

Understanding and Using Immunization Expenditure Data: A Primer for Immunization Program Managers



Why is Immunization Financing Important?

Vaccines for infants and children are an indispensable tool in the global effort to end preventable child mortality. Immunization programs have also long been regarded as a cost-effective public health intervention, with a return of \$16 for every \$1 spent on immunization (Ozawa et al. 2016). Global efforts to vaccinate the world's children, starting with the World Health Organization's (WHO's) Expanded Program on Immunization (EPI) in 1974, prevent 2 to 3 million deaths each year (WHO 2018a).

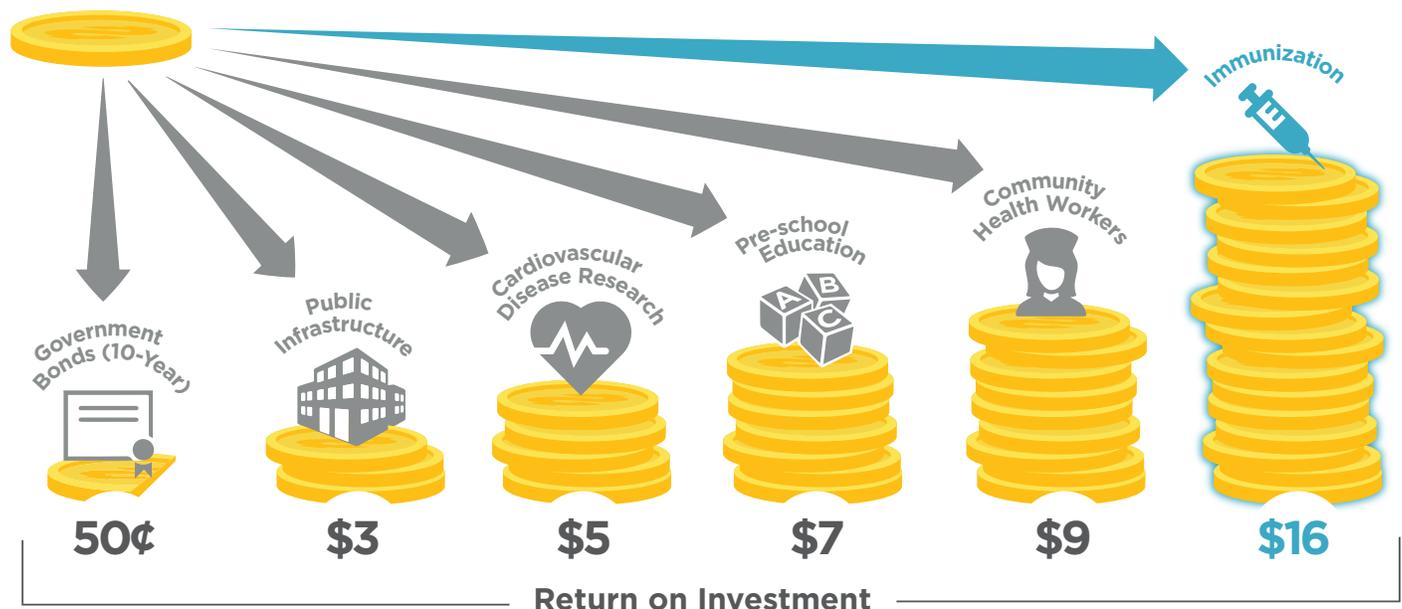
Sustaining and expanding coverage to reach all children, to achieve the goals of the Global Vaccine Action Plan (GVAP), and to achieve the Sustainable Development Goal 3.8 ("access to safe, effective, quality and affordable essential medicines and vaccines for all") requires robust immunization programs with sustainable funding.

Immunization programs cannot function effectively without reliable and sustainable financing. The availability of regular immunization expenditure data, generated by tools such as Health Accounts, provides EPI managers with an

evidence base for planning and ensuring adequate funding for immunization programs. Countries can use these data not only to assess the sufficiency of resources and to improve allocation of funding, but also to evaluate whether resources are being spent in the most effective way and on the most effective interventions. Furthermore, regular production of spending data is key to ensuring adequate resources to sustain and increase the reach of immunization programs.

Estimates of immunization expenditure can be analyzed together with complementary

For every \$1 invested in:



Source: Gavi (2016)

data (such as immunization coverage) and presented in a way that can be understood and used by immunization program managers and policymakers to advocate for change in immunization program planning, budgeting, and policy. The goal of this primer is to 1) describe methodologies for generating immunization spending data, 2) describe the types of policy and program issues the data (together with complementary data) can help address, and 3) discuss how immunization program managers (and policymakers where appropriate) can support the production and use of immunization expenditure data.

How Do We Track Immunization Expenditure?

Recognizing the importance of regular data on immunization, UNICEF and WHO developed the Joint Reporting Form (JRF) to collect immunization indicator data from World Health Assembly Member States on an annual basis. Seven indicators are specific to immunization financing. These are:

1. Government spending on vaccines used in routine immunization
2. Total spending on vaccines used in routine immunization
3. Share of government spending out of total spending on vaccines used in routine immunization
4. Government spending on routine immunization
5. Total spending on routine immunization
6. Share of government spending out of total spending on routine immunization
7. Existence of line item for vaccines in the government budget

WHO together with partners have developed guidance around how the immunization figures can be generated, including how to disaggregate routine immunization spending from total immunization spending. These spending data have been produced/estimated by WHO Member States, and are used to evaluate government spending per target child for the GVAP. However, challenges encountered in the JRF reporting on

HEALTH ACCOUNTS

The globally recognized System of Health Accounts (SHA 2011) framework is a rigorous method for estimating resource flows for national health expenditure data. The SHA 2011 framework produces expenditure estimates broken down by a number of factors, including by source (for example, government versus donor) and by input (such as pharmaceutical products versus staff salaries). The SHA 2011 framework can also produce expenditure data disaggregated by disease category, providing further insight into what disease/priority health areas are funded.

For immunization, Health Accounts will provide the opportunity to generate spending information regarding:

- What is the balance between routine and supplemental immunization?
- What is the share of immunization spending out of the total health spending?
- Who pays for the country's immunization response?
- Who are the different financing agents that manage the allocation of immunization funds?
- What providers or implementers receive immunization funding?

immunization financing indicators include missing indicators (or estimations) for a significant number of countries, lack of completeness among the indicators, and inconsistencies in reported values from year to year in the same country (WHO 2017).

An effective strategy to address some of the challenges in the JRF is to generate expenditure data through more robust resource tracking exercises such as Health Accounts (refer to text box for details). The ability of the Health Accounts framework to produce accurate immunization expenditure data that can feed into the JRF makes Health Accounts a more viable alternative for producing estimates of the JRF financing indicators. A recent guidance document enables countries to improve the accuracy of their immunization spending estimates by using the SHA 2011 framework, and to separate spending on routine versus supplemental immunization services (Abt Associates and WHO 2017). Furthermore, Health Accounts estimates include shared and capital costs on immunization that are excluded from the JRF estimates, so that Health Accounts are more able to accurately capture total immunization spending. Shared costs in Health Accounts estimates include the costs of health programs, such as staff salaries, and the costs of operational and systems strengthening programs; these are elements for which

governments typically make a significant contribution, and so are important to capture to have an accurate picture of the government's overall contribution to immunization spending. Health Accounts also include any capital costs of cold chain, vehicles and other equipment spent on the immunization program. Understanding capital expenditures can provide insight into what the ongoing recurrent costs of maintenance may be.

Benin, Ethiopia, Mozambique, and Zambia have used the immunization guidance as part of a SHA 2011 Health Accounts exercise, to capture detailed immunization expenditure data. The lessons from the country application have been used to refine the guidance. Going forward, as countries produce their Health Accounts, they will be able to use the new guidance to accurately track immunization spending.

Given its standardized approach, Health Accounts data can also be used to compare spending between countries. And, when Health Accounts estimates are produced regularly over multiple years, the findings can be used to identify trends and discrepancies in spending over time. Analysis of spending patterns can also be a useful input into developing credible budgets for the program, particularly for the routine immunization program.



Health Accounts evaluates sources of financing for immunization – whether domestic or external - which would be useful for countries transitioning from donor support to measure and monitor. Evaluating sources of funding is also useful in terms of identifying the role that domestic and external financing plays with respect to supplemental immunization activities compared to routine activities. To date, around 75 countries have completed Health Accounts estimations with the SHA 2011 framework. Data from many of these exercises can be accessed in the Global Health Expenditure Database at <http://apps.who.int/nha/database>.

What Policy and Planning Issues Can Immunization Spending Data Inform?

Data on immunization spending – how much is spent, by whom, and for what services – is crucial for EPI managers. These data allow government officials to evaluate the sustainability of immunization financing over time, create credible budgets, plan for any financing gaps for immunization, hold decision makers accountable to their commitments in immunization and broader health strategies and plans, and provide the evidence needed to improve allocation of immunization spending.

A country's immunization spending estimates can also be analyzed in conjunction with survey data on immunization coverage, census data on population, budgets, immunization spending/coverage data from other

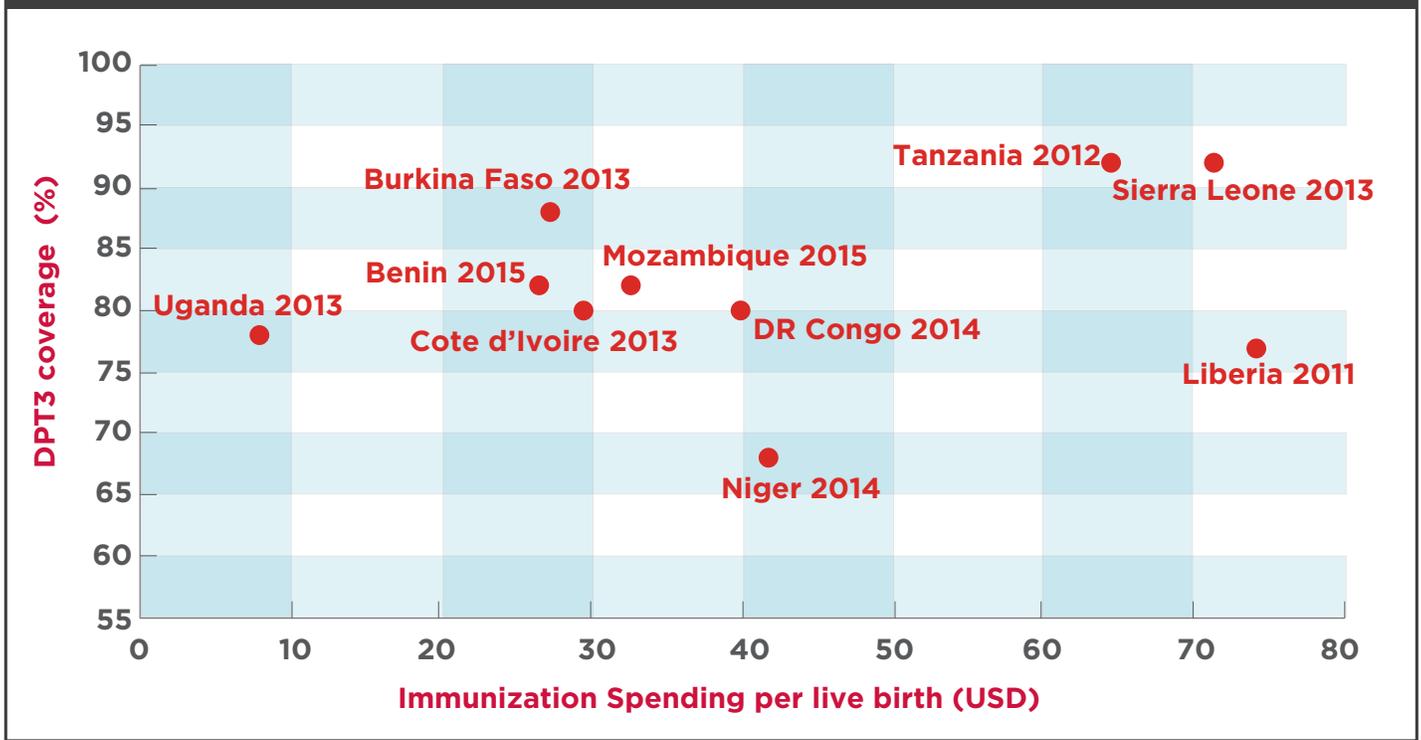
countries, and other types of data, in order to gain insight into a number of critical issues, including **efficiency** of immunization spending, issues of **equity, sustainability** of financing, and **accountability**.

Efficiency: Cross-country comparisons of immunization spending and coverage

Question: Is immunization spending in my country achieving the intended outputs compared to other countries?

Health Accounts exercises provide estimates of overall immunization spending that can be compared across countries due to the standardized SHA 2011 framework used in the exercises. Comparing immunization spending per live birth between countries can provide national immunization programs with insight into how their immunization spending and coverage compares to other programs. For example, Benin's 2015 data show that

FIGURE 1. IMMUNIZATION SPENDING PER LIVE BIRTH* BY DPT3 COVERAGE**



*Immunization (specifically, vaccine-preventable diseases, or VPDs) expenditure per live birth was estimated by converting VPD expenditure per capita to expenditure per annual live births, using data from draft Health Accounts reports, and population and fertility data from U.N. "World Population Prospects 2017." <https://esa.un.org/unpd/wpp/>

** DPT3 coverage: WHO and UNICEF (n.d.) estimate for year matching expenditure data.

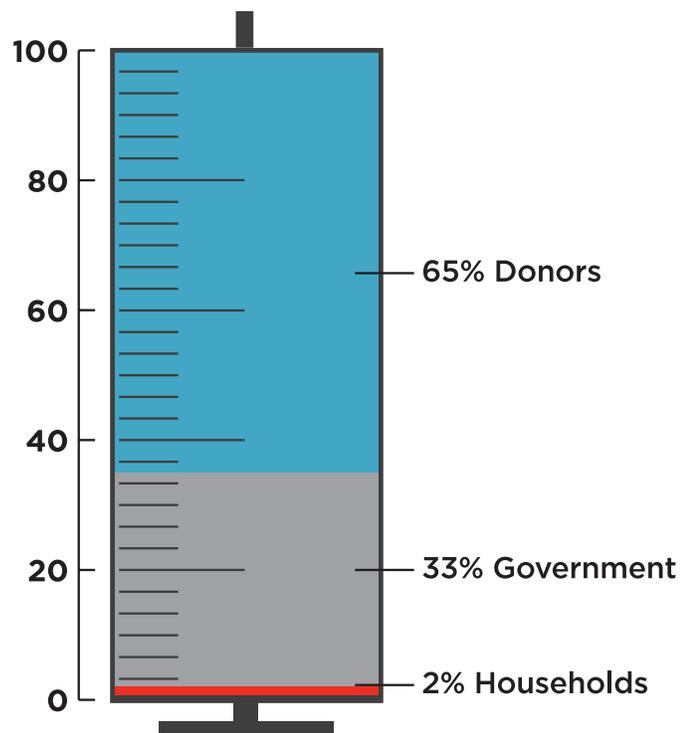
in comparison to a country with similar spending (Burkina Faso), Benin's coverage was on the lower side (Figure 1). This comparison suggests, for example, that it might be worthwhile for Benin to examine potential inefficiencies in its program and to consult with its neighbor, Burkina Faso, to see if lessons can be learned around cost-effectiveness of the immunization program.

Equity: Assessing out-of-pocket spending on a service that should be free of cost

Question: How much are households spending on immunization and might this be preventing access to immunization services?

Health Accounts provides a comprehensive understanding of who is financing health spending (e.g., government, donors, households, private corporations). For example, Health Accounts use national household survey and other data to provide national estimates of household expenditures on specific health areas. In Ethiopia in 2013/14, households directly contributed around US\$3 million to immunization services (Figure 2; FMOH

FIGURE 2. IMMUNIZATION SPENDING BY SOURCE OF FUNDS, ETHIOPIA 2013/14



Source: Federal Ministry of Health (2018)

2018), 2 percent of total immunization spending. Although small in proportion, this spending is financed directly by households, through out-of-pocket spending. Considering the equity implications of out-of-pocket spending on immunization, which is among the list of services to be provided for free in public facilities, this spending warrants a closer look by the Ethiopian government. Ethiopia's 2016 Demographic and Health Survey (CSA and ICF 2016) also reveals subnational equity challenges due to varying immunization coverage rates by region. Household expenditure data from Health Accounts, when analyzed together with population-based survey data on coverage, therefore provides useful insights into the equity of immunization services.

Sustainability: Understanding sources of immunization funding for future planning

Questions: How much are governments and development partners spending on immunization and on vaccines (routine vs supplemental)? What is the role of the private sector? What percent of national health expenditures (government and total) are spent on immunization programs?

Understanding the immunization financing landscape and sources of immunization funding is key to planning for sustainable financing of immunization programs. Health Accounts exercises can provide accurate estimates of total immunization expenditure by source (Figure 3), with shared costs also taken into account, to yield accurate spending estimates. As countries with immunization support from Gavi, the Vaccine Alliance, plan to transition

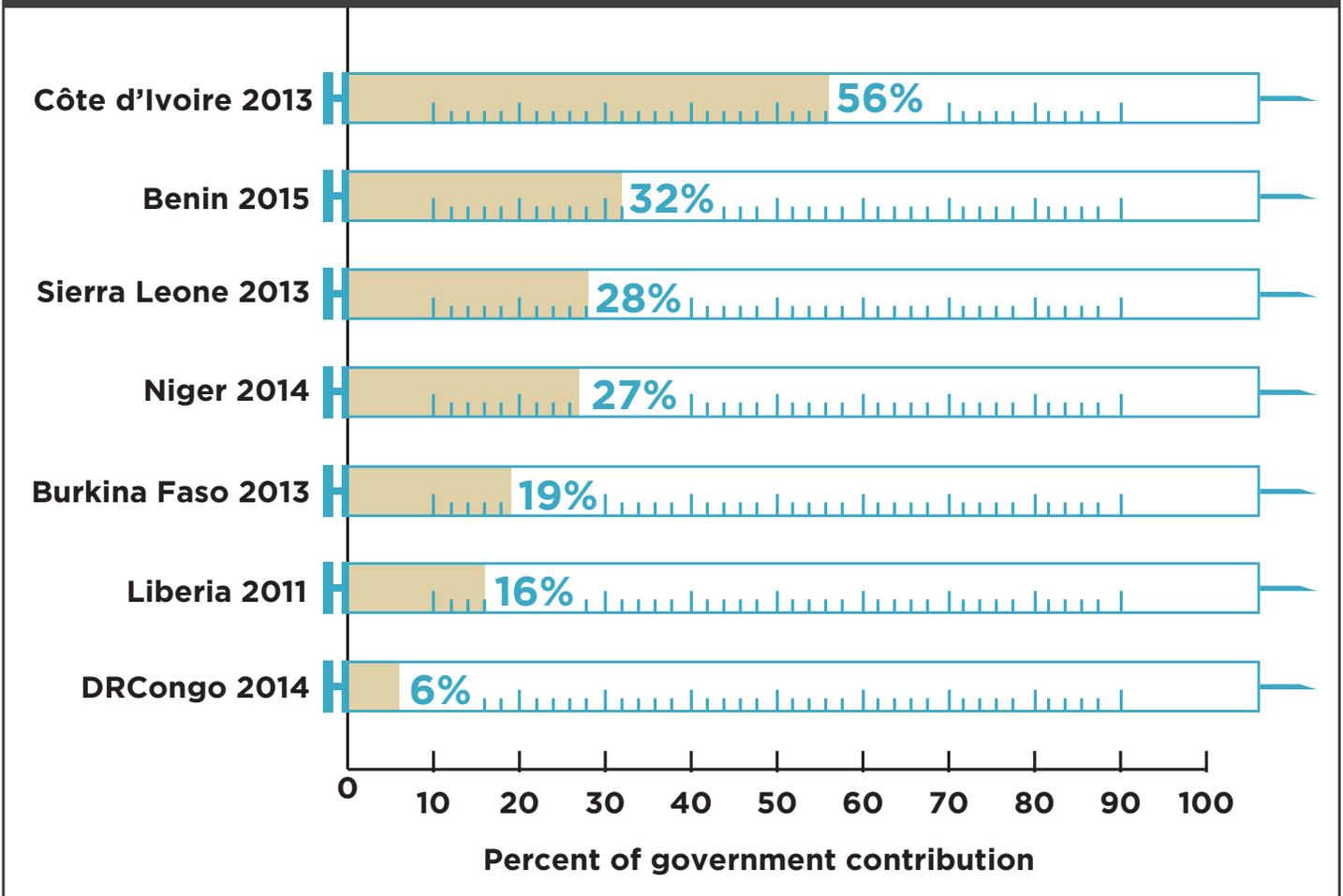
from one co-financing stage to the next, an understanding of sources of immunization expenditure is critical. Having estimates for the government's contribution to immunization financing, how it compares to donor contributions, and how it needs to increase over time, will allow for better management of immunization programs and for planning for smoother transitions.

Accountability: Monitoring of resource requirements and priority activities in strategic plans

Question: Is immunization expenditure in line with resource requirements as outlined in national immunization plans such as the Comprehensive Multi-Year Plans for Immunization (cMYPs)?

A number of countries develop cMYPs, which outline program priorities,

FIGURE 3. PERCENT GOVERNMENT CONTRIBUTION TO IMMUNIZATION SPENDING IN BENIN AND NEIGHBORING COUNTRIES⁵



Source: Draft Health Accounts reports

strategies, and resource requirements for immunization. Actual spending on immunization from Health Accounts exercises can be compared to resource requirements as outlined in the cMYP, to understand any potential funding gaps. Health Accounts can also provide data on spending by activity (e.g., cold chain improvements, improvements in monitoring and evaluation, and other categories), if the immunization program records their expenditures with adequate detail. As countries gain experience in conducting rounds of Health Accounts, and as they improve the level of detail in their information management systems, immunization programs could even use the immunization expenditure data to monitor progress against their cMYPs, as well as to evaluate and compare their budgets against spending (budget execution rate).

How Can Immunization Program Managers Support the Routine Production and Use of Immunization Expenditure Data?

Immunization program managers can play a vital role in producing accurate estimates of immunization spending and in ensuring that the data are used to inform immunization programming. Working closely with the Health Accounts team from the very beginning of the process, from defining key programming-related questions to actively engaging in the data collection and analysis processes, is crucial.

Immunization program managers can help ensure that expenditure data are produced on a routine basis by engaging in the following ways:

Learn who in your country produces the HA estimates, and when these estimates are produced. The department responsible for conducting Health Accounts exercises varies by country. While in some countries the activity is housed in the policy or health financing unit of the Ministry of Health, in other countries it might be an activity of a national statistics institute.



Demand the data. Understand what specific immunization spending data would help you to improve planning and programming, and request these data. Ask for the data to be presented in understandable formats, such as oral presentations and written briefs that stress program-relevant aspects of the findings.

Institute data reporting requirements. Institutionalization of Health Accounts requires continual replenishment of data. By ensuring that the immunization program reports data to the Health Accounts team, or at least to a central location, the reporting process is strengthened and becomes more integrated into the Health Accounts structure.

Sensitize policymakers about the value of Health Accounts. As immunization program managers become more familiar with using immunization expenditure on a regular basis, they can help advocate the value of expenditure data to senior decision makers in the health ministries. They can also help advocate for support for Health Accounts from a broader group of actors, for example, with other health programs, and actors at the decentralized level. This includes working together to make expenditure tracking exercises more cost effective and quicker, for example, by working to integrate data collection into routine/existing systems, and using the Health Accounts Production Tool (HAPT; WHO 2018b) software and any other tools to facilitate production of expenditure data.

Report the data. The results from a Health Accounts exercise can be exported from the HAPT in a format that allows extraction of estimates for the JRF financing indicators. Immunization program managers can work with their Health Accounts team to produce tables from which the JRF financing indicator values can be easily extracted. For JRF reporting, two sets of tables are critical:

1. **Revenues of Financing Scheme**

Reporting Item (FS.RI) by Function

(HC) This table can be used to extract the estimates for government and total spending on routine immunization, provided that routine and supplemental immunization have been customized in the Function classification

2. **Function (HC) by Factor of Provision**

(FP) These tables (there will be two tables, one for government FS.RI and one for all FS.RI) can be used to extract the estimates for government and total spending on vaccines used in routine immunization, provided that routine and supplemental immunization have been customized in the Function classification and for vaccines in the Factor of Provision classification

A cross-walk of the JRF reporting indicators and SHA 2011 is available in the annex.

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ANNEX: SHA-JRF Cross-walk Table

Given the comprehensive approach SHA 2011 takes in capturing expenditures, the data captured can be used to provide data on the JRF indicators on routine immunization and vaccines. The table below represent the overlap between the SHA framework and the JRF indicators, and can be completed for JRF reporting.

		JRF Indicators				
		Government spending on vaccines	Total spending on vaccines	Government spending on immunization	Total spending on immunization	
		(in USD)				
SHA 2011 Framework	CURRENT HEALTH SPENDING					
	Source					
	FS.RI.1 Government					
	FS.RI.2 Corporations					
	FS.RI.3 Households					
	FS.RI.4 NGOs					
	FS.RI.5 Donors					
	Function (only those relevant to immunization)					
	HC.6 Preventive Care					
	HC.6.1 Information, education and counseling programmes					
	HC.6.2 Immunization programs					
	HC.6.5 Epidemiological surveillance and risk and disease control programmes					
	HC.7 nec Other prevention					
	HC.7 Governance and health system administration					
	HC.6 Preventative Care					
	Input					
	FP.1 Compensation of Employees					
	FP.3 Materials and Services used					
	FP.3.1 Health care services					
	FP.3.2 Health care goods					
	FP.3.2.1 Pharmaceuticals					
	FP.3.2.2 Other health care goods					
	FP.3.3 Non-health care services (training, TA, operational research)					
	FP.3.4 Non-health care goods					
	FP.3.nec Other materials & services used					
	Capital Investment					