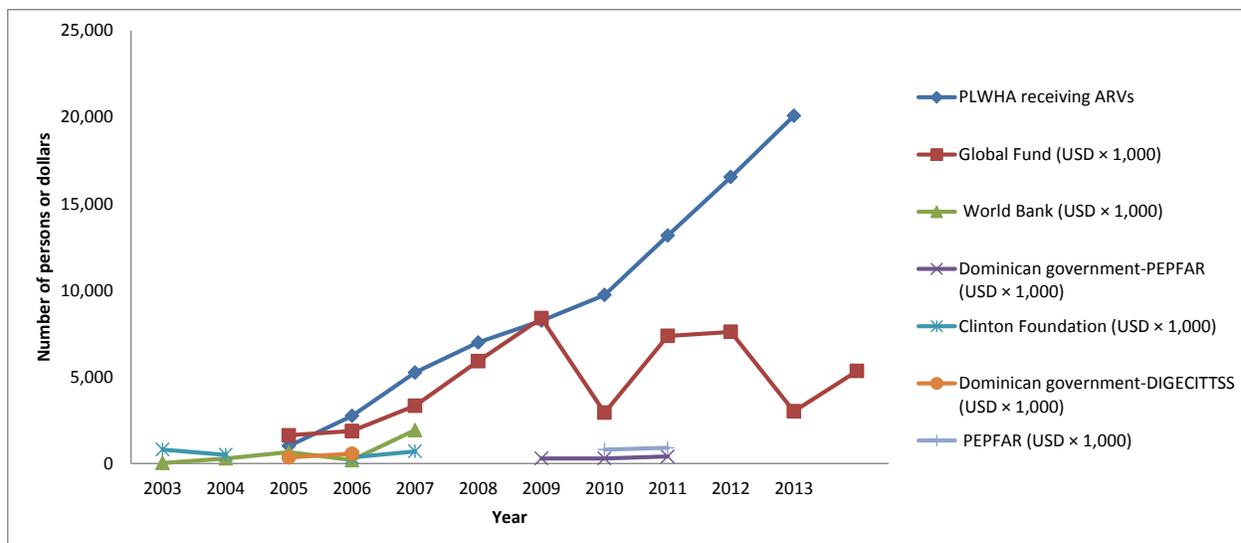
*Note:* DIGECITSS = Directorate General for Control of Sexually Transmitted Infections and AIDS (Dirección General de Control de Infecciones de Transmisión Sexual y SIDA); MSP = Ministry of Public Health (Ministerio de Salud Pública); PEPFAR = President’s Emergency Plan for AIDS Relief.

a. The World Bank contributed about USD 2 million to the project for a two-year period in 2003 and 2006.

b. The GF donation in 2004 will fully cover ARVs need in the country.

c. The Dominican government, through the Presidential Council on AIDS (Consejo Presidencial de SIDA; COPRESIDA), contributed resources of only about USD 175,000 in 2009–2011 to be used for an emergency purchase through PEPFAR and for local purchases. In 2012, the Directorate of Regional Health Services Development and Strengthening (Dirección de Desarrollo y Fortalecimiento de los Servicios Regionales de Salud) requested the inclusion of USD 2 million in the MSP’s budget.

d. The data on estimated resources for 2013, 2014, and 2015 are projected based on the funding agreements in place with the GF and the National Council for HIV and AIDS for that period. The number of expected cases for 2013 was projected using the planning methodology of the Integrated System for Medicine and Supply Management (Sistema Único de Gestión de Medicamentos e Insumos; SUGEMI).



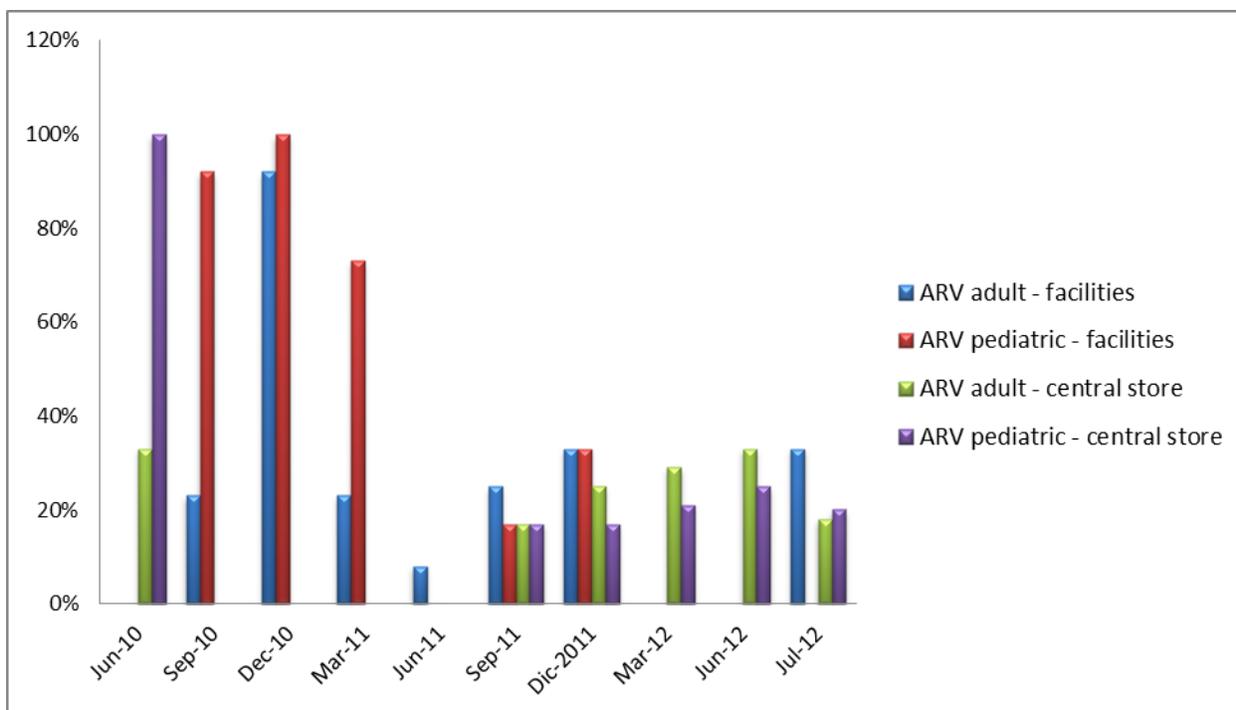
Sources: Dirección General de Control de Infecciones de Transmisión sexual y SIDA (DIGECITSS). 2012. *Reporte consolidado de casos/esquemas anuales, 2004–2012*; Consejo Presidencial del SIDA (COPRESIDA). 2005. *Informe del primer año de la Donación del Fondo Mundial periodo 2004–2005*; Consejo Presidencial del SIDA (COPRESIDA). 2003. *Documento Marco Préstamo Banco Mundial, Proyecto Prevención y Control del VIH en la República Dominicana*; Pan American Health Organization. 2008. *Evaluación de la Respuesta del Sistema de Salud al VIH en la República Dominicana*; Clinton HIV and AIDS Initiative. 2010. *Informe de donación de ARV Iniciativa de VIH/SIDA de la Fundación Clinton*. República Dominicana.

Note: PLWHA = people living with HIV/AIDS.

**Figure 1. Financial resources (from various sources) for treatment and number of cases per year, 2003–2014**

A study done by the Strengthening Pharmaceutical Systems Program<sup>2</sup> in 2010 revealed recurring stock-outs of ARVs (adult and pediatric) as well as diagnostic and clinical surveillance supplies (CD4, viral load, and DNA-PCR) at the central level and in health care facilities. Moreover, it showed users receiving incomplete treatment regimens from health services. Additionally, the Quarterly Bulletin of the Integrated System for Medicine and Supply Management (Sistema Único de Gestión de Medicamentos e Insumos; SUGEMI) of the Ministry of Health has documented since June 2010, ARV medicine stock-outs in the central medical stores and health care centers (figure 2). The cause of this chronic shortage is the lack of primary data for use in planning and financial constraints on the purchase of medicines.

<sup>2</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*. Presentado a la Agencia de los Estados Unidos para el Desarrollo Internacional por el Programa Strengthening Pharmaceutical Systems (SPS). Arlington, VA: Management Sciences for Health.



Source: Boletín de Información Estratégica del SUGEMI, 2010-2012.

Note: No data were reported for June 2010 and June 2012 by health care facilities and central stores. The analysis was based on 13 ARV medicines for adults and 13 for children, established by the national program, which should be available at health care centers. The sample was the quarterly average of 20 health care facilities.

**Figure 2: Adult and pediatric ARV medicine stock-outs in central stores and health care facilities, June 2010 to July 2011**

In 2011, the HIV/AIDS Control Program was incorporated into SUGEMI, and in 2012 it participated in the second national purchase planning exercise. The methodology used by SUGEMI examines official epidemiological data and trends, current treatment plans, and the most recent purchase prices.<sup>3</sup> The estimates show that the total financial resources needed to cover (a) adult ARV medicine requirements for 2013 and (b) a safety stock equal to nine months' supply, climb to USD 7.7 million. Of this amount, the GF is slated to cover about USD 4 million, which leaves a balance of USD 3.7 million to raise in domestic funding to offset the difference. Given that this funding gap was not previously identified, domestic financial resources had not—to date—been tapped to cover the difference.

<sup>3</sup> More detail on the methodology and the results of the estimates can be found in the document, Dirección de Desarrollo y Fortalecimiento de los Servicios Regionales de Salud. 2012. *Informe de avance del ejercicio de estimación y programación de medicamentos antirretrovirales para el 2013, en el marco de la implementación del SUGEMI.*

The methodology used for the estimates and results was presented and discussed in working groups with the participation of the Directorate General for Control of Sexually Transmitted Infections and AIDS (Dirección General de Control de las Infecciones de Transmisión Sexual y SIDA; DIGECITSS), the National Council on HIV and AIDS (Consejo Nacional de VIH y el SIDA; CONAVIHSIDA), and technical and financial cooperation agencies. Based on the consensus reached, the Directorate of Regional Health Services Strengthening and Development (Dirección de Fortalecimiento y Desarrollo de los Servicios Regionales de Salud; DDF-SRS) presented these data to the Minister of Health to devise a policy that enables the identified funding gap to be addressed. Initially, based on these estimates, the Ministry of Public Health (Ministerio de Salud Pública; MSP) has set aside almost USD 2 million for the purchase of ARV medicines in 2013.<sup>4</sup>

Policy options to improve the supply of ARV medicines include the following:

1. In the very near term, DIGECITSS technicians and the National Medicines Management Team (Unidad Nacional de Gestión de Medicamentos; UNGM) need to put in place an emergency plan to meet the demand for ARVs before it is time for arrival of the second purchase. To stem a likely stock-out, it will be necessary to turn to donations and/or loans from countries in the region and to review the treatment regimens in use to optimize the use of medicines in stock.

### **Box 1: Optimization of ARV Medicine Use in the Dominican Republic**

The current protocols for the treatment of HIV/AIDS date to 2004 and establish the use of eight medicines that combine in 12 possible regimens.

Given the lack of adherence to and monitoring of these protocols, prescribers are currently using 17 medicines that combine in 74 regimens. Such practices have negative consequences and affect the precision of national planning and the cost of treatment. For instance, some 45 percent of people living HIV/AIDS (PLWHA) who receive ARV treatment have regimens that include efavirenz. Compared with other countries, 20 percent more patients are on second-line regimens.

In adults, the 2010 ARV therapy guidelines of the World Health Organization advise the use of three medicines from different therapeutic groups (two NRTIs + one NNRTI)<sup>a</sup> as first line treatment, which combine into some five regimens. For the second line, the guidelines call for using three ARVs from different therapeutic groups, combined in some six treatment regimens, including protease inhibitors, enhanced with ritonavir (IP/r) + two NRTIs.

If the Dominican Republic would adopt the use of eight ARV medicines, it could treat more than 93 percent of PLWHA using about 10 regimens.

*Source:* SUGEMI, 2013 adult ARV estimates.

a. NRTI = nucleoside reverse transcriptase inhibitor; NNRTI = non-nucleoside reverse transcriptase inhibitor.

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<sup>4</sup> In September 2012, the DDF-SRS requested the inclusion of DOP 79 million in the MSP budget sent to the Ministry of the Treasury for 2013.

2. The estimates made by the UNGM should be translated into a purchasing plan that lays out the amounts to be purchased from each provider and sets expected delivery times. It is not advisable to overlook the purchase of a nine-month safety stock. Without this, the risk arises of widespread stock-outs of all medicines, as has been seen in recent years.
3. As an alternative—if financial resources are not immediately available to cover the gap—it is suggested to purchase all of the ARVs required to fulfill the recommended safety stock and the expected consumption of 90 percent of the patients under treatment. As for the medicines of lower consumption and higher cost, alternative financing mechanisms must be identified.
4. In the medium term, ideally before the end of the first quarter of 2013, a group of experts should review the medicines and current treatment regimens in the light of public health goals and considering the country's financial possibilities. As box 1 indicates, the use of ARVs can be optimized and the purchase costs consequently reduced. The duly sanctioned and validated protocols for treatment must be the foundation for the purchase planning process in 2014.