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By Michael McQuestion, Devendra Gnawali, Clifford Kamara, Diana Kizza, Helene Mambu-Ma-Disu, Jonas Mbwangue, and Ciro de Quadros

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Creating Sustainable Financing And Support For Immunization Programs In Fifteen Developing Countries

Michael McQuestion (mike.mcquestion@sabin.org) is director of the Sustainable Immunization Financing Program at the Sabin Vaccine Institute in Washington, D.C.

Devendra Gnawali is a senior program officer at the Sabin Vaccine Institute in Kathmandu, Nepal.

Clifford Kamara is a senior program officer at the Sabin Vaccine Institute in Freetown, Sierra Leone.

Diana Kizza is a senior program officer at the Sabin Vaccine Institute in Lugazi, Uganda.

Helene Mambu-Ma-Disu is a senior program officer at the Sabin Vaccine Institute in Kinshasa, Democratic Republic of the Congo.

Jonas Mbwangue is a senior program officer at the Sabin Vaccine Institute in Yaounde, Cameroon.

Ciro de Quadros is executive vice president of the Sabin Vaccine Institute in Washington.

ABSTRACT Immunization programs are important tools for reducing child mortality, and they need to be in place for each new generation. However, most national immunization programs in developing countries are financially and organizationally weak, in part because they depend heavily on funding from foreign sources. Through its Sustainable Immunization Financing Program, launched in 2007, the Sabin Vaccine Institute is working with fifteen African and Asian countries to establish stable internal funding for their immunization programs. The Sabin program advocates strengthening immunization programs through budget reforms, decentralization, and legislation. Six of the fifteen countries have increased their national immunization budgets, and nine are preparing legislation to finance immunization sustainably. Lessons from this work with immunization programs may be applicable in other countries as well as to other health programs.

In recent years, immunization programs in the developing world have been reaching up to 80 percent of children eligible for vaccination, preventing more than two million deaths annually. With continuing external—that is, foreign—and national investments, the introduction of new vaccines, and the expanded use of underused ones, this figure will soon reach 2.5 million.¹ Immunization accounts for about 25 percent of the fourth Millennium Development Goal—one of eight poverty-reducing goals set forth by the United Nations in 2001—which gives countries until 2015 to reduce their 1990 child mortality rates by two-thirds.^{2,3}

National immunization programs are also reducing the rates of polio, measles, rubella, neonatal tetanus, and other childhood diseases by detecting active cases and running campaigns targeted at families whose children may contract the diseases. But these gains will be short-lived unless underlying financial, institutional, and

political hurdles can be overcome.

In many countries today, the amount of money required to fully immunize a child exceeds the amount spent per capita on all public health services combined. A recent study estimated that the average routine immunization expenditures worldwide increased from \$6 to \$18 annually per infant between 2000 and 2010.⁴ Adding pneumococcal and rotavirus vaccines, as the World Health Organization recommends, would push that figure to well over \$30 per infant, or about \$35 billion over the period 2006–15 for the seventy-two poorest countries combined.¹

However, governments' investments in immunization are growing at a far slower rate. In the sixty-five countries with annual per capita gross domestic products (GDPs) below \$1,500, the government share of routine immunization budgets was 32 percent in 2007 and 35 percent in 2009.⁵ These figures do not include new and underused vaccines, which are almost entirely financed by the GAVI Alliance. Adding those

costs further reduces the government share of expenditures on health in these low-income countries, resulting in widening fiscal gaps between them and wealthier nations, and in their growing dependency on external partners.

Moreover, most of the external partners' funds are in the form of direct support for a particular project, as opposed to overall grants of support to governments. This means that the flow of money into a country and its impact are hard—if not impossible—for the recipient government to discern or monitor. And it means that the national budgeting process is distorted, because it does not include the cost of services that the government will eventually be expected to provide itself. An additional problem is that the incentives of the external partner and the host government do not align. The partner wants the government to begin to provide the service, but the government rationally chooses to spend its money elsewhere, assuming that the partner will keep meeting routine program costs.⁶

Pathways To A More Stable Equilibrium

However, changes around the world are moving donors' and governments' incentives into alignment. For example, mortality and fertility continue to decline as more people gain access to, and make increasing use of, effective health services. Families are producing fewer and healthier children. More people are living longer, more productive lives. Like primary education, immunization programs make a substantial contribution to this added productivity.⁷

In the political sphere, free and open elections have become routine in a growing number of countries.⁸ For the first time, newly elected parliaments are beginning to exercise effective oversight on government programs and to represent heretofore forgotten areas and groups.⁹

These changes lead to increased pressure on governments to find sustainable financing for the health sector. Around the world, people's expectations of health care are rising,¹⁰ and governments gain politically by investing more in health. This includes taking responsibility for programs initially led by external partners and increasingly engaging citizens in the expansion of health systems.

An Advocacy Approach

In 2007 the Sabin Vaccine Institute launched its Sustainable Immunization Financing Program. Funded by the Bill & Melinda Gates Foundation, the program uses the GAVI Alliance's definition of *sustainable immunization financing*: "Although

self-sufficiency is the ultimate goal, in the nearer term sustainable financing is the ability of a country to mobilise and efficiently use domestic and supplementary external resources on a reliable basis to achieve target levels of immunisation performance."¹¹

The program operates in fifteen low- and lower-middle-income pilot countries: Cambodia, Cameroon, Democratic Republic of the Congo, Ethiopia, Kenya, Liberia, Madagascar, Mali, Nepal, Nigeria, Rwanda, Senegal, Sierra Leone, Sri Lanka, and Uganda. At one extreme are countries where dependency on donors is high, government ministries and parliaments are weak, and budget reform and decentralization efforts are just beginning. In these countries, working relationships among national institutions are few, and popular participation in the health sector is rare. At the other extreme are countries with ministries that are technically advanced, reform efforts that are under way, and health financing legislation in place.

The Sabin program is simply a facilitator. It provides neither funding nor technical assistance. Instead, it focuses on linking the agendas of three key national institutions in each country: the ministry of health, the ministry of finance, and the parliament. The more links of this sort are formed, the greater the likelihood of reaching the Sabin program's goal: to induce and support collective action leading to a sustainably financed immunization program owned and run by the host government.¹²

The Sustainable Immunization Financing Program's initial intervention is usually a parliamentary briefing in which the ministry of health's immunization team presents its own case for investing in immunization to members of the parliament's standing budget and health committees. The case rests on the known financial return on a modest investment, as well as on an analysis of data on expenditures, rates of vaccination, and disease surveillance. Ministry of finance officials often have their first in-depth exposure to actual data on the performance of immunization programs at these briefings. Relating results to expenditures allows them to make better informed allocations of government funds. In some countries, the program sponsors several of these briefings each year.

Another way that the Sustainable Immunization Financing Program connects disparate actors within and across countries is through peer exchanges among national immunization managers, national finance officials, members of parliaments, and external immunization experts. To date, ten of the fifteen countries in the Sustainable Immunization Financing Program have participated in Sabin-sponsored peer exchanges

to study various aspects of immunization financing. The exchanges have led to some discoveries. For example, eight of the countries (Cambodia, Cameroon, Democratic Republic of the Congo, Mali, Nepal, Senegal, Sierra Leone, and Sri Lanka) have been comparing plans for developing national immunization trust funds. Overall, the countries are finding that most approaches to sustainable immunization financing involve budget reforms, decentralization, and legislation. As a result, the countries are making innovations in these areas.

BUDGET REFORMS In the area of public finance, transparency and accountability become more important as government expenditures increase and people become more dependent on public services. As noted above, dependency on external partners tends to distort the budgeting process. Rather than build the capacity needed to provide services, governments take the path of least resistance by allowing managers of immunization and other programs to bypass existing government channels and get funds directly from external partners.

In the health sector, a logical place to start budget reforms is in a country's immunization program. Of all health programs, immunization has the richest stream of real-time data, which makes its budget the easiest to monitor.¹³ The periodic Sabin briefings give members of parliament opportunities to scrutinize the performance of the immunization budget. If they find that planned activities were not carried out because of insufficient funding or interruptions in support from external partners, they use these facts to argue for increases in the government's routine immunization budget.

The legislators are often impressed to learn that health districts report numbers of children immunized and cases of disease seen or investigated monthly, if not weekly. Combining these data with information on expenditures—such as the cost of fully immunizing a child—makes it possible for elected officials and other decision makers to assess how well the program is using its resources (its absorptive capacity), whether it is reaching all areas (its allocative efficiency), and whether it is achieving its goals (its value for money). Budget reforms for immunization programs could serve as models for reforming other programs, such as maternal care and malaria control.

An early step in budget reform must be to build a country's own capacity to provide services such as immunization. This involves establishing new business practices—for example, quarterly cash accounting and reporting—not only between governments and donors but also across ministries, between ministries and parliament, and

From 2008 to 2010, six countries increased their own funding for their immunization programs.

between elected officials and their constituents. New approaches include budgeting based on performance and output.^{14,15} In the latter, proposed outputs and expenditures are compared to actual outputs and expenditures in each quarter. Program and budget performance are evaluated together in relation to previously set objectives, and the next quarterly budget disbursement is adjusted accordingly.

Uganda began implementing an output-based budgeting system in 2010. District governments report expenditures and program outputs quarterly to the Ministry of Finance, Planning, and Economic Development. The ministry submits its analyses and recommendations to Parliament's Public Accounts Committee twice a year. Initial results show improved absorptive capacity in health and other sectors. The amount of funds unused at the end of the year has decreased considerably.¹⁵ Yet this regular exchange of programmatic and financial data is a rarity. In 2010 the Sabin program sponsored peer exchanges that allowed finance officials from Liberia and Sierra Leone to observe Uganda's new output-based budgeting system.

DECENTRALIZATION As governments devolve and decentralize, states and provinces are, in principle, taking more ownership of essential public services. In Nigeria, for example, states receive federal transfers of funds and execute their own health programs. The federal government provides regulation and some technical oversight. However, most decentralization programs are advancing at a snail's pace.¹⁶ Technical capacity is a key limiting factor: There are not enough skilled managers and technicians at the regional and local levels to make the systems work properly.

One reform approach is to make decentralized work intrinsically more rewarding by ensuring adequate access to computers and the Internet, and by encouraging skilled workers to collaborate across government ministries. In Kenya and

Sierra Leone, for example, local governments have used a rapid-results approach to improve service delivery. Immunization was one of several thematic areas in the case of Kenya, where local governments achieved improvements within 100 days by engaging front-line workers in the planning process and providing them with clear goals and intensive monitoring and feedback.^{17,18}

Greater political accountability is also needed.¹⁹ Properly done, decentralization transfers budgetary and fiscal control to regional and local officials. This gives elected officials at those levels a voice in the programs—and a new way to win votes. Involving the community in preparing the local budget further increases transparency and accountability.²⁰ The equilibrium shifts when subnational governments move from total dependence on funds from the national level to assuming a portion of recurrent program costs using local revenues.

To date, Sabin has sponsored subnational parliamentary briefings in Cambodia, Cameroon, and Democratic Republic of the Congo. In the last case, the briefings have led two provinces to form their own immunization budgets. In Cameroon, the briefings brought together federal and provincial counterparts, who are now devising revenue-sharing arrangements for a proposed national immunization trust fund.

LEGISLATION The goal of sustainable immunization funding is not achieved until parliaments pass laws defining how immunization and other key programs for maternal and child health are to be financed in perpetuity. In the Americas, where governments currently finance 90 percent of immunization costs, this goal has already been reached.

Mobilizing elected officials was an important step in the process. In 1994 the Pan American Health Organization engaged the Latin American Parliament in an analysis of national immunization financing policies. In 2009 the latter produced a model vaccination law.²¹ By 2010 twenty-seven countries in the Americas had passed immunization financing laws and regulations. Of the fifteen countries in the Sustainable Immunization Financing Program, nine have drafted or introduced into parliament legislation relating to immunization financing. Members of parliaments in the other six countries have signed declarations to the effect that they would advocate for more immunization resources.

THE ROLE OF THE PUBLIC Public support may be the essential factor that links budget reforms, decentralization, and legislation in a way that leads to more sustainable health financing. In a 2009 paper, Matt Andrews noted a generalized resistance to financial reforms on the part of government agencies.²² He cast doubt on the idea that organizations change in order to become more efficient. Instead, he theorized that they change in order to be legitimized—in other words, to meet popular expectations.

Reforms are thus more likely when the government's operations are transparent and subject to scrutiny by the public. Engaging new stakeholders in immunization programs and allowing managers the chance to tout their accomplishments provides an object lesson in how societies efficiently provide public goods. The Sabin program facilitates this increased public involvement through its decentralized briefings and by inviting members of the press to attend all of its briefings and other meetings.

EXHIBIT 1

Immunization Budgets And Government Expenditures, Selected Countries In The Sustainable Immunization Financing Program, 2008-10

Country	2008		2009		2010	
	Total expenditures	Expenditures per infant	Budget	Expenditures per infant	Budget	Expenditures per infant
Cambodia	2,231,044	5.84	1,161,164	3.15	2,169,300	5.75
Cameroon	13,220,441	19.85	7,732,239	11.36	8,608,633	11.63
DR Congo	0	0	300,000	0.1	1,752,000	0.57
Mali	1,116,551	1.83	— ^a	— ^a	960,000	1.66
Nepal	2,021,814	2.58	1,050,371	1.32	1,261,110	1.61
Senegal	1,700,000	3.43	1,742,500	3.58	2,050,000	4.2
Sierra Leone	908,941	3.44	104,085	0.44	124,775	0.53
Mean	3,533,132	6.16	1,965,060	3.31	2,167,688	3.63

SOURCES 2008 total expenditures: World Health Organization. WHO/UNICEF Joint Reporting Form database [Internet]. Geneva: WHO; [cited 2011 May 17]. Available from: http://www.who.int/immunization_financing/analyses/jrf_analysis/en/index.html. 2009–10 budgets: Unofficial figures reported by the countries' national immunization program managers to Sustainable Immunization Financing Program officers. Infants born: Population Reference Bureau. DataFinder [Internet]. Washington (DC): The Bureau; [cited 2011 May 17]. Available from: <http://www.prb.org/DataFinder.aspx>. **NOTE** Total expenditures include routine program and disease-specific special immunization activities. ^aNot available.

Results Of The Sabin Program

As shown in Exhibit 1, from 2008 to 2010, six countries increased their own funding for their immunization programs (Mali did not report 2009 expenditures). However, the increases are modest, moving from a mean of US\$3.31 to US\$3.63 per infant annually. Exhibit 1 also shows the 2008 immunization expenditures reported by the countries using the WHO/UNICEF Joint Reporting Form. The mean here was US \$6.16 per infant. These figures are larger because they include shared health system expenditures—maintenance, supervision, information technology, and other inputs that serve a set of programs—as well as direct immunization expenditures.

Three of the countries—Cameroon, Democratic Republic of the Congo, and Nepal—have both increased their budgets and initiated new immunization financing legislation. No countries in the Sabin program have yet enacted legislation guaranteeing immunization budgets. It is still too early to ascertain whether increased budgets lead to legislative action, or vice versa.

Discussion And Conclusion

National immunization programs are performing well but are unstable, because of both uncertain financing and institutional weaknesses at national and local levels. Countries need to lessen their dependency on external partners in order to build technical and organizational capacity in their health sectors. Specific pathways to sustainable immunization financing already exist, particularly through budget reform, decentralization, and legislation, but innovations are also needed. An example is the Bhutan National Trust Fund,²³ which finances the coun-

try's vaccines. Donations come from a number of sources, including online donations and local fund-raising events. Ongoing structural changes—such as rising Internet access—increasingly favor such innovations by other countries.

Experience demonstrates that immunization investments can be a catalyst for the overall development of the health sector. In Latin America, for example, efforts during the 1980s and 1990s to eradicate polio and measles required countries to develop agile management, active surveillance, and reliable laboratory support as well as sustainable financing for their immunization programs.²⁴ Those innovations spilled over to other maternal and child health programs. Low-income countries elsewhere in the world face similar starting conditions today.

Over the past two years, the Sabin program has been engaged in advocacy efforts directed at improving immunization programs' financing in fifteen countries, using a collective action approach focused on national institutions. Through the program, hundreds of peers from different countries are sharing best practices and plotting parallel courses toward the goal of sustainable immunization financing. Admittedly, progress has been modest. Indeed, forces outside the program could have caused the budgetary increases and legislative initiatives that we observed.

However, a recent midterm evaluation concluded that the program has successfully catalyzed collective action for immunization financing in five of the six countries studied. The program will have succeeded if all pilot countries attain sustainably financed immunization programs and pass related legislation safeguarding their future by 2013. ■

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ABOUT THE AUTHORS: MICHAEL MCQUESTION, DEVENDRA GNAWALI, CLIFFORD KAMARA, DIANA KIZZA, HELENE MAMBU-MA-DISU, JONAS MBWANGUE & CIRO DE QUADROS



Michael McQuestion is director of the Sustainable Immunization Financing Program at the Sabin Vaccine Institute.

In this issue of *Health Affairs*, Michael McQuestion and coauthors report on the efforts of the Sabin Vaccine Institute to assist countries

in establishing long-term funding for national immunization programs. The authors are all with the Sabin Institute, whose Sustainable Immunization Financing Program advocates for long-term support within countries of immunization efforts. McQuestion is cofounder and now director of the program.

"Countries are increasingly aware that they must assume all or most of the recurrent costs of their routine immunization programs in

the short to medium term," McQuestion says. The good news, he adds, is that because of structural advances, "what is possible now was not possible in most of our countries five or ten years ago."

In addition to his work at Sabin, McQuestion is an assistant professor in the Department of Microbiology, Immunology, and Tropical Medicine at the George Washington University School of Medicine. He has been involved in

immunization programs since his days as a Peace Corps volunteer, continuing in his work as a technical officer guiding new programs in Latin America for the World Health Organization and the Pan American Health Organization. McQuestion has a doctorate in sociology from the University of Wisconsin–Madison.



Devendra Gnawali is a senior program officer at the Sabin Vaccine Institute.

Devendra Gnawali is one of several authors on this paper responsible for the Sustainable Immunization Financing Program's projects in various countries. Gnawali heads projects in Nepal, Cambodia, and Sri Lanka. A Nepali citizen, Gnawali earned his doctorate in health economics from the University of Heidelberg, in Germany.



Clifford Kamara is a senior program officer at the Sabin Vaccine Institute.

Clifford Kamara oversees pilot projects for the Sustainable Immunization Financing Program in Sierra Leone, Nigeria, and Liberia. A citizen of Sierra Leone, he began his career there as a district medical officer, eventually rising to become head of planning in the country's Ministry of Health. Kamara earned his medical degree from the Kharkov Medical Institute in what is now the Ukraine, and his master of public health degree

from the Royal Tropical Institute in Amsterdam, the Netherlands.



Diana Kizza is a senior program officer at the Sabin Vaccine Institute.

Diana Kizza is responsible for Sustainable Immunization Financing Program projects in Ethiopia, Kenya, and her native Uganda. As a fellow with the Overseas Development Institute, Kizza was assigned to the Policy, Planning, and Capacity Building Unit of Rwanda's Ministry of Public Health. She holds a master's degree in health economics from the University of York, in the United Kingdom.



Helene Mambu-Ma-Disu is a senior program officer at the Sabin Vaccine Institute.

Helene Mambu-Ma-Disu, a citizen of Democratic Republic of the Congo, oversees projects in that country as well as Madagascar and Rwanda. A public health physician with extensive experience in Africa, she began her career as a public health officer in a rural part of Democratic Republic of the Congo and rose to head the country's national immunization and integrated child survival programs. She joined the World Health Organization Africa Region Office in 1987. Mambu received her medical degree from Howard University, in Washington, D.C.



Jonas Mbwangue is a senior program officer at the Sabin Vaccine Institute.

Jonas Mbwangue is responsible for projects in Mali, Senegal, and his native Cameroon. Previously he was executive director of the International Planned Parenthood Federation in Cameroon and a consultant with the World Bank Institute Sustainable Development Division. Mbwangue holds a master's degree in public administration from Columbia University, in New York City.



Ciro de Quadros is executive vice president of the Sabin Vaccine Institute.

Ciro de Quadros is executive vice president of the Sabin Vaccine Institute; an associate adjunct professor in the Department of International Health of the Johns Hopkins Bloomberg School of Public Health; and an adjunct professor in the Department of Microbiology, Immunology, and Tropical Medicine, School of Medicine, George Washington University. He was previously director of the Division of Vaccines and Immunization of the Pan American Health Organization.

A member of the Institute of Medicine, de Quadros received his medical degree from the Catholic School of Medicine, Porto Alegre, Rio Grande do Sul, Brazil, and his master of public health degree from the National School of Public Health, Rio de Janeiro, Brazil.