# Gavi Full Country Evaluations

2015 Annual Dissemination Report

Zambia Report

# Acknowledgments

The Gavi Full Country Evaluations team would like to thank all immunization program partners (Ministries of Health, technical partners, Gavi Secretariat, and other stakeholders) in Bangladesh, Mozambique, Uganda, and Zambia, especially those individuals who participated in workshops, were involved in stakeholder consultations, and served as key informants. We thank the Ministries of Health for facilitating stakeholder consultations and workshops. We also acknowledge and thank the contribution of the Gavi Secretariat Monitoring and Evaluation team for providing critical feedback, advice, and guidance over the course of the evaluation.

# Evaluation Team

This report presents findings from the 2015 Gavi Full Country Evaluations (FCE). It was prepared by the Institute for Health Metrics and Evaluation (IHME) at the University of Washington (UW) in collaboration with members of the FCE Team: icddr,b in Bangladesh; University of Eduardo Mondlane (UEM), Mozambique; Manhiça Health Research Centre (CISM), Mozambique; Health Alliance International (HAI), Mozambique; the Infectious Diseases Research Collaboration (IDRC), Uganda; the University of Zambia (UNZA), Zambia; and Program for Appropriate Technology in Health (PATH), United States

This work is intended to inform evidence-based improvements for immunization delivery in FCE countries, and more broadly, in low-income countries, with a focus on Gavi funding. The contents of this publication may not be reproduced in whole or in part without permission from the Gavi Full Country Evaluations Team.

Citation: Gavi Full Country Evaluations Team. *Gavi Full Country Evaluations: 2015 Dissemination Report*. Seattle, WA: IHME, 2015.

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# Acronyms

| | |
|---|---|
| **CHAZ** | Churches Health Association of Zambia |
| **CHU** | Child Health Unit |
| **CIDA** | Canadian International Development Agency |
| **CIDRZ** | Centre for Infectious Disease Research in Zambia |
| **CMMB** | Catholic Medical Mission Board |
| **CSO** | Central Statistical Office |
| **DAH** | Development Assistance for Health |
| **DBS** | Dried blood spot |
| **DEBS** | District Education Board Secretary |
| **DPI** | Department of Planning and Information |
| **DPT** | Diphtheria, pertussis, tetanus |
| **EOI** | Expression of Interest |
| **EPI** | Expanded Programme on Immunization |
| **FCE** | Full Country Evaluations |
| **FCI** | Fact Checking Interviews |
| **FGD** | Focus group discussion |
| **GBD** | Global Burden of Disease |
| **GSK** | GlaxoSmithKline |
| **HFS** | Health Facility Survey |
| **HHS** | Household survey |
| **HMIS** | Health management information system |
| **HPV** | Human papillomavirus vaccine |
| **HSS** | Health System Strengthening |
| **ICC** | Inter-Agency Coordinating Committee |
| **ICT** | Information and Communications Technology |
| **IPV** | Inactivated poliovirus vaccine |
| **IRC** | Independent Review Committee |
| **ISS** | Immunization Services Support |
| **IST** | Inter-country Support Teams |
| **JA** | Joint Appraisal |
| **JICA** | Japan International Cooperation Agency |
| **KI** | Key informant |
| **KII** | Key informant interview |
| **MCDMCH** | Ministry of Community Development, Mother and Child Health |
| **MIS** | Multiple Injection Study |
| **MNCH** | Maternal, new-born, and child health |
| **MoE** | Ministry of Education |
| **MoF** | Ministry of Finance |
| **MoH** | Ministry of Health |
| **MR** | Measles-rubella vaccine |
| **MSD** | Measles second dose |
| **NHA** | National Health Account |
| **NHSP** | National Health Sector Plan |

| | |
|---|---|
| **NITAG** | National Immunization Technical Advisory Committee |
| **NVI** | New Vaccine Introduction |
| **PBF** | Performance-based Financing |
| **PCV** | Pneumococcal conjugate vaccine |
| **PEF** | Partner Engagement Framework |
| **PIE** | Post-introduction evaluation |
| **PRRR** | Pink Ribbon Red Ribbon |
| **RCA** | Root cause analysis |
| **SAGE** | Strategic Advisory Group of Experts |
| **SCM** | Senior Country Manager |
| **SD** | Standard deviation |
| **SNA** | Social network analysis |
| **STI** | Sexually transmitted infection |
| **TA** | Technical assistance |
| **TOC** | Theory of change |
| **ToR** | Terms of Reference |
| **TWG** | Technical Working Group |
| **UNZA** | University of Zambia |
| **VIG** | Vaccine Introduction Grant |
| **WHA** | World Health Assembly |
| **WHO** | World Health Organization |
| **ZAMRA** | Zambia Medicines Regulatory Authority |
| **ZISSP** | Zambia Integrated Systems Strengthening Program |

# Introduction

The Gavi Full Country Evaluations (FCE) is a prospective study covering the period 2013-2016 with the aim to understand and quantify the barriers to and drivers of immunization program improvement, with emphasis on the contribution of Gavi, the Vaccine Alliance in four countries: Bangladesh, Mozambique, Uganda, and Zambia. This third annual dissemination report complements previous reports by providing key findings and recommendations for the 2015 evaluation period in the four FCE countries. The FCE encompasses all phases of Gavi support, from decisions to apply, application and approval, preparation, and implementation in each of the relevant streams of support. Table 1 summarizes the scope of the evaluation during the 2015 period. In addition to evaluating the various streams of support active in each of the FCE countries, we have in parallel also included findings related to cross-stream processes, most notably, the Joint Appraisal (JA) and Partner Engagement Framework (PEF).

**Table 1: Overview of streams evaluated in each country**

| | Bangladesh | Uganda | Mozambique | Zambia |
|---|---|---|---|---|
| **Health System Strengthening (HSS)** [1] | Conclusion of HSS-1 grant and application for HSS-2 | Implementation of HSS-1 | Implementation of HSS-2 | Application for HSS-2 |
| **Human papillomavirus (HPV) vaccine** | Preparation for demonstration project | Preparation for national introduction | Year two of demonstration project | Post-demonstration project[2] |
| **Inactivated polio vaccine (IPV)** | Preparation, launch and post-introduction | Preparation for introduction | Preparation for introduction | Preparations for introduction |
| **Measles-rubella vaccine (MR)** | Post-introduction | | | Application |
| **Measles second dose (MSD)** | | | Preparation for introduction | Post-introduction |
| **Meningitis A vaccine** | | Application | | |
| **Rotavirus vaccine** | | Application | Preparation for introduction and launch | Post-introduction |
| **Pneumococcal conjugate vaccine (PCV)** | Preparation, launch and post-introduction | Post-introduction | Post-introduction | Post-introduction |

[1] HSS-1 and HSS-2 refer to phases of HSS support. HSS grants provided prior to 2012 are referred to as first generation, or HSS-I. Grants provided after 2012 are referred to as the second generation of HSS grants, or HSS-2.

[2] The Zambia demonstration project was not Gavi-supported.

# Methods

Evaluation components relevant to this Zambia report include:

- Process tracking based on document review, observation, and fact-checking interviews;
- Root-cause analysis to identify underlying causes of identified challenges and successes;
- In-depth analysis of the process using key-informant interviews (KIIs) and social network analysis (SNA);
- A resource tracking study to generate estimates of the national-level resource envelopes on immunization;
- Analysis of Health Management Information Systems (HMIS) to understand the rollout of new vaccine introductions;
- A household survey (HHS) on immunization coverage and related key indicators (Annex 15). Household survey samples were sampled to overlap with the health facility survey reported on in the 2014 FCE report
- Analysis of secondary data to generate small-area estimates of vaccine coverage and child mortality at subnational levels (Annex 6); and
- Causal analysis of small-area estimates of vaccine coverage and child mortality at subnational levels to estimate the relationship between new vaccine introductions and child mortality (Annex 5).

# Summary of Zambia findings

**Pneumococcal conjugate vaccine (PCV) and rotavirus vaccine**

1. Our previous analysis in Zambia suggested that both PCV and rotavirus vaccine introductions were launched nationwide and were becoming increasingly routinized nationwide. Based on HMIS data available to us (up to Q3, 2015) delivery of PCV and rotavirus vaccine had stabilized over time but delivery was below that of pentavalent vaccine, particularly for rotavirus vaccine.

**Inactivated polio vaccine (IPV)**

1. The introduction of IPV in Zambia has mainly been driven by a global agenda, with less participation by country stakeholders leading to delayed funding and subsequently implementation of preparatory activities for the launch. Coupled with global supply issues this has resulted in a postponement of the launch until 2016.

**Human papillomavirus (HPV) vaccine**

1. Suboptimal implementation due to leadership and coordination challenges, as well as problems with social mobilization for the HPV demonstration project, resulted in lower than expected coverage rates in both rounds.
2. Testing only a single, school-based model, which was found to be financially unsustainable for national introduction following the demonstration project, has resulted in an unclear path toward national introduction of the HPV vaccine in Zambia. How demonstration project informed national introduction needs was further limited by the costing analysis becoming available only at the end of the second year of the demonstration project.

**Health System Strengthening (HSS)**

1. The HSS application process was complicated, time-consuming, and strained existing capacity. There was overreliance on technical assistance provided mainly by short-term, external consultants during the writing process, which in turn limited country stakeholder participation and affected the quality of the proposal.
2. The composition of the proposal development team did not include sufficient technical skills, contributing to weaknesses in some of the technical aspects of the proposal such as the M&E and PBF framework.
3. Although Gavi HSS has not been active in Zambia, significant increases in coverage in some vaccines have been observed in most districts in the country over the last five years. Understanding the drivers of these improvements will help to guide future immunization system strengthening investments. Furthermore, despite improvements, notable geographic inequality persists and low-coverage districts should be targets of system strengthening investments.

**Cross-stream analysis**

1. Zambia currently depends heavily on Gavi for procurement of new and underutilized vaccines. As a transition country, the country's co-financing requirements will increase 15% annually for pentavalent, PCV, and rotavirus vaccine. We have noted a number of instances where there have been challenges in financing recent immunization activities. These cases raise concerns about Zambia's preparedness to transition off Gavi support.

2. With an increasing number of new vaccine introductions, programmatic capacity is strained in Zambia, which has led to reliance on technical assistance and support from partners. Technical assistance (TA) has not always been optimally provided due to a range of reasons, including limited capacity-building as part of TA provision, restricted pool of TA providers that does not leverage local providers, and limitations in funding.

3. The function of ICC is unclear to some stakeholders, leading to inadequate guidance and oversight over immunization activities in Zambia, which could potentially undermine the country's achievements with regard to the effectiveness of Expanded Programme on Immunizations (EPI) and their sustainability.

**Summary of recommendations**

For each cross-country and country-specific finding described above, we developed related recommendation(s). Table 2 summarizes the recommendations for the cross-country findings.

**Table 2: Findings and recommendations**

| Zambia | |
|---|---|
| **Findings** | **Recommendations** |
| *Pneumococcal conjugate vaccine and rotavirus vaccine* | |
| **Finding 1.** Our previous analysis in Zambia suggested that both PCV and rotavirus vaccine introductions were launched nationwide and were becoming increasingly routinized nationwide. Based on HMIS data available to us (up to Q3, 2015), delivery of PCV and rotavirus vaccine had stabilized over time but delivery was below that of pentavalent vaccine, particularly for rotavirus vaccine. | 1. Improvements in the timeliness and quality of HMIS data are required to better monitor routinization of new and existing vaccines in Zambia.<br>2. Closer monitoring of vaccine supply between health facilities and the district level as well between the national, province, and district levels is required to avoid stock-outs. |
| *Inactivated polio vaccine* | |
| **Finding 1.** The introduction of IPV in Zambia has mainly been driven by a global agenda with less participation by country stakeholders, leading to delayed funding and subsequently implementation of preparatory activities for the launch. Coupled with global supply issues this has resulted in a postponement of the launch until 2016. | 1. When globally driven initiatives, such as polio eradication, are not aligned with the most pressing country priorities, support from local partners and government is more difficult to attract. In such situations, Gavi and global Alliance partners should therefore play a more active role in facilitating the provision of support required to introduce a new vaccine such as IPV.<br>2. Even in cases of globally driven initiatives, government should ensure that the decision-making and application processes are participatory so that stakeholders are brought on board early in the process. This will help to promote efficient planning and implementation of vaccine introductions. |
| *Human papillomavirus vaccine* | |
| **Finding 1.** Suboptimal implementation due to leadership and coordination challenges, as well as problems with social mobilization for the HPV demonstration project, resulted in lower than expected coverage rates in both rounds. | 1. Gavi should clearly indicate differences in requirements for HPV vaccine demonstration projects and HPV vaccine national introduction for countries, particularly those undertaking demonstration projects supported by other funders. |

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| **Finding 2.** Testing only a single, school-based model, which was found to be financially unsustainable for national introduction following the demonstration project, has resulted in an unclear path toward national introduction of the HPV vaccine in Zambia. How the demonstration project informed national introduction needs was further limited by the costing analysis becoming available only at the end of the second year of the demonstration project. | 1. Demonstration projects should be designed to test different implementation models, thus allowing for a comparison of the relative merits of different models.<br>2. An important feature of demonstration projects, regardless of the source of support, is to learn and refine implementation over its duration. Ensuring that implementation is comprehensively reviewed in terms of financial sustainability, acceptability, and feasibility at the end of year one will allow adjustments to be made in year two to maximize the potential of demonstration projects to inform national scale-up.<br>3. Government and stakeholders need to focus on three main issues for readiness for HPV introduction: commitment of funding from government and partners for the chosen delivery model before commencement of activities; clear leadership and coordination roles; and clarity on which model will be used. |
| *Health System Strengthening* | |
| **Finding 1.** The HSS application process was complicated, time-consuming, and strained existing capacity. There was overreliance on technical assistance provided mainly by short-term, external consultants during the writing process, which in turn limited country stakeholder participation and affected the quality of the proposal. | |
| **Finding 2.** The composition of the proposal development team did not include sufficient technical skills, contributing to weaknesses in some of the technical aspects of the proposal such as the M&E and PBF framework. | 1. Gavi should consider ways to simplify the HSS application process considering strained country capacity. Simplification should include (but is not limited to) a shorter proposal (composed of fewer component parts), and greater clarity on the levels of detailed required in each section. Gavi's efforts to provide guidance on the types of interventions most likely to contribute to |

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| | increased coverage and equity is a useful step toward simplifying the overall design process, but do not address the broader complexities of the application process.<br>2. The country and partners should identify TA needs and engage appropriate TA providers in a timely manner.<br>3. Gavi SCM should play a greater role in guiding the HSS proposal development process and supporting in-country TA providers. |
| **Finding 3.** Although Gavi HSS has not been active in Zambia, significant increases in coverage in some vaccines have been observed in most districts in the country over the last five years. Understanding the drivers of these improvements will help to guide future immunization system strengthening investments. Furthermore, despite improvements, notable geographic inequality persists and low-coverage districts should be targets of system strengthening investments. | 1. A comprehensive understanding of drivers of improvements in vaccine coverage observed over the last five years in Zambia will help to better target HSS investments.<br>2. Enhanced investments should be considered for districts with the lowest vaccine coverage (< 80% pentavalent three-dose coverage) in Zambia. |
| *Cross-stream analysis* | |
| **Finding 1.** Zambia currently depends heavily on Gavi for procurement of new and underutilized vaccines. As a transition country, Zambia's co-financing requirements will increase 15% annually for pentavalent, PCV, and rotavirus vaccine. We have noted a number of instances where there have been challenges in financing recent immunization activities. These cases raise concerns about Zambia's preparedness to transition off Gavi support. | |
| **Finding 2.** With an increasing number of new vaccine introductions, programmatic capacity is strained in Zambia, which has led to reliance on technical assistance and support from partners. Technical assistance (TA) has not always been optimally provided due to a range of reasons including limited capacity-building as part of TA provision, restricted pool of TA providers that does not leverage local providers, and limitations in funding. | |

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| **Finding 3.** The function of ICC is unclear to some stakeholders, leading to inadequate guidance and oversight over immunization activities in Zambia, which could potentially undermine the country's achievements with regard to the effectiveness of Expanded Programme on Immunizations (EPI) and their sustainability. Summary of recommendations: | 1. Government needs to develop a feasible transition plan with consultation with stakeholders, including MoF.<br><br>2. Mapping local technical capacity and expansion in the pool of providers of TA should be prioritized in order to optimize use of available resources and minimize dependence on external TA.<br><br>3. Providers of TA should provide clear statements indicating how assistance provided will contribute to building capacity.<br><br>4. Gavi and partners should ensure orientation of Gavi requirements for local TA providers in areas where they are expected to provide support to countries.<br><br>5. There is need to clarify the role of the ICC on EPI in terms of its policy versus technical input. |

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## Gavi support for Zambia

Zambia first received Gavi support in 2001. Over the following 15 years, the country has received a total of US$107.9 million in Gavi funds for new vaccine introductions, Immunization Services Support (ISS), and Health System Strengthening (HSS). In 2013, Zambia introduced the measles second dose (MSD) and pneumococcal conjugate vaccines (PCV) jointly. It additionally introduced rotavirus vaccine in 2013. In 2015, the country's application to introduce inactivated poliovirus vaccine (IPV) was approved. In 2015 the country also resubmitted a new application for HSS funding as well as an application for measles-rubella (MR) vaccine introduction.

**Table 3: Streams of Gavi support for Zambia**

| Gavi support | Period of support | Total amount of funding ($US) |
|---|---|---|
| **Pneumococcal conjugate vaccine (PCV)** | 2012-2015 | 26,244,940 |
| **Pentavalent vaccine*** | 2004, 2005-2015 | 63,544,363 |
| **Rotavirus vaccine** | 2013-2015 | 7,571,997 |
| **Measles second dose (MSD)** | 2012-2014 | 615,018 |
| **Inactivated poliovirus vaccine (IPV)** | 2015-2017 | 1,856,000 |
| **Health System Strengthening (HSS)** | 2007-2013 | 6,410,653 |
| **Immunization Services Support (ISS)** | 2001-2002, 2004, 2006 | 3,864,060 |
| **Injection safety support (INS)** | 2002-2004 | 689,237 |
| **Vaccine Introduction Grant (VIG)** | 2002, 2012-2013, 2015 | 2,296,500 |

*Source: http://www.gavi.org/country/all-countries-commitments-and-disbursements, accessed last September 11, 2015. Values shown represent Gavi commitments, those of which Gavi intends to fund over the course of the program, subject to performance, and availability of funds.*
**Earlier phase of support was for tetra DPT-hep B.*

## Methods overview

Consistent with the prospective nature of the FCE, the evaluation has reflected Gavi-supported activities, assessing implementation and related milestones by support stream. Table 4 provides an overview of the methods used, the sources of data, and the topics assessed by these methods.

**Table 4: Evaluation methods**

| Methods | Source consulted/study area | Topics investigated |
|---|---|---|
| **Process tracking** | - Collected and reviewed documents including IPV application and introduction plan; IPV Multiple Injection Study; IPV Switch Plan; HSS initial and resubmission applications; Independent Review Committee (IRC) report on initial HSS application; World | - Information was collected based on relevant theory of change (TOC) milestones for HSS, IPV, human papillomavirus (HPV) vaccine, and MR. |

| | | |
|---|---|---|
| | Health Organization (WHO) pre-review of the HSS initial application; MR application and budget; HPV vaccine demonstration documents; and ICC, National Immunization Technical Advisory Committee (NITAG), and Technical Working Group (TWG) documents.<br><br>- Conducted multiple fact-checking interviews with WHO, Child Health Unit (CHU), Department of Planning and Information (DPI), and Centre for Infectious Disease Research in Zambia (CIDRZ).<br><br>- Observed four ICC meetings, four Expanded Programme on Immunization (EPI) TWG meetings, three IPV introduction subcommittee meetings, and one IPV switch plan workshop; MR application and budgeting meetings; and one HSS revision workshop. | |
| **Key informant interviews (KIIs)** | - Conducted 15 national-level KIIs with CHU, DPI, WHO, Churches Health Association of Zambia (CHAZ), CIDRZ, Catholic Medical Mission Board (CMMB), GlaxoSmithKline (GSK), and other EPI partner organizations.<br><br>- Global-level KIIs: total = 23; Gavi Secretariat = 16; Alliance partners = 5; Other = 2<br><br>- Partnership survey: administered to respondents during national and subnational KIIs. Questions sought to understand with whom respondents worked and exchanged technical assistance (TA) on the following Gavi activities: New Vaccine Introduction (NVI), HSS, and HPV. Strength of | - Information was collected based on relevant TOC milestones for HSS and IPV. |

| | | |
|---|---|---|
| | relationships was measured by asking respondents to rate their trust and quality of TA exchanged. | |
| **Partnership survey** | - Conducted 11 partnership surveys around HSS application with WHO, PATH, CHAZ, CHU, DPI, Ministry of Health (MoH), and CMMB | - Respondents were asked a series of questions regarding partnership, the provision and receiving of TA, levels of confidence in the capacity of partners, and the amount of value added from the overall partnership around the HSS proposal development process. |
| **Household survey** | - Collected household survey data for 1,010 households.<br><br>- Collected dried blood spot (DBS) samples from 955 children. | |
| **Resource tracking** | - Analyzed financial resources for immunization through review of National Health Accounts (NHAs) and KIIs with various organizations known to support immunization in Zambia. | - This was a resource tracking study to inform the status of immunization support in Zambia. |
| **Small area analysis** | - Compiled and analyzed all available household survey and census data sources. | - Estimation of district-level vaccine coverage and under-5 mortality. |
| **Inequality analysis** | - Compiled and analyzed all available survey data sources with information on household wealth and vaccination coverage. | - Estimation of vaccine coverage differences by wealth quintile and sex. |
| **HMIS analysis** | - Analyzed the Health Management Information System (HMIS) data | - Estimation of vaccine coverage |

## Findings

The Gavi FCE team compiled and systematically analyzed relevant data to estimate country performance along key indicators at the national and, when possible, the subnational level (Table 5, Table 6, and Table 7).

**Table 5: Country characteristics of Zambia**

| Characteristic | |
|---|---|
| **Demographic and economic indicators** | |
| Total population (2013) | 16,211,727 |
| Birth cohort (2013) | 644,972 |
| GDP per capita (2015)* | $US 2,312.72 |
| **Health spending and development assistance for health (DAH)**** | |
| Government health expenditure as source (GHE-S) | $US 497.4M |
| DAH channelled through government (DAH-G) | $US 157.3M |
| DAH channelled through non-government entities (DAH-NG) | $US 382.3M |
| Total DAH | $US 539.6M |

*GDP per capita source: IHME covariates database, reported in 2005 international dollars
** Health expenditure is explained in terms of GHE-S, DAH-G, and DAH-NG. GHE-S + DAH-G gives the total government health expenditure, and GHE-S + Total DAH gives total spending on health in the country. Health expenditure estimates are for 2014; Gavi disbursements are total disbursements by calendar year, 2001-2012. Units are in 2014 US dollars.

**Table 6:** Vaccine coverage estimates in Zambia

| Vaccine coverage | Most recent survey estimate* | WUENIC 2014 ** | Self-reported coverage (WHO)*** |
|---|---|---|---|
| **DPT/Penta3 coverage** | 85.8% | 86% | 86% |
| **DPT1-DPT3 dropout rate** | 10.0% | 10% | 7% |
| **BCG coverage** | 94.9% | 95% | 95% |
| **Polio3 coverage** | 77.6% | 78% | 78% |
| **Measles coverage** | 84.9% | 85% | 85% |
| **Percent fully vaccinated****** | 68.3% | N/A | N/A |

* Most recent survey coverage estimates from 2013-2014 DHS
** WHO/UNICEF Estimates of National Immunization Coverage (WUENIC) 2014 (WHO 2014)
***WHO vaccine-preventable diseases monitoring system, 2014 global summary (WHO 2014)
**** BCG, measles, and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth)

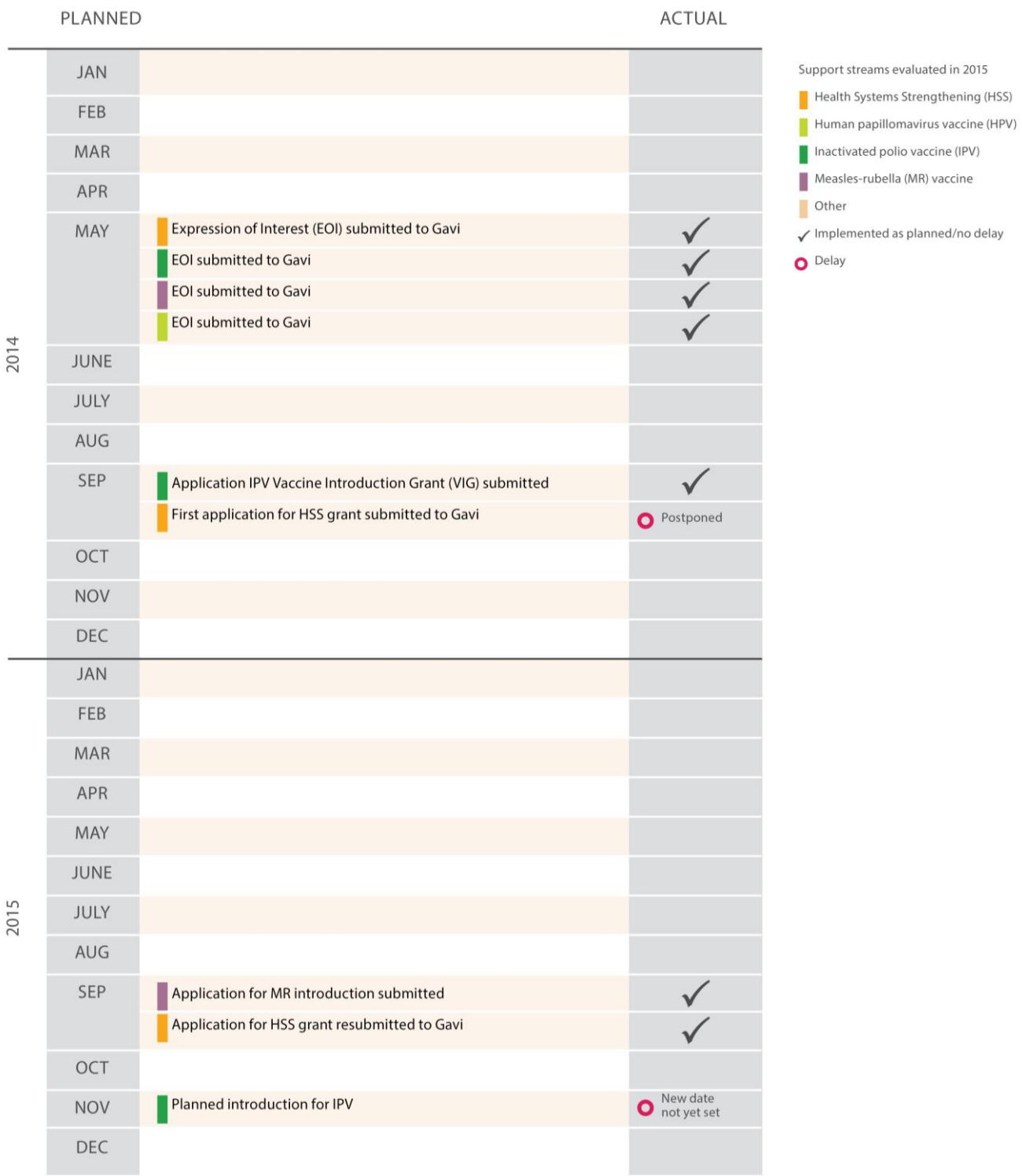
**Table 7:** Child, adult, and vaccine-preventable disease mortality in Zambia

| Child, adult, and vaccine-preventable disease mortality | GBD 2013* |
|---|---|
| **All-cause mortality (deaths per 1,000 live births)** | **Estimate (confidence interval)** |
| Infant mortality (${}_1q_0$) | 50.9 (41.2, 62.9) |
| Under-5 mortality (${}_5q_0$) | 80.5 (63.4, 101.2) |
| Female adult mortality (${}_{45}q_{15}$) | 420.0 (387.4, 454.8) |
| Male adult mortality (${}_{45}q_{15}$) | 371.6 (340.1, 402.8) |
| **Cause-specific mortality: children under 5 (deaths per 100,000)** | |
| Measles | 6.6 (1.6, 17.8) |
| Diphtheria | 0.3 (0.00-1.6) |
| Tetanus | 1.8 (0.8-3.3) |
| Pertussis | 4.2 (0.0-21.1) |
| Meningococcal infection | 6.3 (3.3-10.5) |
| Diarrheal diseases | 183.4 (113.9-280.7) |
| Lower respiratory infections | 263.3 (185.2-357.2) |
| **Cause-specific mortality: all ages (deaths per 100,000)** | |
| Cervix uteri cancer | 5.1 (3.6-6.9) |
| Acute hepatitis B | 0.6 (0.4-0.8) |
| Cirrhosis of the liver secondary to hepatitis B | 3.0 (1.9-4.3) |
| Liver cancer secondary to hepatitis B | 0.7 (0.3-1.3) |

* Mortality based on 2013 estimates from the Global Burden of Disease (GBD) study.

## Timeline of major immunization events

**Figure 1:** Overview of major immunization events in Zambia



## Pneumococcal conjugate vaccine and rotavirus vaccine

PCV and rotavirus vaccines were introduced into the routine immunization schedule in 2013. Following routinization, there have been no activities specific to the two vaccines. Nonetheless, the two have continued to benefit from general activities and investments such as the ongoing RED strategy and investment in cold chain.

### Finding 1

*Our previous analysis in Zambia suggested that both PCV and rotavirus vaccine introductions were launched nationwide and were becoming increasingly routinized nationwide. Based on HMIS data available to us (up to Q3, 2015) delivery of PCV and rotavirus vaccine had stabilized over time but delivery was below that of pentavalent vaccine, particularly for rotavirus vaccine.*

Lower routinization of PCV and rotavirus vaccines is attributable to an underestimation of vaccine stocks. This reflects a coverage target during the first year of implementation of 60%-70%. This coverage target has not been updated in subsequent years. This is exacerbated by inherent challenges in acquiring accurate population figures from the Central Statistical Office (CSO), upon which the vaccine suppliers (UNICEF) base their provision of vaccine stocks.

Nationwide rollout of PCV and rotavirus vaccine was achieved in July and November of 2013, respectively. At the end of 2014, the Gavi FCE Health Facility Survey (HFS) data suggested that the scale-up of these two new vaccines was approaching that of existing vaccines, i.e., pentavalent vaccine. In this year's report, we have updated this analysis using HMIS data up to Q3, 2015. These data indicate that delivery of PCV and rotavirus vaccine had stabilized over 2014 and the first half of 2015, but that delivery remained lower than existing vaccines in the system (Figure 2 and Figure 3), particularly for rotavirus vaccine. Data suggest some improvement in the last quarter of 2015 for both new vaccines.

**Figure 2: Ratio of PCV to pentavalent doses reported to be delivered from HMIS in Zambia**

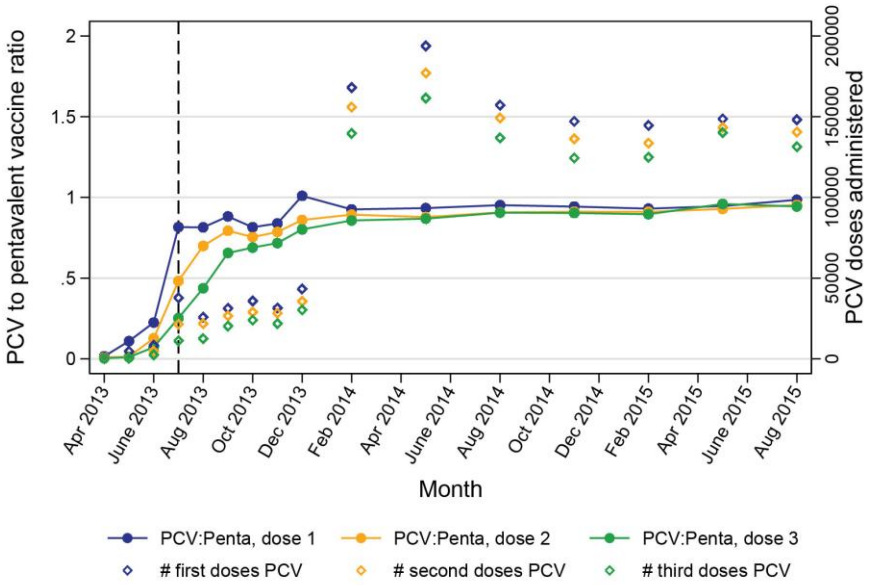
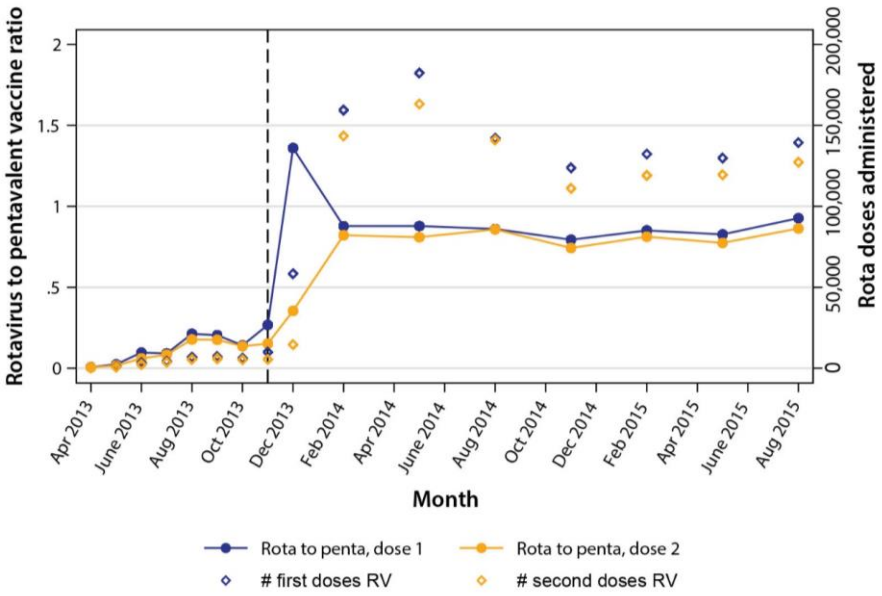


**Figure 3: Ratio of rotavirus vaccine to pentavalent doses reported to be delivered from HMIS in Zambia**




The combination of less-than-full routinization and less-than-full coverage of existing vaccines highlights the resulting inequalities in the coverage of PCV and rotavirus vaccine (i.e., the fraction of the target population receiving the corresponding doses of the vaccine). This is shown in Figure 4, which combines the small-area estimates of pentavalent coverage based on household surveys (including the recent Gavi FCE survey) with the ratio of PCV and rotavirus vaccine to pentavalent doses delivered from the HMIS. These findings highlight that although reasonably well routinized in the system, areas with particularly low coverage are notable due to existing system bottlenecks, as noted in the HSS section.

Low routinization is attributable to several factors. There have been reports of stock-outs in a few districts that the FCE team has conducted fact-checking interviews with. While interviews with the national logistician indicated that there have been no national-level stock-outs, it was confirmed that logistical challenges in getting vaccines from national to district level have caused stock-outs of PCV and rota in some districts. It was also pointed out that PCV and rota supplies by UNICEF are based on an anticipated 60% coverage in year 1 and about 80%-90% in year 2, which has not since been updated and could also contribute to stock-outs at the district level. Another factor contributing to this has been challenges with getting accurate target population figures – while government supplies of pentavalent vaccine are given according to requested demand, supplies of PCV and rotavirus vaccine from UNICEF are according to CSO official figures, which are often underestimated. The government has since communicated to UNICEF to request more PCV and rotavirus stocks to meet the shortfall. It is unclear why logistical challenges such as bottlenecks in the distribution system would affect new vaccines more than older vaccines. The FCE team has also not yet not established whether health staff are simply choosing not to give PCV along with Penta. The Child Health Unit has confirmed that there has been suboptimal routinization of PCV and rotavirus vaccine relative to pentavalent vaccine, and the government is keen to pursue these issues following the dissemination of the FCE report.

**Figure 4: Estimated coverage of PCV by dose and district in Zambia.** *Grey shaded areas indicate districts where data were not reported to HMIS*

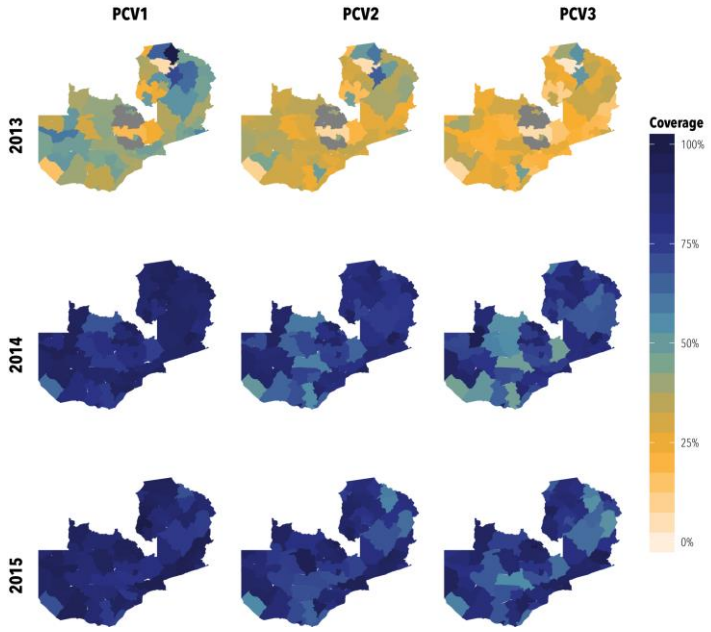
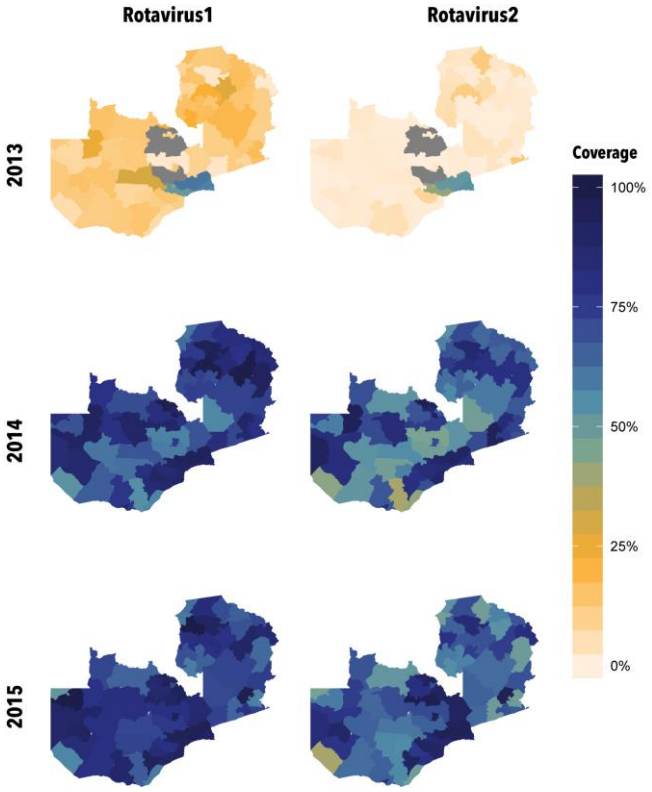



**Figure 5: Estimated coverage of rotavirus vaccine by dose and district in Zambia.** *Grey shaded areas indicate districts where data were not reported to HMIS.*



*Recommendations*

1. Improvements in the timeliness and quality of HMIS data are required to better monitor routinization of new and existing vaccines in Zambia.
2. Closer monitoring of vaccine supply between health facilities and the district level as well between the national, province, and district levels is required to avoid stock-outs.

*Robustness of finding*

| Finding | Ranking | Robustness criteria |
|---|---|---|
| Our previous analysis of facility data in Zambia suggested that both PCV and rotavirus vaccine introductions were launched nationwide and were becoming increasingly routinized. Based on HMIS data available to us (up to Q3, 2015), delivery of PCV and rotavirus vaccine had stabilized over time but delivery was below that of pentavalent vaccine. At this time, the root causes for the lower routinization are not yet understood and are currently being explored. | **C** | Finding is based on HMIS data that are incomplete and do not cover the recent time period. |

## Inactivated poliovirus vaccine

Following Zambia's endorsement of the World Health Organization (WHO)'s new *Polio Eradication and End Game Strategic Plan 2013-2018* at the 65th World Health Assembly (WHA), the government of Zambia decided to introduce IPV into its National Immunization Program. The application to Gavi was approved in February 2015. The bulk of the IPV budget will be covered by the government and Gavi's Vaccine Introduction Grant (VIG), and the government budget was approved on May 7, 2015. The remaining budget was requested from local EPI partners at the ICC meeting on May 22, 2015. The funds were expected to be released from Ministry of Finance (MoF) to the MoH by August 2015. Zambia planned to introduce IPV by the fourth quarter of 2015, but due to a global vaccine supply shortage, the delivery of vaccine is expected to occur sometime in 2016, or when the supply issues have been resolved.

A Multiple Injection Study (MIS) was commissioned by EPI stakeholders to inform the IPV implementation plan. It was conducted by Department of Public Health at the University of Zambia (UNZA), with support from UNICEF. A dissemination meeting was held on August 6, 2015, at the Ministry of Community Development, Mother and Child Health (MCDMCH) with the Child Health Technical Committee. The study revealed that although caregivers and health workers generally welcomed the introduction of IPV, they expressed a number of concerns, including pain and swelling around the injection site, additional workload and already strapped human resources, and a general fear of new vaccines among caregivers. The study recommended that communication and social mobilization strategies aimed at both groups should be strengthened to address these concerns; however, it remains unclear how the recommendations will be used to inform the introduction of IPV. Additionally, the FCE

team noted a few limitations on the study (e.g., sampling bias, leading questions), which may affect the overall conclusions and generalization of the findings.

### Finding 1

*The introduction of IPV in Zambia has mainly been driven by a global agenda, with less participation by country stakeholders leading to delayed funding and subsequently implementation of preparatory activities for the launch. Coupled with global supply issues this has resulted in a postponement of the launch until 2016.*

The push for global eradication of polio was initiated at the WHA with the Strategic Advisory Group of Experts on immunization (SAGE) recommending that all countries introduce at least one dose of IPV into national routine immunization schedules before the end of 2015. Gavi supported this initiative by waiving the co-financing requirements for IPV in order to encourage countries to apply. Many in-country stakeholders perceived the global push for IPV introduction to be more influential than domestic priorities in driving the decision to adopt IPV. One key informant (KI) emphasized that because of this, "*we had to introduce IPV whether we liked it or not."* Indeed, Zambia waited until the last available window to apply for IPV support, having prioritized other EPI issues.

> *The country ownership has come on board later on. I would say that we did not have the same level of country ownership as with other vaccines. For instance, we didn't have any epidemiological and public health evidence information to support the introduction decision at this particular point in time.* (KII)

> *Even at a technical level, there is insufficient support for IPV within the country. I would say that the global push was more significant than local commitment.* (KII)

This lack of prioritization was also evident in the implementation phase. Ideally, an IPV introduction budget line should have been included in the national budget prior to the application for Gavi support. However, despite Zambia's commitment to global eradication, and the submission of an Expression of Interest (EOI) for IPV in May 2014, the MoH (the vaccine budget line holder) had not allocated sufficient funds in the vaccine budget line to cover the anticipated introduction of IPV in the national budget. As such, the MCDMCH had to justify to the MoF through the MoH that IPV was a priority to the EPI in order for them to agree to allocate funds for IPV introduction.

> *MoH feels the IPV activity is not important. CHU made justification in the second quarter of this year to MoH and MoF regarding IPV funds. MoH was asked to provide this money in the third quarter but this has not happened yet so all activities that require funds have not been done.* (KII)

Even after the MCDMCH provided justification for IPV spending, there have been delays by the MoF in releasing the IPV introduction funds, further affecting implementation of vaccine introduction preparatory activities such as updating various information tools.

The implementation of IPV introduction activities that do not require funds from MoF also has been delayed. It was indicated in the ICC meeting of May 11, 2015, that implementation was several months behind schedule in part due to competing priorities.

*Implementation could not start till now due to two main factors…competing priorities timewise on the part of MCDMCH … [and] lack of resources to begin implementation*. (KII)

The global push for IPV introduction also reduced the involvement of local stakeholders in the decision, which then affected local stakeholder buy-in. As such, the IPV application and implementation planning phases have had fewer stakeholders involved. This was exacerbated by competing EPI priorities for all parties and untimely and inconsistent stakeholder engagement by the MCDMCH on IPV.

*"IPV has been a challenge in getting partners involved ... IPV has the least participation from partners thus far, maybe things will improve as we go along."* (KII)

KIs reported that the MCDMCH made late requests for partners to support the minimal shortfall in IPV introduction budget. Partners were requested to provide funds to support the IPV introduction late during the May 2015 ICC meeting. However, by the July 2015 ICC meeting, no follow-up requests had been made. This process was particularly challenging as requests were not aligned with the budget cycles of key partners. This made it difficult for most partners, with the exception of the government, WHO, and UNICEF (who have more flexible funds), to support specific IPV introduction budget lines.

*"Our experience with soliciting funds from local partners was hectic, frustrating, and tedious. Besides, most partners did not appear to have the commitment to fund IPV. So, we thought it was safer to use Gavi and government. We did not want a repeat of that experience … we were reluctant not to have government take on much of the cost."* (KII)

"*At times, it's very difficult from the partner's perspective to come in and support activities especially if things were not in your organization's plan…Partners are very strict in the way they operate.… So it ends up that government pushes UNICEF and WHO, who are a bit more flexible, and other organizations that have that kind of flexibility. Government should start lobbying partners earlier in their planning cycle."* (KII)

Consequently, the government has requested as little funding as possible from stakeholders; as a result, stakeholders would only be more involved on an EPI that they are providing resources for. This has overstretched the few stakeholders who have been involved, making the implementation process less efficient and engaged considering a smaller pool of stakeholders involved.

These delays, coupled with the global shortage of the IPV vaccine, has led to the postponement of IPV introduction to 2016.

### *Recommendations*

1. When globally driven initiatives, such as polio eradication, are not aligned with the most pressing country priorities, support from local partners and government is more difficult to attract. In such situations, Gavi and global Alliance partners should therefore play a more active role in facilitating the provision of support required to introduce a new vaccine such as IPV.

2. Even in cases of globally driven initiatives, government should ensure that the decision-making and application processes are participatory so that stakeholders are brought on board early in the process. This will help to promote efficient planning and implementation of vaccine introductions.

*Robustness of finding*

| Finding 1 | Ranking | Robustness criteria |
|---|---|---|
| The introduction of IPV in Zambia has mainly been driven by a global agenda with less participation by country stakeholders, leading to delayed funding and subsequent implementation of preparatory activities for the launch. Coupled with global supply issues, this has resulted in a postponement of the launch until 2016. | A | The finding is based mainly on many KIIs, as well as some document review and meeting observations. |

## Human papillomavirus vaccine

Zambia is reported to have one of the highest prevalences of cervical cancer in the world, with a mortality rate of 39 deaths per 100,000 women. HPV is vaccine-preventable and the leading cause of cervical cancer.[3] Given the high prevalence and mortality rate caused by a vaccine-preventable illness, Zambia submitted an EOI to Gavi in May 2014 to introduce HPV vaccine nationally. Prior to this, Zambia launched a HPV vaccine demonstration project in 2013. The demonstration was not a Gavi-supported project but was funded by a number of other organizations. In particular, Axios International donated the required vaccines, with additional funding coming from other organizations, such as the Pink Ribbon Red Ribbon (PRRR), CIDRZ, PATH, and the American Cancer Society. The HPV vaccine demonstration project was implemented to generate lessons for the national rollout, as well as to meet introduction requirements for Gavi support for national introduction.[4]

The demonstration project was conducted in three of four districts in Lusaka province: Lusaka, Kafue, and Chongwe districts. The school-based campaign was the main mode of delivery used, targeting school girls in grade 4 (i.e., an age range of 9 to 13 years). The first phase started in May 2013, with the first, second, and third vaccine doses administered in May, August, and November 2013, respectively. In the second phase (2014), vaccine doses were administered around March, May, and September 2014 for the first, second, and third doses, respectively. In addition, a facility-based mode was implemented, concurrently with the school-based mode, to reach eligible girls (aged 10) who were not in school.

At the end of the demonstration, a post-introduction evaluation (PIE) and a cost analysis desk review were conducted by the end of 2014. However, in 2015, the MoH was still raising funds to conduct a HPV coverage survey. Various stakeholders, including the FCE team, were approached to help with the HPV coverage survey.

In addition, over 50,000 vaccines were left over from the demonstration, due to low coverage rates and buffer stocks. These vaccines needed to be used before they expired in February 2016. The initial plan was to administer the vaccines in demonstration districts during the 2015 biannual Child Health Week within Lusaka district. However, this did not happen in the June Child Health Week and lack of funds was cited, among other reasons. The issue was then tabled at an ICC meeting in July 2015 for the way forward. It was decided that funds should be mobilized so that the vaccines are administered.

[3] HPV vaccine introduction technical report
[4] HPV demonstration application

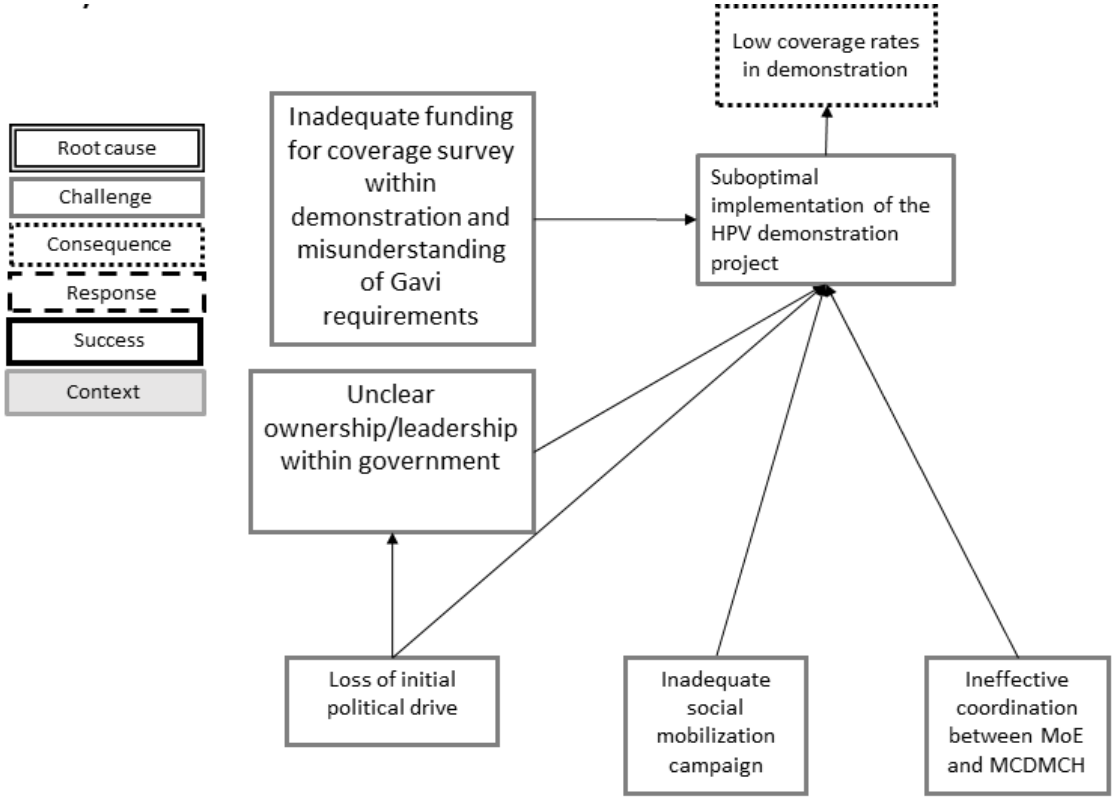
Ultimately, funds were mobilized and immunization activities were commenced on October 19, targeting 20,000 girls only in Lusaka district. The government has also offered to fund the HPV coverage survey.

### Finding 1

*Suboptimal implementation due to leadership and coordination challenges, as well as problems with social mobilization for the HPV demonstration project, resulted in lower-than-expected coverage rates in both rounds.*

Target coverage for the HPV vaccine demonstration was 70%. Based on administrative data (EPI TWG meeting, March 3, 2015), coverage for the first year was 59% and the coverage for the second year was 58%, which falls short of expectations. (ICC meeting, July 17, 2015). The root cause analysis (RCA) diagram (Figure 6) shows a number of root causes have driven the suboptimal implementation of the HPV vaccine demonstration project.

**Figure 6: Root cause analysis diagram for suboptimal HPV implementation**




At its inception in 2013, the HPV demonstration benefited from significant political will, largely attributable to massive support from the former first lady. She was a major champion of the HPV vaccine and garnered the support of many stakeholders for the demonstration project. However, her

departure from office has contributed to declining momentum and lack of a clear direction toward the national introduction of HPV. Some stakeholders indicated that the continued involvement of such a prominent champion would have likely led to the national rollout, or at the very least, more progress would have been made toward achieving it.

> *If she [the former first lady] had been there the country would have applied [for HPV introduction] by now. She knew the health system and how to get things done*. (KII)

In addition to declining political will, challenges were evident around the ownership and coordination of the HPV demonstration project. Unlike other EPI vaccines, which prevent major causes of childhood morbidity and mortality, the HPV vaccine prevents cervical cancer, which is largely experienced by adult women. Consequently, while the costs of prevention through immunization are borne by the EPI, the benefits – or savings – are experienced by other directorates in the MoH, in this case the national cancer program. Numerous stakeholders raised questions about whether CHU was the appropriate owner of the HPV vaccine program, noting that perhaps the sexually transmitted infection (STI) program would be a more appropriate home. Nonetheless, GRZ guidelines put all immunization activities under the charge of the Child Health and Nutrition Unit.

A number of coordination challenges were also experienced during the demonstration project, particularly between the MCDMCH and Ministry of Education (MoE). The implementation of the HPV demonstration using the school-based mode required working with the education authorities as well as synchronizing with school calendars. In this arrangement, the education authorities in each catchment area were expected to provide estimates of the eligible populations as well as coordinate the actual implementation. However, the number of eligible girls provided by the education authorities were underestimates of the true eligible populations. Furthermore, the District Education Board Secretary's offices (DEBS) were not actively involved in the initial planning process of the HPV demonstration (HPV Dose Reports for 2013 and 2014), resulting in weakened coordination between MCDMCH and MoE at district level. In some cases, the DEBS office delayed communication to schools about the HPV demonstration. As such, a number of schools could not participate, citing the absence of authorization (first dose first phase and second dose first phase report, first dose second phase and second dose second phase report). This resulted in a lost opportunity as the eligible girls from these schools could not be reached. The lack of coordination between health and education authorities resulted in a lot of schools and eligible children being left out of the demonstration project, which also likely contributed to the lower coverage rates.

Furthermore, there were a number of key challenges with social mobilization. HPV targets an age group older than the traditional vaccination age, and thus they were difficult to reach using the facility mode of vaccine delivery. In Zambia, children often complete the immunization schedule at one year six months with boosters up to five years. Thus, generating demand for a vaccine among an older age group proved to be an uphill battle. This was exacerbated by cultural and religious misconceptions associated with the HPV vaccine, which were not sufficiently addressed in the social mobilization campaign. As a result, some parents declined to give consent for their children to be vaccinated.

One of the main objectives of the HPV demonstration was to meet Gavi requirements to apply for support of national HPV introduction. These requirements were understood by in-country stakeholders to include the demonstration project followed by three evaluations: (1) a PIE, (2) a costing study, and (3) an HPV coverage survey. However, while the coverage survey is a required deliverable for Gavi-funded

demonstration projects, it is not a requirement for national introduction. For national introduction, countries need to demonstrate that they can achieve 50% coverage with a demonstration project, but it does not require the completion of a coverage survey. The lack of consistency between requirements for a Gavi-funded demonstration project (which did not apply to Zambia) and Gavi's requirements for national introduction is difficult to understand, and there was poor clarity at the country level around this issue. As a result, the ministry understood a coverage survey to be a requirement to apply for national introduction and sought to identify funds. There were challenges in mobilizing funds for the coverage survey as late as mid-2015, a year after the demonstration had concluded. This activity was not budgeted for at the beginning of the demonstration. Additionally, other areas of the demonstration, such as social mobilization and nursing staff allowances, were adversely affected by inadequate funding as not all the demonstration budget was available when implementation began. Thus government had to ask for partner support for various activities as implementation of activities was already happening, causing delays and poor execution of activities. This could also be a sign of inadequate planning, indicating that that the demonstration was launched before ensuring a comprehensive plan on how to complete it, including financing commitments from the various partners involved. However, the planning for demonstration HPV was complicated by the several actors who were involved.

*Recommendation*

1. Gavi should clearly indicate differences in requirements for HPV vaccine demonstration projects and HPV vaccine national introduction for countries, particularly those undertaking demonstration projects supported by other funders.

## Finding 2

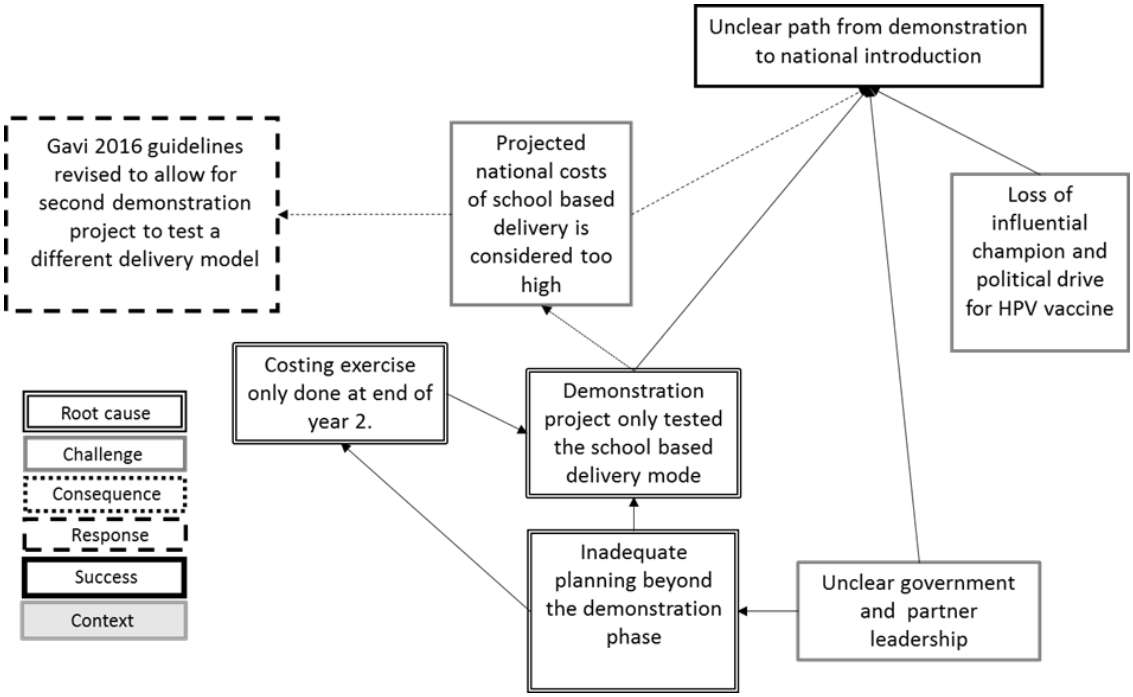
*Testing only a single, school-based model, which was found to be financially unsustainable for national introduction following the demonstration project, has resulted in an unclear path toward national introduction of the HPV vaccine in Zambia. How the demonstration project informed national introduction needs was further limited by the costing analysis becoming available only at the end of the second year of the demonstration project.*

The key conclusion from the demonstration project is that the school-based delivery model tested was considered relatively more expensive for national rollout compared to recently introduced vaccines employing the facility-based delivery mode. The national scale-up was projected to cost (financially) between US $9.98 and US $10.40 per fully immunized girl depending on the whether the national rollout follows a phased approach or not. The school-based model was also perceived to have caused disruptions to both health and education systems, as it required health workers to leave health facilities and work with schools for up to two weeks at a time. Although this was feasible with risk mitigation measures put in place during the demonstration to ensure that facility services continued in the absence of staff conducting HPV vaccination, the same may not be practical for national introduction. As the demonstration project only tested a single delivery model over two years, this has resulted in uncertainty about the optimal pathway toward a national rollout of the HPV vaccine.

This lack of clarity about next steps is compounded by two issues. First, there is presently limited guidance by technical partners and Gavi about the next steps. For instance, it is not clear as to whether the country should apply for more support to conduct another demonstration project. The new 2016

guidelines indicate a possibility for countries to apply for support for a second demonstration project to test alternative delivery models. Second, the HPV demonstration received a lot of partner support during its two years. However, this support has waned since the demonstration. As highlighted previously, political will for the HPV vaccine has declined, which combined with lack of clarity of leadership has affected the push to move the HPV agenda. Additionally, an important causal factor was the limited ability to refine the delivery model or to test an alternative delivery during the demonstration project. Gavi-supported demonstration projects require a series of evaluation products, including a costing analysis to be completed after year one. These evaluation products allow programs to modify the delivery model or change to an alternative (e.g., facility-based only) if the year-one delivery model is deemed too costly. Since Zambia's HPV vaccine demonstration project was not Gavi-supported, the costing analysis was only completed at the end of the second year of the demonstration project. This meant that the tested delivery model could not be refined or other delivery models could not tested during the second year of the demonstration project.

**Figure 7: Root cause analysis for unclear path from demonstration project to national introduction**




*Recommendations*

1. Demonstration projects should be designed to test different implementation models, thus allowing for a comparison of the relative merits of different models.

2. An important feature of demonstration projects, regardless of the source of support, is to learn and refine implementation over its duration. Ensuring that implementation is comprehensively reviewed in terms of financial sustainability, acceptability, and feasibility at

the end of year one will allow adjustments to be made in year two to maximize the potential of demonstration projects to inform national scale-up.

3. Government and stakeholders need to focus on three main issues for readiness for HPV introduction: commitment of funding from government and partners for the chosen delivery model before commencement of activities; clear leadership and coordination roles; and clarity on which model will be used.

*Robustness of findings*

| Finding | Ranking | Robustness criteria |
|---|---|---|
| **Finding 1.** Suboptimal implementation due to leadership and coordination challenges, as well as problems with social mobilization for the HPV demonstration project, resulted in lower-than-expected coverage rates. | B | The finding is mainly based on KIIs, document review and fact-checking interviews. However, the FCE team started following HPV activities after the demonstration project. |
| **Finding 2.** Testing only a single, school-based model, which was found to be financially unsustainable for national introduction following the demonstration project, has resulted in an unclear path toward national introduction of the HPV vaccine in Zambia. How the demonstration project informed national introduction needs was further limited by the costing analysis becoming available only at the end of the second year of the demonstration project. | B | The finding is mainly based on KIIs, document review and fact-checking interviews. However, the FCE team started following HPV activities after the demonstration project. |

## Health System Strengthening

In the 2014 FCE report we summarized preparations for the submission of a proposal for HSS by Zambia. The HSS application proposal was endorsed by the ICC at a meeting held on January 15, 2015, prior to its submission to Gavi on January 21, 2015. WHO conducted a pre-review of the proposal and sent comments to the MCDMCH. The key recommendations from the pre-review were: 1.The result chain framework and therefore the M&E need to be revised to better define intermediate indicators to reflect the activities proposed; 2. The gap analysis needs to include the current contributions from Government (to transport and recurring costs through monthly grants) and donor partners. Specific transport resource allocation needs to be provided; 3. The budget should be revised to assign 5-10% to the M&E activities; 4. A detailed costing of the activities must be added – assumptions/unit costs and justifications to be provided; 5. Sustainability needs to be elaborated further, e.g., financial sustainability; and 6. Draft of new NHSP is to be presented to Gavi and/or describe the process and how the country will ensure that the new NHSP will be aligned with the proposal.

Thereafter, with support from WHO, the MCDMCH held a weeklong meeting with stakeholders, beginning on February 23, 2015, to respond to these comments. The revised application was submitted in March 2015. The application was subsequently recommended for resubmission by Gavi Independent Review Committee (IRC). The reasons for this recommendation were the following: (1) unclear alignment with the existing national health plans; (2) a weak M&E framework; (3) an inadequately described performance-based financing (PBF) plan; (4) unclear target district selection criteria; and (5) lack of clarity on division between national- and district-level expenditures.

The HSS proposal was revised during a weeklong meeting attended by various stakeholder held in Kabwe from July 13 to 17, 2015. Stakeholders in attendance were similar to those that worked in the initial submission with a notable addition of an HSS focal point person within DPI (see network graphs in

The reliance on the consultant for both submissions, and the lack of integration of the consultant with EPI stakeholders are evidence of limited country capacity, competing priorities among stakeholders, and complicated nature of the HSS application.

**Figure 9**). The appointment of an HSS focal point person has led to an improvement in the coordination of the proposal development process. The same consultant who worked on the initial HSS proposal was rehired prior to the revision workshop. All the comments raised by the IRC were addressed with the major changes being 1) the number of districts increased from five to seven districts, including two that were in the initial proposal; and 2) the support window was reduced from five years to three years and as a result the budget was reduced from US $14.7 million to US $9.1 million. The HSS resubmission proposal was discussed at the ICC meeting on September 2, 2015, and endorsed for submission to Gavi. It was submitted on September 8, 2015.

Zambia received comments from the WHO pre-review on September 18, 2015. The key points noted in the pre-review were that there was a need to update the budget time frame, work plan, and procurement plan to be in line with the new June 2016 start date; details of other complementary district support needed to be provided; PBF activities were still unclear and needed more detail; gap

analysis needed to be completed for each objective; the total budget needed to be consistent throughout the document; high salary costs for four individuals needed justification and sustainability plan; an updated procurement plan for the first 18 months was required; grant management and implementation budget was not clear; and a few suggestions on layout of the proposal were also made. A weeklong meeting was held in Ndola to address these comments and the revised proposal was resubmitted on October 12, 2015. The country currently awaits IRC feedback.

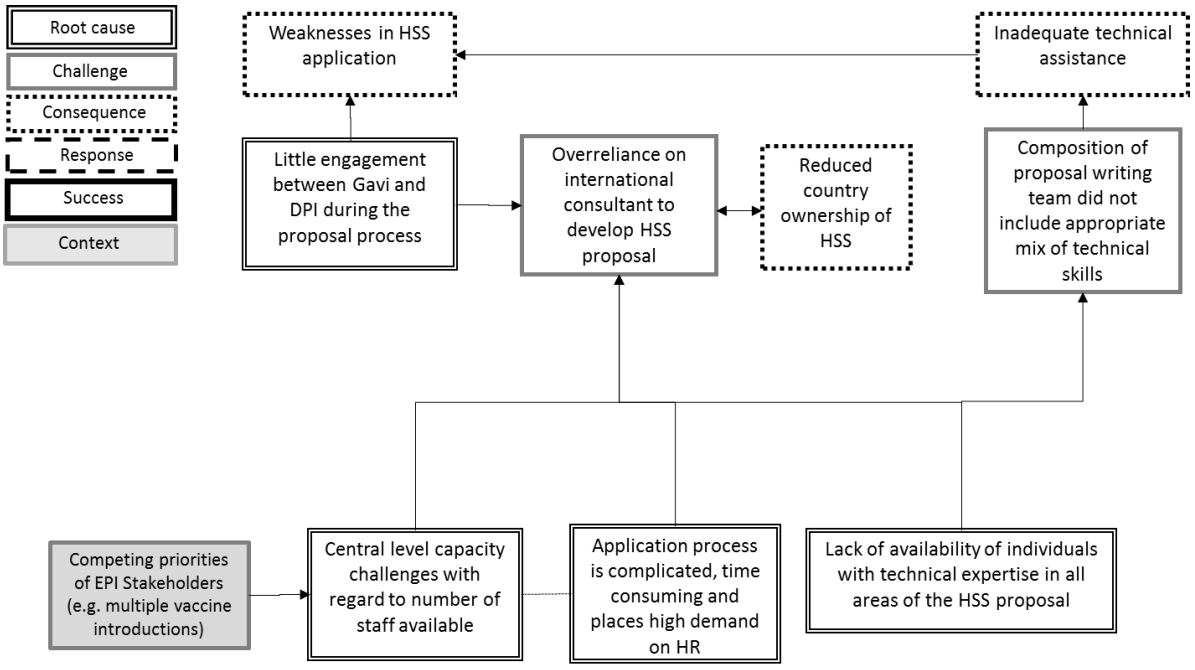
It is worth emphasizing that the HSS application was designed, then revised in the face of significant transition for the EPI, most notably with frequent turnover of the EPI manager. That said, a number of weaknesses have been noted across versions of the proposal, namely weaknesses in the M&E section, a lack of clarity and detail on the PBF component, an incomplete gap analysis and ongoing weaknesses with costing, budgeting, and sustainability. Since the first submission, some of these aspects have been improved upon, such as the addition of intermediate results indicators in the M&E framework and additional activities described in the PBF plan. As stated previously, however, the PBF plan was not detailed enough and intermediate indicators for one objective still needed some improvement.

### Finding 1

*The HSS application process was complicated, time-consuming, and strained existing capacity. There was overreliance on technical assistance provided mainly by short-term, external consultants during the writing process, which in turn limited country stakeholder participation and affected the quality of the proposal.*

The application process for HSS spanned from April 2014 when a decision was made to submit a new application to October 2015 when the revised HSS proposal was resubmitted to Gavi. The process involved many stakeholders and required significant technical expertise, particularly M&E and PBF (Figure 8).

**Figure 8: Root cause analysis for weaknesses in HSS application**



The time invested in the HSS application by government and stakeholders involved was found to have been substantial given their other competing priorities and also substantially more compared to other funding opportunities within and outside Gavi. For example, the HSS application requires a broader group of stakeholders and skills compared to NVI applications. The involvement of the CSO and planning department is in particular emphasised in the HSS application. Further, the value of the Gavi HSS grant compared to other HSS or NVI funding opportunities is considered to be relatively small. For instance, the Gavi HSS grant that Zambia has applied for is US $9 million over three years, whereas the USAID-funded Zambia Integrated Systems Strengthening Program (ZISSP) grant was for US $97 million over 4.5 years. Additionally, the Gavi contribution for PCV introduction was US $26 million over four years. Further, the high technical understanding required for HSS contributed to an overreliance on TA, reflecting the complex nature of the application. Despite various workshops having been held in the submission and resubmission stages of the application, government did not feel that they could manage such a process without TA. In-country providers of TA, or expanded partners, may also need more comprehensive orientation on the Gavi guidelines. Some stakeholders also pointed out that programmatic goals and ambitions of the HSS proposal must be matched with available technical capacity and resources.

> *The form and guidelines are okay. In the case of the HSS at the time of the application we were not aware of the recent changes to the guidelines…. Gavi should simplify the form so as to simplify the process. The current form is tedious. They also change the guidelines. This is confusing. Some time you are told, 'you have a wrong form or guidelines have changed.' Let Gavi simplify this and make life easier. Some countries are desperate for these funds.* (KII)

Because of the complex and time-consuming nature of this process, the government decided to solicit TA through WHO to support the country team. Thus, the WHO country office facilitated the hiring of an international consultant to lead the proposal development. The Terms of Reference (TOR) mandated that the consultant had overall responsibility for the development and coordination of the HSS proposal, with input from country stakeholders. Thus, a large responsibility was placed on the consultant to finalize and deliver a proposal without an explicit emphasis on building in-country capacity.

> *We opted for a consultant to handle the Gavi HSS process. We saw the process that we went through and it was nerve-wrecking, and besides, we have a lot of programs we were running so we wanted a dedicated person to handle the process.* (KII)

However, as reported in the 2014 report, due to insufficient planning the consultant was hired late in the process. Although some background work was done by CHU, DPI, and CHAZ in the initial submission, many stakeholders pointed to late hiring of the consultant as the primary reason for delays in proposal development, showing that the process was heavily dependent on the TA provided by the consultant.

> *Without a consultant very little moved and thus WHO tried to expedite the process. But coming in at the last minute with the consultant meant that some things were done in a hurry. Time to consult widely may not have been there. The consultant did what he could have done in the time available.* (KII)

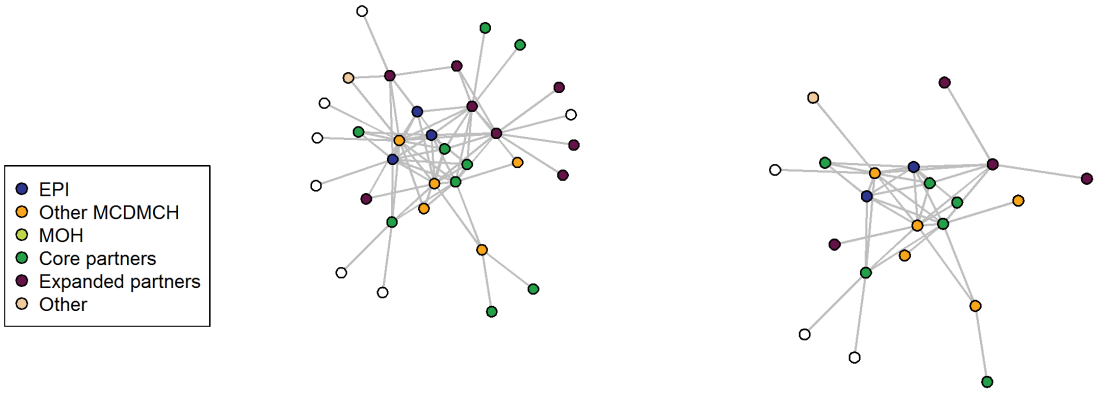
*Initially, it was difficult to recruit a consultant which caused delay in submission of application, but finally he came.* (KII)

Stakeholders also reported a lack of widespread interaction with the consultant in developing the HSS proposal, despite the consultant's role in leading both submissions. Our analysis of the network of individuals involved in the HSS proposal indicate that the consultant had limited interaction with local stakeholders in either submission, based on the number of respondents who listed working with the consultant (n=2).[5] This was especially pronounced in the resubmission phase. The limited interaction between the consultant and EPI stakeholders during the proposal development process represents a lost opportunity for learning and capacity building of country stakeholders by the consultant. In addition, none of those interviewed described having provided TA to, or received TA from, the consultant.

*Can't say much on the adequacy of the TA provided by WHO because it was a smaller group that was interacting with consultant.* (KII)

The reliance on the consultant for both submissions, and the lack of integration of the consultant with EPI stakeholders are evidence of limited country capacity, competing priorities among stakeholders, and complicated nature of the HSS application.

**Figure 9: Network graphs of actors working together on HSS submission (left) and resubmission (right)**




In addition to the consultant, other stakeholders are supposed to play a key role in the provision of TA to the country, particularly WHO country office and the Gavi Secretariat through the Senior Country Manager (SCM). WHO provided guidance in the HSS writing process, supported stakeholder consultative meetings at various stages of the proposal development, and provided feedback on the proposal.

*WHO provided TA. Specifically they provided the consultant and also they have been the link between Gavi and us, also they help us with guidelines. They have also been supporting the meetings we have been having. The support is good, without their support, I don't think we would have come this far.* (KII)

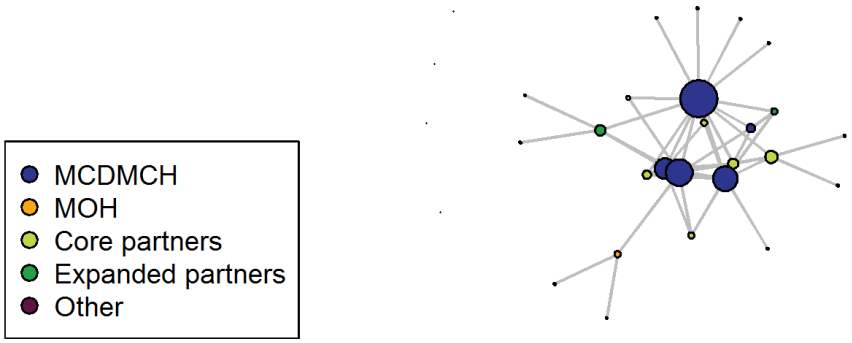
[5] Eleven HSS actors were surveyed out of 33 actors identified via snowball sampling during the survey procedure.

The TA provided by WHO and UNICEF country offices, however, was at times perceived by some stakeholders to have been inadequate in terms of building sufficient capacity in future proposal writing processes.

> *I don't think there was much capacity development from the TA that was provided. We were not well equipped to be able to handle a similar process alone in future … which should be the case if capacity was built.* (KII)

This is consistent with the network data showing the high connectedness and density of connections of MCDMCH actors in the TA network (Figure 10).

**Figure 10:** HSS TA network, nodes sized by number of ties (i.e., degree centrality)




Furthermore, KIs reported the Gavi SCM was not available during either HSS application phase. Given that there were questions around the interpretation of the application guidelines and some of the application components, clarification from the Gavi SCM would have proved useful. Some stakeholders even expressed a lack of awareness of the Gavi SCM office and role as well as its involvement in the process. It was indicated by some that they would have liked to have seen more involvement of the SCM and availability to clarify certain issues.

> *The only support that is or maybe needed is that Gavi should give us TA, someone from Gavi should be directing us on what Gavi really wants. Gavi needs to be present in these writing workshops, so that we can avoid a situation where the Proposal is being sent back and forth. This will save on time and money.* (KII)

In summary, the overreliance on the consultant to develop the proposal and the inadequate country stakeholder participation have contributed to the weaknesses in the proposal. Furthermore, low country stakeholder participation in the proposal development phase may have further implications in the implementation of the grant.

### Finding 2

*The composition of the proposal development team did not include sufficient technical skills, contributing to weaknesses in some of the technical aspects of the proposal such as the M&E and PBF framework.*

Given the weaknesses in the M&E framework observed by the IRC, the FCE team noted that the M&E capacity in the core team working on the proposal was inadequate in both phases of proposal submission. Although there was no representation from MoH in the initial application, the FCE team MCDMCH requested for support from MoH-Directorate of Policy and Planning However, inviting the MoH to attend HSS proposal writing meetings did not equate to specifically requesting assistance with M&E and budgeting. The staff from MoH who attended the revision workshop was not from the MoH M&E unit. The M&E capacity thus remained the same during resubmission despite the emphasis placed on the M&E framework by the IRC recommendations.

> *The consideration to have them [MoH] on board was only made in the last minute. I wouldn't say they were requested to participate in the initial round.* (KII)

*In this resubmission, the M&E was addressed quite well ... although MOH sent someone but this person is not an M&E expert. So we are depending on the same group as last time to work on this section.* (KII)

*The big gap was in formulating the M&E framework which WHO did not give, but MoH is more familiar with this. I think the consultant was also learning some of the M&E aspects.* (KII)

The network survey identified a sole MoH actor, who was directly connected through ties to core partners, but not to MCDMCH actors (Figure 10). Even without the qualitative data it would be reasonably clear that this person was not central in preparing the application.

Although strengthened with more detailed indicators added to the intermediate results, a review of the resubmission by the FCE team shows that the M&E framework seems to be focused more on process indicators rather than outcome indicators. Further, the description of the M&E within the proposal has no clear justification with the dedicated amount on M&E within the HSS budget. Another weakness identified by the FCE team was that the HSS proposal focuses more on training and not comprehensive improvement to the entire M&E system such as Information and Communications Technology (ICT) infrastructure and systems. There are three studies planned to be completed within the three-year grant: a baseline, mid-term, and end-line survey, and this brings doubts as to the feasibility of this, but also what impact can be expected to be shown within such short time frames. These are areas which are still potential weak points in the resubmitted proposal, possibly stemming from the lack of additional capacity in M&E during the process.

The pre-review of the resubmission also noted that the PBF was still vague and needed more clarity on how it would be implemented with regard to specific activities. Clearly, the PBF is still a new phenomenon in the health sector in Zambia. Designing a PBF component for the HSS required significant expertise and experience, which was not adequately available among the core proposal writing team. The FCE observed that there was limited support to the proposal writing process from the World Bank PBF project. There is little evidence that the proposal benefited from significant contributions from the team working on the World Bank PBF project. This is further evidence that technical capacities outside the core group working on the proposal were underutilized, therefore leading to a still weak PBF component as pointed out by the pre-review.

*The [PBF], I felt should have been there in the HSS application at the very beginning (inception). We left it till the last minute and hence I think we did not do a good job of it. Also most of us were not clear on how it works although some orientation was done around it.* (KII)

### *Recommendations*

1. Gavi should consider ways to simplify the HSS application process considering strained country capacity. Simplification should include (but is not limited to) a shorter proposal (comprised of fewer component parts) and greater clarity on the levels of detail required in each section. Gavi's efforts to provide guidance on the types of interventions most likely to contribute to increased coverage and equity are a useful step toward simplifying the overall design process but do not address the broader complexities of the application process.

2. The country and partners should identify TA needs and engage appropriate TA providers in a timely manner.

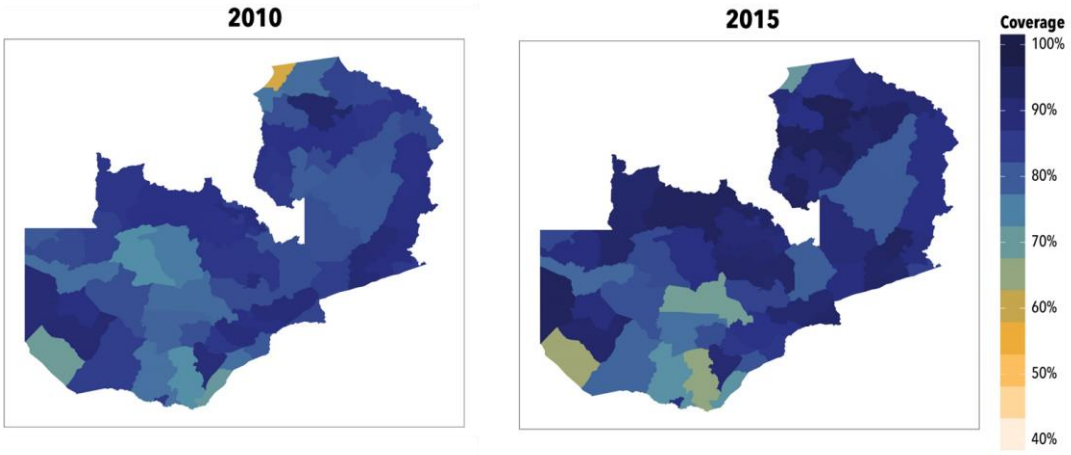
3. Gavi SCM should play a greater role in guiding the HSS proposal development process and supporting in-country TA providers.

## Finding 3

*Although Gavi HSS has not been active in Zambia, significant increases in coverage in some vaccines have been observed in most districts in the country over the last five years. Understanding the drivers of these improvements will help to guide future immunization system strengthening investments. Furthermore, despite improvements, notable geographic inequality persists and low coverage districts should be targets of system strengthening investments.*

Despite the absence of a Gavi HSS grant over the past few years following the suspension of cash support, data suggest that Zambia has made notable improvements in vaccine coverage over the last five years. In Zambia, we have incorporated into our latest round of subnational estimates produced by the FCE data from a Gavi FCE survey conducted in 2015 and the recently released data from 2013–2014 Demographic and Health Survey. These latest set of estimates show significant improvements in vaccine coverage, particularly in provinces such as North-western and Luapula, between 2010 and 2015. This followed a period of declines in vaccine coverage in many areas that began in the mid-to-late 1990s.

**Figure 11**: Pentavalent 3-dose coverage in Zambia, 2010 and 2015




These findings have important implications for Zambia's system strengthening investments to improve vaccine coverage, for example, through the Gavi HSS. Understanding the drivers of improvements or declines in coverage will help to better target these investments. While we have not undertaken a comprehensive review of drivers of these improvements, we point out a number of policy developments that could help explain the progress. First, significant investments have been made in the cold chain to support the delivery of immunization with support from partners such as the Japan International Cooperation Agency (JICA), CIDRZ, Canadian International Development Agency (CIDA), and WHO. Specifically, the provincial cold-chain capacity was expanded in 2013. Expansions were also extended to provincial and district cold chain in 2013 to 2014. A national-level logistician was hired to support

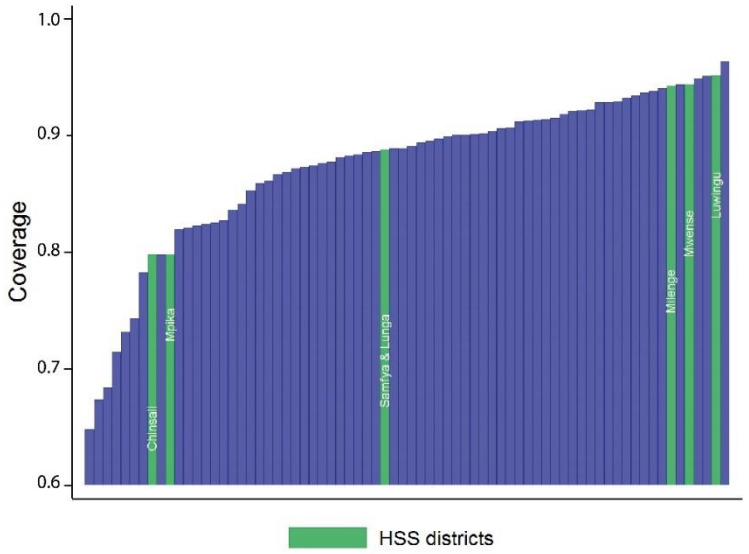
logistics management in mid-2013 and another logistician was hired in early 2014. These investments have strengthened the supply side of immunization.

Second, with support from the World Bank, Zambia implemented a pilot PBF project at the district level between 2011 and 2014. The program incentivized EPI outputs among other things and aimed to improved immunization coverage. The intervention comprised additional funding to health facilities and equipment and cash incentive to staff in Gwembe, Kafue, Lufwanyama, Lundazi, Mporokoso, Mufumbwe, Mumbwa, Mwense, Senanga and Siavonga districts. In addition, a partial intervention (excluding the cash incentive) was implemented in Chilubi, Itezhi-tezhi, Kalabo, Kapiri Mposhi, Kawambwa, Masaiti, Mwinilunga, Nakonde, Namwala, and Nyimba districts. EPIs in these districts benefitted from increased resource flows and demand mobilization.

Third, heightened policy focus to EPI is likely to have resulted through a ministerial realignment with the maternal and child health programs having been moved from the MoH to the now MCDMCH in 2012. EPI has recently been shifted back to the MOH, and the FCE will continue to track through 2016 whether this has an effect on the prioritization of EPI. Furthermore, increased awareness of immunization at the community level may have also been partly driven by the introduction of a number of new vaccines in the recent past, including PCV, rotavirus vaccine, and MSD, although it should be noted that the improvements in coverage largely predated the new vaccine introductions.

Finally, although there is a positive story to be highlighted in the overall coverage improvements, as noted in Figure 11, geographic inequality in vaccine coverage persists in 2015, with a number of districts having coverage as low as 64%. These districts should be the target of increased investments to reduce inequity in vaccine coverage, for example, through the Gavi HSS window of support. In Zambia's recent HSS application resubmission in September 2015, FCE survey-based coverage estimates indicate the selected districts do not represent those districts with the lowest vaccine coverage, as shown in Figure 12. However, it was pointed out by the proposal writing team that Zambia made other considerations for the selection of target districts. Specifically, some districts had been left out because there was information that those districts were targeted for support for by other (i.e., non-Gavi) immunization and health system development partners in coming years. Further, there were considerations for poor performance with regard to other immunization indicators and a district being hard to reach. Finally, there was a deliberate intention to have all the selected districts in one geographical region. Consequently, low immunization coverage districts were left out on account of having support from other donors or being in good-performing regions.

**Figure 12: Districts selected for HSS funds in Zambia as part of the September 2015 resubmission represent a range of estimated three-dose pentavalent vaccine coverage levels in 2014 – not only those districts with the lowest coverage**




*Recommendations*

1. A comprehensive understanding of drivers of improvements in vaccine coverage observed over the last five years in Zambia will help to better target HSS investments.
2. Enhanced investments should be considered for districts with the lowest vaccine coverage (< 80% pentavalent three-dose coverage) in Zambia.

*Robustness of findings*

| Funding stream: HSS | Ranking | Robustness criteria |
|---|---|---|
| **Finding 1.** The HSS application process was complicated, time-consuming, and strained existing capacity. There was overreliance on technical assistance provided mainly by short-term, external consultants during the writing process, which in turn limited country ownership and affected the quality of the proposal. | A | Finding is based on KIIs, Fact Checking Interviews (FCI), document review, partnership survey, and meeting observations. |
| **Finding 2.** The composition of the proposal development team did not include appropriate technical skills, contributing to weaknesses in some of the technical aspects of the proposal such as the M&E and PBF framework. | A | Finding is based on KIIs, FCIs, document review, partnership survey, and meeting observations. |
| **Finding 3.** Although Gavi HSS has not been active in Zambia, significant increases in vaccine | B | Broad findings based on robust quantitative analyses but underlying |

| | |
|---|---|
| coverage have been observed in most districts in the country over the last five years. Understanding the drivers of these improvements will help to guide future immunization system strengthening investments. Furthermore, despite improvements, notable geographic inequality persists and low coverage districts should be targets of system strengthening investments. | process factors based only on document review and observation |

## Measles-rubella vaccine

The Gavi application to introduce MR proposes a campaign-based approach targeting 9-month- to 14-year-olds followed by a national introduction in routine immunization services. The proposed MR campaign is to cater for the missed measles follow-up campaign scheduled for 2015.

Zambia submitted two separate proposals to Gavi: one for the campaign-based approach and the second for the national introduction.

The MR national introduction and campaign plans and budgets were developed at an EPITWG on August 14, 2015, and continued from August 17 to 21, 2015. Stakeholders present were WHO, PATH, UNICEF, MCDMCH, Zambia Medicines Regulatory Authority (ZAMRA), and CIDRZ, as well as a consultant from WHO's Inter-country Support Team (IST).

Both MR proposal were discussed at the ICC meeting on September 2, 2015. The MR campaign proposal and the introduction of MR into routinized immunizations proposal were endorsed by ICC members for submission to Gavi.

## Cross-stream analysis

### Financial sustainability of EPI in Zambia

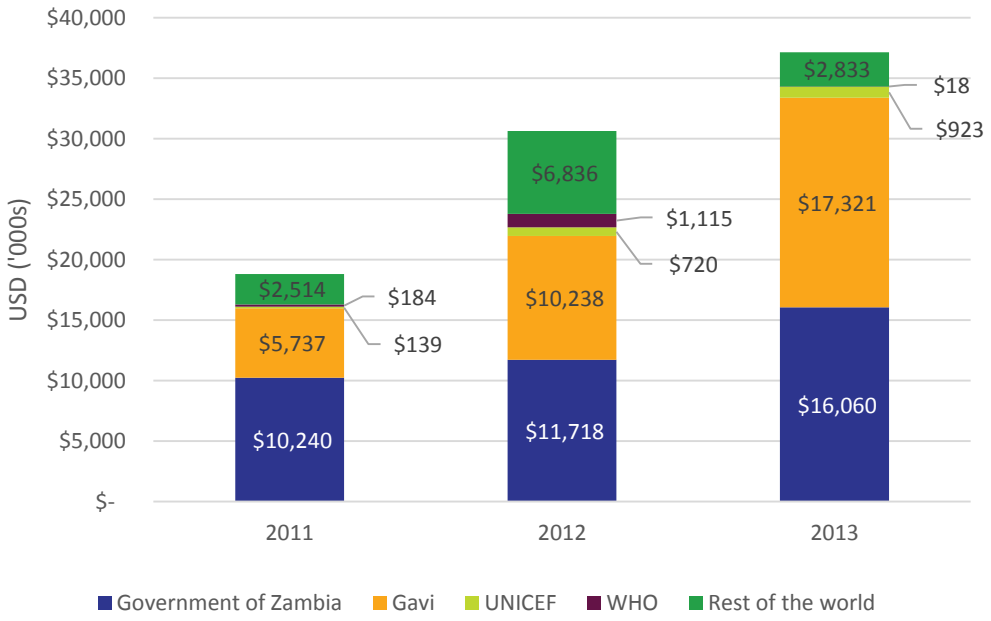
*Finding 1*

*Zambia currently depends heavily on Gavi for procurement of new and underutilized vaccines. As a transition country, the country's co-financing requirements will increase 15% annually for pentavalent, PCV, and rotavirus vaccines. We have noted a number of instances where there have been challenges in financing recent immunization activities. These cases raise concerns about Zambia's preparedness to transition off Gavi support.*

The size of expenditure on EPI has consistently been increasing. According to the Gavi FCE resource tracking, there has been a rise of 64% between 2011 and 2012 (US $18.8 million in 2011 to US $30.6 million in 2012), and of 27% between 2012 and 2013 (US $30.6 million in 2012 to US $37.2 million in 2013). Increased expenditure is a result of the number of vaccines being administered and the population in need of vaccines also increasing. Resource tracking data bring out some financial sustainability concerns for the Gavi-funded components of EPI in Zambia. These concerns include the size of government contribution to the program, the cost of vaccines, and the number of stakeholders

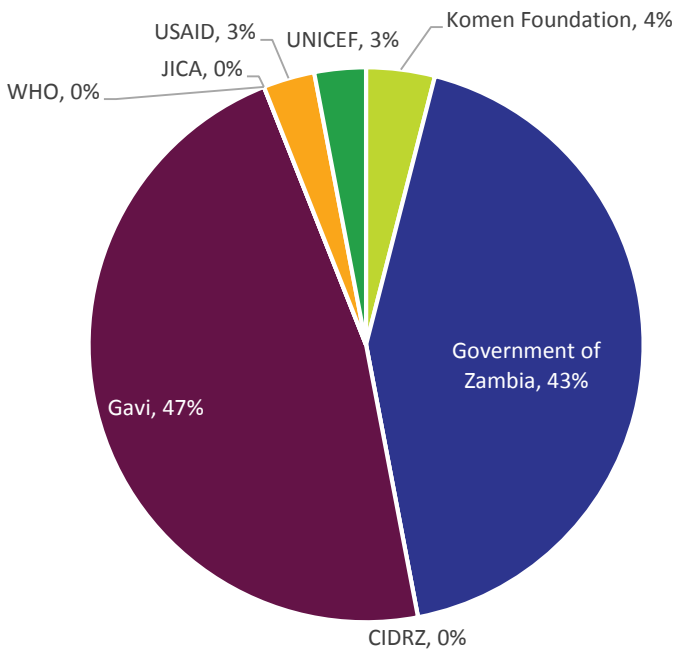
on whom the government can rely in the absence of Gavi support. There are a few core funders to the EPI in Zambia. Figure 13 shows that funding to the program is dominated by government and Gavi, whose joint contribution makes up more than 80% of total funding.

**Figure 15: Sources of funding for EPI, 2011–2013**




In 2013, for instance, government contributed about US $16.1 million while Gavi contributed about US $17.3 million, representing 43% and 47%, respectively. It should be noted that the proportion of Gavi funding has consistently been on the increase, as shown in Figure 16, rising from 30% in 2011 to 33% in 2012 and 47% in 2013.

**Figure 13: Sources of funding for EPI, 2013**




Zambia is in transition, a country whose contribution according to Gavi's co-financing policy will increase by 15% per year, and has introduced several new vaccines recently. At the same time, we have noted a number of areas which raise concerns about the ability of the government to meet the rising co-financing requirements. As noted in the earlier section, financing of IPV preparatory activities was a challenge, as was the financing of HPV vaccine national introduction based on the tested school-based delivery model. Finally, noted investments are required in key immunization system areas. For example, there have been significant investments in cold chain, supported by donors, to allow for cold chain expansion for new vaccines and to improve vaccine coverage. Maintenance of the expanded cold chain infrastructure will require sustained investment by government over the long term. Finally, as Zambia moves toward graduation from Gavi support, the resource tracking study shows the relatively limited diversity and funding proportions of other donors for immunization, which means that other donors are unlikely to fill the funding gap that would be left by Gavi.

The overall resource envelope for immunization also raises questions for the post-transition phase.

### Technical assistance

TA to the EPI is an area that has received increasing attention in Zambia, particularly as it relates to funding streams such as HSS, which require significant amounts of it. WHO and UNICEF are the main Gavi partners tasked with providing TA to EPI in Zambia. The provision of this TA is either directly from their staff members with the required technical expertise or through hiring of consultants when necessary.

### Finding 2

*With an increasing number of new vaccine introductions, programmatic capacity is strained in Zambia, which has led to reliance on technical assistance and support from partners. Technical assistance (TA) has not always been optimally provided due to a range of reasons, including limited capacity-building as part of TA provision, a restricted pool of TA providers that does not leverage local providers, and limitations in funding.*

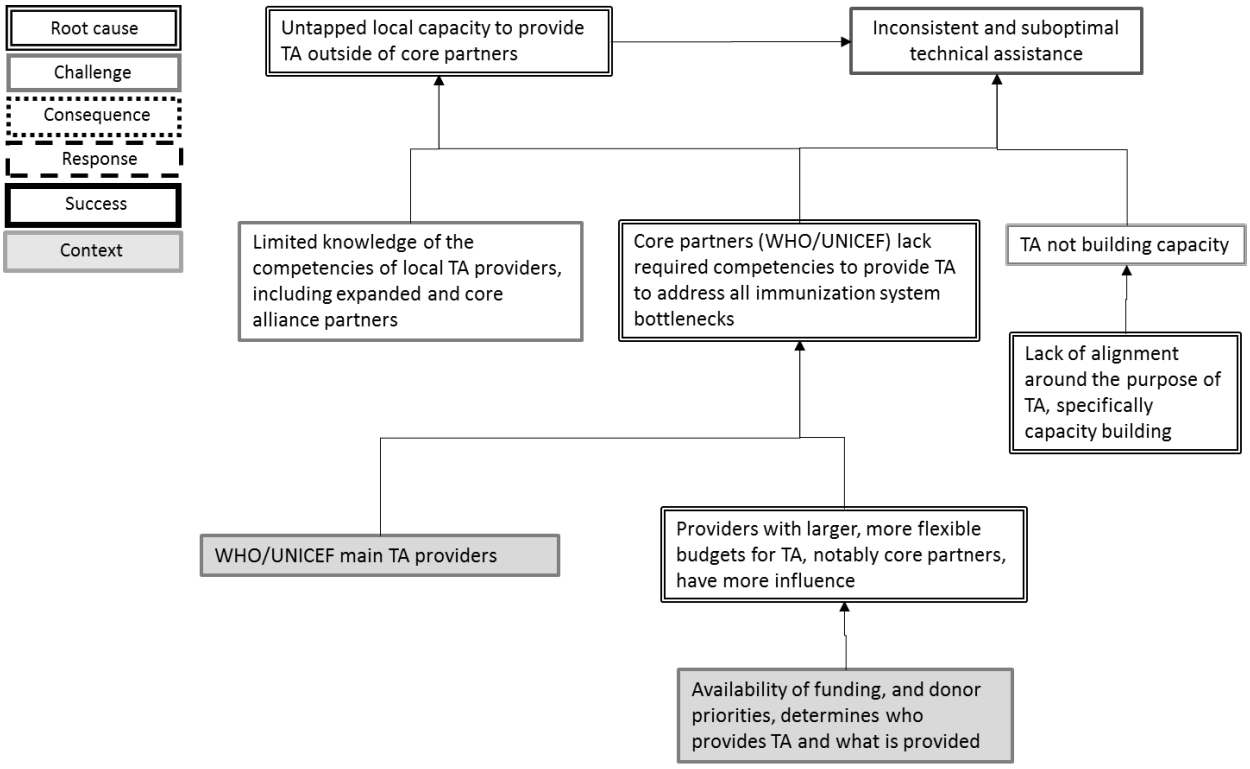
Technical assistance currently being provided is suboptimal due to several factors (Figure 13). First, capacity-building has not been a major focus of TA provided to date, particularly in the HSS application process. This might perpetuate the need for TA in the same areas rather than building capacity for country stakeholders to be able to handle similar matters in future without the need for TA.

> *I don't think there was much capacity development from the TA that was provided. We were not well equipped to be able to handle a similar process alone in future with technical support, which should be the case if capacity was built.* (KII)

This theme is discussed in the cross-country section on PEF.

Second, there is a limited pool of TA providers stemming from having a largely untapped local capacity to provide TA outside of the usual EPI partners. This is partly as a result of not having an adequately mapped available local stakeholder capacity as they pertain to identified TA needs. This is particularly important given Gavi's emphasis on the role of expanded partners in the PEF. Automatically resorting to regional consultants hired through WHO and UNICEF may further diminish the opportunities for local consultants to provide TA, which could have consequences for country ownership and sustainability. For the initial HSS submission, for example, originally plans were to hire a local and an international consultant, but because of budgetary constraints, only the international consultant was hired.

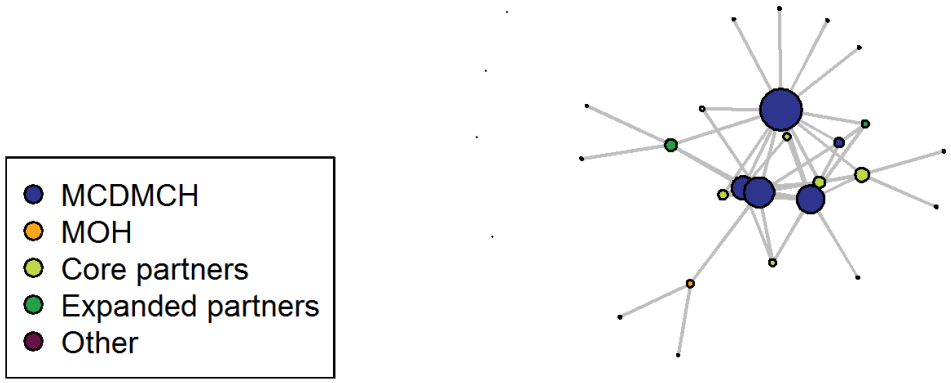
**Figure 14:** Root cause analysis diagram for suboptimal TA




Network analysis of TA provision and receipt relationships during the HSS application suggest two things. First, the network of TA providers has nearly as many ties as the working together network, meaning that most actors surveyed reported providing or receiving TA as part of the application process. However, the quality of this TA as ranked by respondents varied, with a mean value 4.03, ranging from 1 (poor quality) to 5 (excellent quality) (standard deviation [SD]=1.37) across the reported ties. This was further reflected in the KIIs, where respondents expressed varying levels of satisfaction with the TA provided based on factors such the differing levels of expertise, attendance at meetings, and the length of relationships.

Third, the HSS TA network is most centralized around four central MCDMCH actors, and it is in the core of this network that ties are most dense. This suggests that TA is always not provided by partners to government, as is assumed. Expanded partners have very few ties in the TA network (reinforcing our above point about the need for a map of local TA competencies), and the consultant does not appear at all. This suggests that his inputs did not meet the definition of transfer of expertise, skills, or information – despite the fact that this was prescribed in his scope of work.

**Figure 15:** HSS TA network, nodes sized by number of ties (i.e., degree centrality)




Third, funding is a major factor in determining who among the EPI partners provides TA and in what form. When an organization has funds specific to a funding stream, they tend to have more influence in that area and in determining what TA to provide. For example, CIDRZ had funds for rotavirus vaccine and greatly influenced this national introduction, but they have no funds related to IPV or MR, and so are less influential and present in these funding streams.

> *Partners for IPV have differed from other funding streams. Partner involvement depends on their particular investment in a particular window. E.g., CHAZ has more interest in HSS, CIDRZ was more interested in Rota.* (KII)

WHO and UNICEF, having funding that cuts across all funding streams, are available to provide TA in all areas. Therefore, they play an important and necessary role in providing funding for TA, for which the country would otherwise not have funds from the government and EPI partners, filling a big gap. This also makes WHO and UNICEF in many cases more influential than expanded partners.

> *WHO/UNICEF are there for everything as they have funding for everything. But other partners will generally choose their priorities.* (KII)

Funding streams such as IPV, MR, and HPV (post-demonstration period), have had less stakeholder participation partly as a result of stakeholders not having any funds specific to them. Thus funding sometimes qualifies an organization to provide TA, whether they have such capacity in terms of skills and knowledge or not.

## ICC findings

The ICC in Zambia was established in 1999. Chaired by the Minister of the MCDMCH, the ICC membership is drawn from agencies, partners, and key MCDMCH policy and technical staff. Initially formed to advise on the immunization program, its role has expanded to focus on broader maternal, newborn, and child health (MNCH) activities. In relation to EPI, the ICC is a forum that is used to endorse EPI-related activities such as new vaccine introductions, program strengthening activities, mobilization of resources, advocacy, and monitoring and evaluation. There were four ICC meetings in 2015, with final endorsements for HSS and MR proposals, and the ICC has also been discussing the implementation of

HPV and IPV as well as the finalization of the Joint Annual Review. During the FCE team's process tracking activities, some partnership challenges arose as we investigated the HSS proposal process and conducted the partnership survey. Additionally, the issue of inconsistent partner engagement, low country ownership and suboptimal use of technical expertise of EPI partners have been reoccurring within EPI activities. This has necessitated the further investigation into the operations of the ICC as the main partner engagement platform.

### Finding 3

*The function of ICC is unclear to some stakeholders, leading to inadequate guidance and oversight over immunization activities in Zambia, which could potentially undermine the country's achievements with regard to the effectiveness of Expanded Programme on Immunizations (EPIs) and their sustainability.*

There is a mismatch of expectation of the ICC between Gavi and stakeholders about the role of the ICC. The function of the ICC programs has expanded greatly since its formation. While Gavi's primary concern remains EPI, the situation on the ground necessitates that the ICC spread its limited capacity across many other MNCH matters.

> *Having interacted with Gavi at global level and also at country level, it is clear that Gavi expectations of the countries' ICC are very high. Country realities are less ideal. ICC is not only for the EPI in the country and deals with other matters. Gavi still expects a lot from ICC, but ICC has changed from the original composition.* (KII)

The ICC TORs constitute the ICC as an advisory body to support government in resource and partner mobilization for MNCH. In the absence of the more technical regulator, the ICC also plays the role of scrutinizing and endorsing various proposals to Gavi. However, fulfilment of this function is hampered by a lack of adequate technical capacity within the ICC. This has led to perceptions that the ICC has not been performing its role. Nonetheless, it has been assumed at the country level that the heads of key institutions (who are the official ICC members) rely on technical staff who work closely with the implementing units through TWGs. Scrutiny of the ICC TORs further supports the functions of the ICC more as a policy body than a technical one. This is another case of mismatch in expectations, coupled with inconsistent meeting attendance by partners, which may have contributed to the lack of critical feedback on key documents during ICC meetings.

> *I can't blame the ICC as such, we have technical people working under the ICC. The ICC is for the heads of Agencies and making decisions for the program. It is the technical people that are supposed to do their work, they should update their respective heads. ICC is doing its work.* (KII)

During an EPI TWG meeting on April 14, 2015, CHU shared its experience from a peer-review workshop it attended in South Africa. Some meeting attendees noticed that most reports from many countries in the region submitted to Gavi were largely incomplete, late, and had inconsistent data. Additionally, it was indicated that all issues brought to the ICC for approval were seemingly passed without much criticism. Last, it was found that some Heads of Agencies that are part of the ICC showed lack of awareness of the contents of the reports or documents they had endorsed or approved upon follow-up.

These gaps could lead to the ICC providing inadequate guidance and oversight, which could potentially undermine the country's achievements with regard to the effectiveness of EPIs and their sustainability.

### *Recommendations*

1. Government needs to develop a feasible transition plan with consultation with stakeholders, including MoF.
2. Mapping local technical capacity, and expansion in the pool of providers of TA, should be prioritized in order to optimize use of available resources and minimize dependence on external TA.
3. Providers of TA should provide clear statements indicating how assistance provided will contribute to building capacity.
4. Gavi and partners should ensure orientation of Gavi requirements for local TA providers in areas where they are expected to provide support to countries.
5. There is need to clarify the role of the ICC on EPI in terms of its policy versus technical input.

### *Robustness of findings*

| Finding | Ranking | Robustness criteria |
|---|---|---|
| **Financial sustainability of EPI in Zambia** | | |
| **Finding 1.** Zambia currently depends heavily on Gavi for procurement of new and underutilized vaccines. As a transition country, the country's co-financing requirements will increase 15% annually for pentavalent, PCV, and rotavirus vaccines. We have noted a number of instances where there have been challenges in financing recent immunization activities. These cases raise concerns about Zambia's preparedness to transition off Gavi support. | **A** | Finding is based on quantitative data from resource tracking study and limited global-level KII data. |
| **Technical assistance** | | |
| **Finding 2.** With an increasing number of new vaccine introductions, programmatic capacity is strained in Zambia, which has led to reliance on technical assistance and support from partners. Technical assistance (TA) has not always been optimally provided due to a range of reasons, including limited capacity-building as part of TA provision, a restricted pool of TA providers that does not leverage local providers, and limitations in funding. | **B** | Finding is based on KIIs, FCIs, document review, partnership survey, and meeting observations. Issues with TA were not tracked across all funding streams. |
| **ICC** | | |
| **Finding 3.** The function of ICC is unclear to some stakeholders, leading to inadequate guidance and oversight over immunization activities in Zambia, which could potentially undermine the | | |

country's achievements with regard to the effectiveness of Expanded Programme on Immunizations (EPIs) and their sustainability.

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