

UGANDA

Findings from the 2015 Gavi Full Country Evaluations



This report presents findings in Uganda 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: the Infectious Diseases Research Collaboration (IDRC), Uganda; icddr, b in Bangladesh; University of Eduardo Mondlane (UEM), Mozambique; Health Alliance International (HAI), Mozambique; Manhica Health Research Centre (CISM); the University of Zambia (UNZA), Zambia; and PATH in the 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. This publication reflects content from the preliminary version of the 2015 Annual Report, available for download at IHME's and Gavi's websites. Both this publication and the full 2015 Annual Report will be updated following stakeholder-informed revisions in spring 2016.

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TIMELINE of major immunization events in Uganda

We present an overview of major immunization events in country, indicating any relevant delays in implementation.

Figure 1: Timeline of major immunization events in Uganda

	PLANNED	ACTUAL	
2007	HSS application submitted and approved by Gavi	✓	
	Suspension of cash transfers from Gavi to country	✓	
2008			
2009			
2010			
2011			
2012			
2013	Country applied for Gavi support to introduce HPV nationally	✓	
	JAN HSS reprogramming proposal submitted	✓	
	Initial HSS disbursement was made from Gavi to country	✓	
2014	JAN		
	FEB	HSS reprogrammed proposal submitted to Gavi	✓
	MAR	HSS reprogrammed proposal approved by Gavi	✓
		Gavi approved application	✓
	APR		
	MAY	Country applied for Gavi support to introduce IPV	✓
	JUNE		
	JULY	Gavi approved application	✓
	AUG		
	SEP		
	OCT		
	NOV	UNICEF received funds for procurement of Gavi HSS equipment	✓
	DEC	HPV Vaccine Introduction Grant (VIG) arrived in country	
2015	JAN		
	FEB		
	MAR	Country submits revised HSS budget and work plan to Gavi	✓
		IPV VIG arrived in country	✓
	APR	Initial introduction date for IPV introduction	○ FEB 2016
		Initial launch date for HPV national rollout	○ NOV 2015
	MAY		
	JUNE	First consignment of refrigerators arrive in country; official expiry date for HSS grant period	
	JULY		
	AUG	Intermediate introduction date for IPV introduction	○ MAR 2016
	SEP	Country applied for Gavi support to introduce rotavirus and Men A vaccines	✓
	OCT	Intermediate launch date for HPV national rollout	○ NOV 2015
NOV	Gavi approved revised HSS budget and work plan up to June 30, 2016		
DEC			

Support streams evaluated in 2015

- Health System Strengthening (HSS)
- Human papillomavirus vaccine (HPV)
- Inactivated polio vaccine (IPV)
- Other
- ✓ Implemented as planned/no delay
- Delay

2015 evaluation activities

Assessment of progress, successes, and challenges

- Collected and reviewed documents relevant to Gavi funding, operational plans and budgets, Uganda National Expanded Programme on Immunisation (UNEPI) planning, and national- and global-level reviews.
- Attended and observed key meetings, workshops, and trainings at the national and district level.

Key informant interviews (KIIs)

- Conducted seven in-depth KIIs and 20 fact-checking interviews at the national level with government and other partner organizations.
- Conducted four in-depth KIIs at the subnational level.ⁱ
- Conducted 23 interviews at the global level with the Gavi Secretariat, Vaccine Alliance partners, and others.

Health facility survey

- Collected data from 177 facilities in 19 districts using a structured survey instrument between August 2014 and

January 2015. Of the 177 health facilities surveyed, 40 were private and 137 were public health facilities.

Household survey

- Collected data from 3,983 households in 19 districts, including 1,138 dried blood spot samples.
- Collected 1,148 dried blood spot samples and 181 verbal autopsies.

Small area analysis

- Compiled and analyzed all available survey and census data sources to estimate national and district-level vaccination coverage and under-5 mortality.

Inequality analysis

- Compiled and analyzed all available administrative data from HMIS.

ⁱDuring the 2015 evaluation year, a greater volume of evidence was gathered through observation, document review, and fact-checking interviews than in past evaluation years.

ANALYSIS of major challenges and successes

Each finding is accompanied by a ranking that reflects the robustness of evidence. The four-point ranking scale is summarized below:

Ranking	Rationale
A	The finding is supported by multiple data sources (good triangulation) which are generally of good quality. Where fewer data sources exist, the supporting evidence is more factual than subjective.
B	The finding is supported by multiple data sources (good triangulation) of lesser quality, or the finding is supported by fewer data sources (limited triangulation) of good quality but is perhaps more perception-based than factual.
C	The finding is supported by few data sources (limited triangulation) and is perception-based, or generally based on data that are viewed as being of lesser quality.
D	The finding is supported by very limited evidence (single source) or by incomplete or unreliable evidence. In the context of this prospective evaluation, findings with this ranking may be preliminary or emerging, with active and ongoing data collection to follow up.

PNEUMOCOCCAL conjugate vaccine

Pneumococcal conjugate vaccine (PCV) was introduced in April 2013 in the Iganga district in Uganda. Nationwide rollout of PCV stalled due to numerous challenges, but all districts began PCV delivery by June 2014. The PCV Post Introduction Evaluation (PIE) was in late February 2015 as part of the comprehensive EPI review by the World Health Organization (WHO) and Ministry of Health.

FINDING 1

PCV routinization is measured by comparing the number of reported doses of PCV to the number of reported doses of pentavalent. By the end of 2014, PCV was not fully routinized, in part due to stock-outs at multiple levels of the health system. While there have been improvements since 2014, by the third quarter of 2015, PCV was still not yet fully routinized; furthermore, geographic inequalities in PCV coverage remain, reflecting existing bottlenecks in the immunization system.

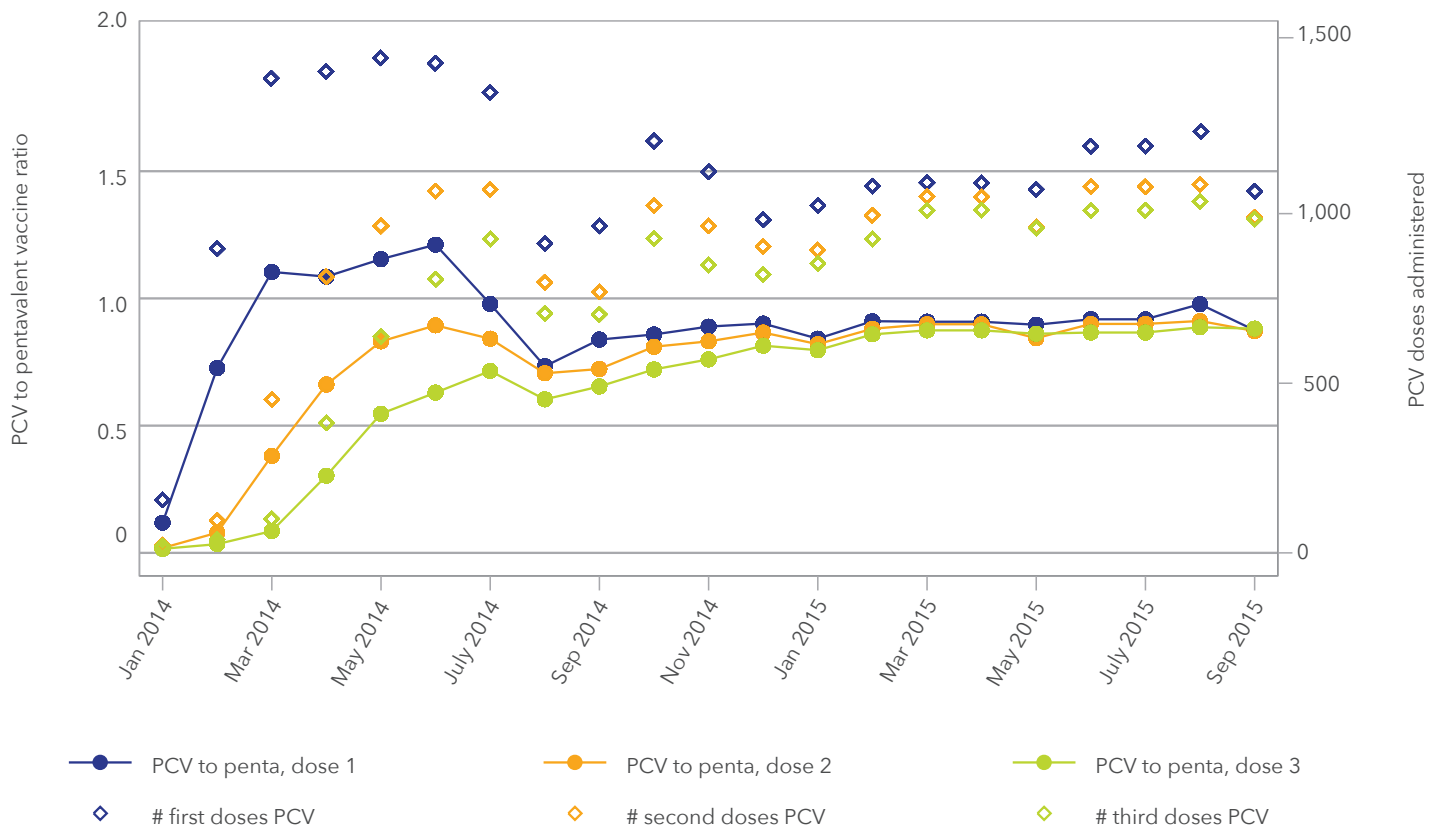
Ranking: B

Though nationwide rollout of PCV was achieved in June 2014, PCV was not fully routinized.ⁱⁱ

- The PCV PIE, conducted in February 2014, suggested that PCV was not routinized as of February 2015. This was in agreement with the 2014 FCE findings, which showed that PCV had not been fully routinized by September 2014.
- Updated FCE analysis of HMIS data shows improvements in routinization, but also that delivery of PCV remains lower than pentavalent vaccine (Figure 2).
- Coverage has improved, though geographic inequities remain in Kampala and a few other districts, especially for the second and third doses (Figure 3).

Figure 2: PCV to pentavalent vaccine ratio in 2015 from HMIS data

A ratio of 1 indicates that PCV has the same coverage as pentavalent vaccine within the present birth cohort of children.



ⁱⁱThree doses of PCV and pentavalent vaccine are delivered to children on the same schedule and pentavalent is already part of routine EPI delivery. Routinization is measured by comparing the number of reported doses of PCV to the number of reported doses of pentavalent.

Figure 3: Estimated coverage of PCV by dose and district in Uganda

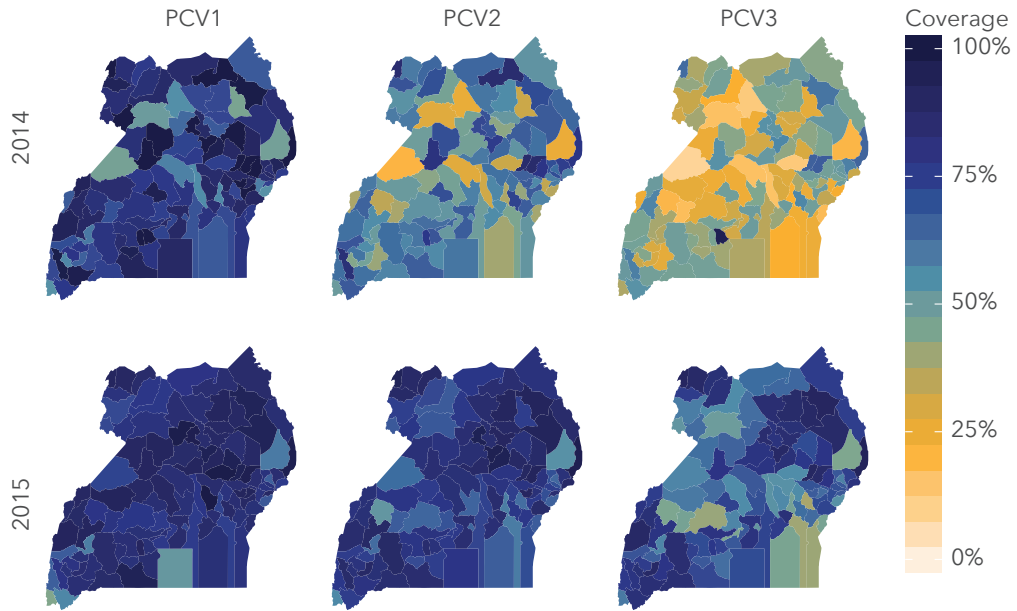
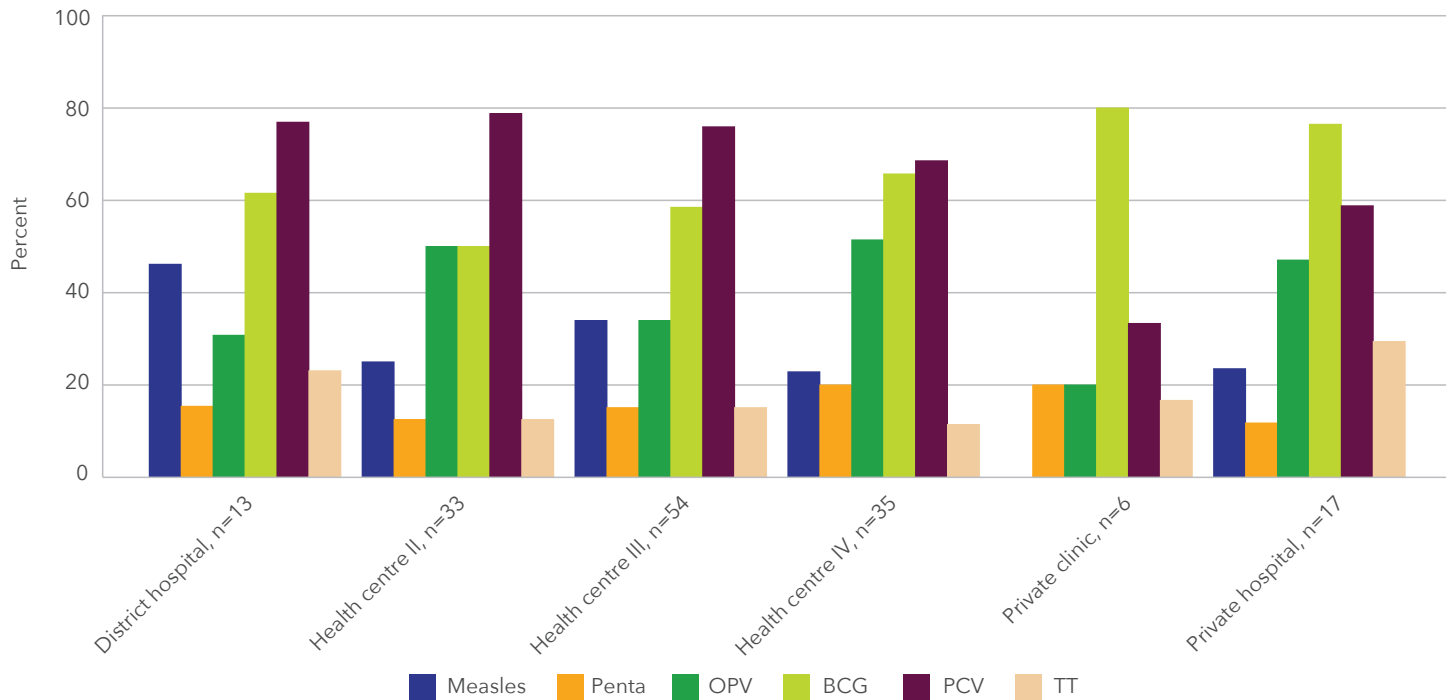


Figure 4: Stockouts of PCV compared to other vaccines, according to FCE HFS data (August 2014 to January 2015)



A root cause of suboptimal routinization in 2014 was stockouts of PCV at multiple levels of the health system.

- The Gavi FCE HFS completed in early 2015 noted widespread stockouts of PCV in the last quarter of 2014 across all facility types (Figure 4).

Inadequate supply of PCV at the national level may have contributed to the suboptimal routinization. National Medical Stores (NMS) confirmed that it resorted to rationing PCV doses dispersed to lower levels of the health system due to insufficient PCV quantities at the national level, which resulted from insufficient shipments PCV doses in 2014.

Inadequate supply in 2014 may have stemmed from inconsistencies in vaccine supply forecasting between key partners. There is a shortfall between what the country forecasted for PCV doses needed in 2014 and what was actually reported as received at the national level in 2014.

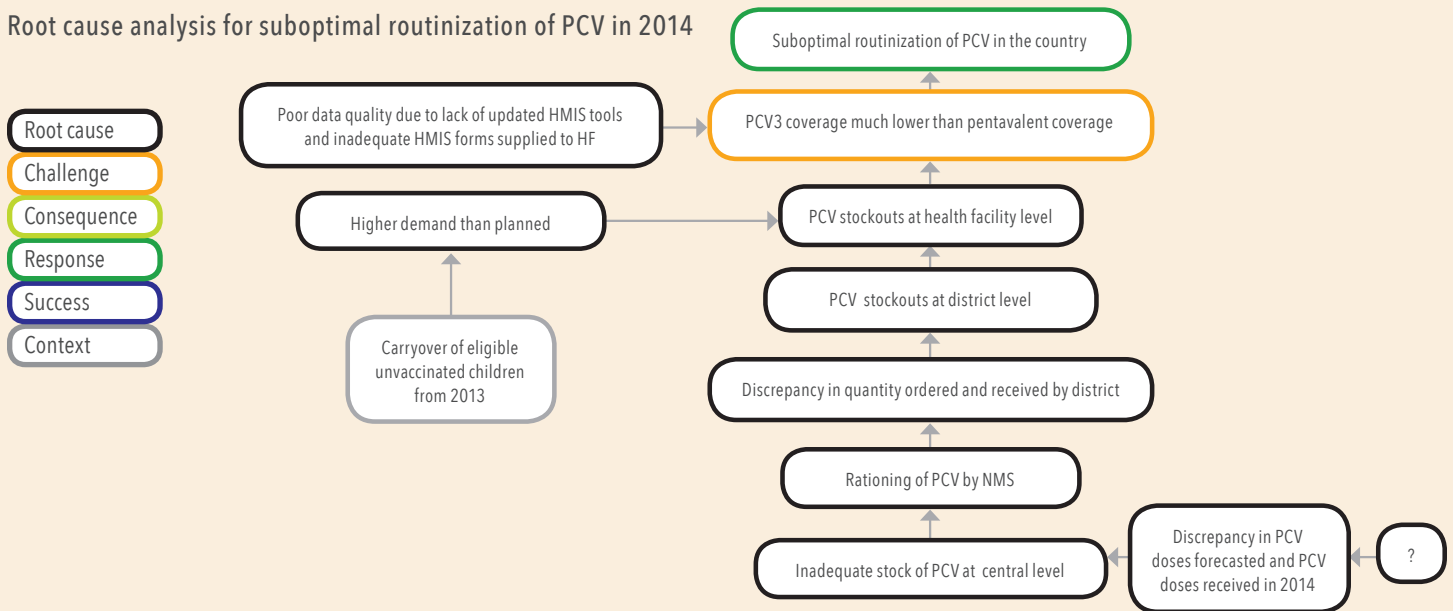
Inconsistencies in forecasting vaccine supply were not observed in 2015. The amount of PCV doses forecasted in the 2014 Annual Progress Report is consistent with the amount of PCV doses committed in the Gavi decision letter.

UNICEF shipping records show a quantity of PCV doses were shipped to Uganda in 2015 that was consistent with the NMS stock status reports on the amount of PCV doses received.

Early evidence suggests that there is a lack of clarity among national stakeholders about why Uganda received inadequate doses at the national level.

- Key informants from NMS attributed the insufficient doses to inaccurate quantification, whereas most key informants from the MoH thought that fewer PCV doses had been shipped to the country due to delayed co-financing.
- Given the conflicting reasons for stock-outs in 2014 among national-level stakeholders in Uganda, it is difficult to tease out the root cause(s). The FCE team will continue to investigate this in the 2016 evaluation year.

Root cause analysis for suboptimal routinization of PCV in 2014



RECOMMENDATIONS

1. Adequate planning in particular vaccine forecasting for new vaccines, including prior distribution of sufficient updated tools, anticipation of different demand characteristics, and high-quality training of health workers, should be carefully worked on before new vaccine rollout.

Lack of enough updated data collection tools at facilities led to improvisations in recording PCV doses administered. This combined with lack of skilled personnel and unanticipated high demand contributed to frequent stock-outs. Ultimately, these stock-outs result in suboptimal and delayed PCV routinization. Adequate planning and preparation prior to the launch may have prevented these problems.

2. Gavi and countries should work together to create an accountability mechanism to ensure that recommendations identified during the PIE are implemented and monitored beyond the PIE in order to achieve routinization of a new vaccine.

WHO recommends conducting a PIE six to 12 months after a new vaccine introduction to assess routinization of the new vaccine. The country conducted the PCV PIE in February 2015 (about seven months after PCV introduction) and results showed suboptimal routinization of PCV. In cases where the PIE identifies suboptimal vaccine delivery, there should be an accountability mechanism to ensure that recommendations identified during the PIE are implemented and to assess the ongoing routinization until sufficient coverage is achieved.

ROTAVIRUS AND MENINGITIS A vaccines

Uganda submitted an application in September 2015 for Gavi support to introduce rotavirus vaccine into the routine immunization program and MenAfriVac (meningitis A) vaccine for campaign against meningitis in selected districts. The country plans to jointly implement both rotavirus and meningitis A in 2016.

FINDING 1

After a consultative, participatory, and inclusive application process for meningitis A and rotavirus vaccines, the Uganda National Immunization Technical Advisory Group (UNITAG) noted that the cost implication of adding two new vaccines was not clearly explained in the applications. Although Uganda National Expanded Programme on Immunization (UNEPI) indicates that the recommendations and comments from UNITAG were incorporated in both applications, no explicit description was made of total additional operational costs in the applications submitted to Gavi and the projections in the cMYP do not explicitly describe the same.

Ranking: B

Uganda instituted a national immunization technical advisory group (NITAG) to guide country policies and strategies for immunization.

- The Global Vaccine Action Plan (GVAP), endorsed in May 2012 by the World Health Assembly, recommended that independent bodies such as regional or national immunization technical advisory groups (NITAG) guide country policies and strategies.
- Uganda formally instituted a NITAG (referred to as the UNITAG) in December 2014.
- The decision to apply for rotavirus and meningitis A vaccines was taken before the formation of UNITAG.

Despite late involvement of the UNITAG, they provided important recommendations to the MOH, namely on the financial sustainability of adding two new vaccines.

- The process to apply for meningitis A and rotavirus vaccines was consultative, inclusive, and participatory.
- Though the UNEPI called on UNITAG at an advanced stage in the process of application, they contributed useful feedback to the Ministry of Health.
- UNITAG members noted that they should be involved earlier in decisions to introduce new vaccines to allow

sufficient time to follow the group's standard evidence-gathering and assessment protocols.

- UNITAG noted that the cost of adding two new vaccines was not explicitly addressed in the applications.
- Although UNEPI indicates UNITAG recommendations were incorporated in both the rotavirus vaccine and meningitis A vaccine applications, there was no explicit description of total additional operational costs in the applications submitted to Gavi.
- The Internal Review Committee (IRC) did not raise financial or programmatic sustainability concerns in comments back to the country upon approval of the applications.

The addition of two vaccines poses challenges to financial sustainability.

- Uganda faces co-financing commitments for pentavalent and PCV vaccines; UNITAG raised legitimate concerns about the country's ability to sustain additional vaccines without compromising routine immunization activities.
- A recent evaluation study of Gavi's co-financing policyⁱⁱⁱ suggests that additional co-financing requirements for new vaccines is an emerging reason behind defaults in other countries.

The addition of two vaccines poses challenges to programmatic sustainability.

- The country's proposal to introduce rotavirus vaccine as routine, together with meningitis A as a campaign, may face operational challenges similar to those observed with the introduction of HPV vaccine together with other competing immunization activities.
- UNEPI has inadequate human and financial capacity to successfully implement a new vaccine together with an immunization campaign.

RECOMMENDATION

1. Uganda should develop a long-term immunization financing sustainability plan, as recommended by the UNITAG and the immunization financing review conducted in Feb 2015. Each proposed new vaccine introduction should be considered in light of this sustainability plan.

ⁱⁱⁱGavi, the Vaccine Alliance, "Partner's Engagement Framework, Report to the Programme and Policy Committee, October 7 to 8."

With a declining overall immunization budget and incidences of defaulting on co-financing, there is a need to develop a comprehensive and feasible financial sustainability plan

including the additional operational costs and their sustainability. This will be especially important upon graduating from Gavi support.

INACTIVATED POLIO vaccine

Uganda was approved by Gavi to introduce inactivated polio vaccine (IPV) in July 2014. Vaccine Introduction Grant (VIG) for IPV was received by the government in March 2015 and planning for IPV introduction began at an EPI technical meeting held the same month. At this EPI meeting, an IPV introduction committee was set up to discuss how best to integrate IPV introduction activities with the planned measles campaign.

FINDING 1

Despite the expedited application and approval process for the IPV vaccine as reported in the 2014 Gavi FCE report, the actual introduction date has been postponed from May 2015 to August 2015 then to February 2016 due to uncertainty on the arrival date of the vaccine due to global supply issues.

Ranking: A

Uncertain arrival dates of IPV vaccine led to delays in preparatory activities and ultimately introduction.

- Informed by its experience with PCV introduction, the Ministry of Health planned to use IPV samples for health worker training.
- Actual arrival dates for the IPV vaccine remained uncertain, hindering planning for training and rollout.
- UNEPI requested the WHO country office provide technical advice on how to conduct the training without IPV demonstration samples, but WHO did not provide a response.
- The launch date was subsequently postponed due to the global shortage of IPV vaccine, and at the time of reporting all preparatory activities are on hold.

RECOMMENDATION

In situations where Gavi and global partners want to fast track vaccine introduction, they should ensure sufficient global vaccine supply. In the inevitable circumstance of global vaccine shortages, timely and appropriate communication should be made to countries to aid prioritization and adaptive planning.

HUMAN PAPILLOMAVIRUS vaccine

Gavi approved Uganda national HPV vaccine introduction in March 2014, and the VIG arrived in country in February 2015. The successful application for Gavi support to introduce HPV vaccine nationally followed a demonstration project of HPV vaccine delivery in selected districts.

The demonstration project recommended using a combined (hybrid) approach integrating the Child Health Days Plus (CDP) with the school-based delivery strategy. The recommended delivery strategy from the demonstration project was not scalable, so the country opted to integrate HPV vaccine into the routine EPI system, which uses a facility-based model with an outreach component. The new delivery model was not tested in the demonstration project.

FINDING 1

Despite the fact that Ministry of Health (MoH) drew on lessons learned from the introduction of PCV to initiate preparatory activities for the national HPV vaccine introduction

early, the actual launch and rollout did not occur as planned. First, the launch was delayed from April to October as result of a shortage of vaccine storage space due to delayed implementation of the HSS grant. Then HPV vaccine rollout was further postponed to November, due to the need to have the vaccine distributed to all districts before the launch.

Ranking: A

The Ministry of Health drew on lessons learned from the introduction of PCV to prompt earlier initiation of preparatory activities for the national HPV vaccine introduction.

- Stakeholders began the planning process for HPV vaccine in May 2014, shortly after Gavi approval and nearly a year before the planned launch date.
- The country planned to leverage the procurement of fridges and construction of vaccines stores under the Gavi HSS grant to cover the storage gaps that identified in the 2014 Effective Vaccine Management Assessment (EVMA) and 2014 cold chain inventory.

Delayed implementation of the HSS grant resulted in the delay of the HPV vaccine launch.

- Implementation of the HSS grant was delayed by the protracted time period required for procurement of equipment and civil works through the Uganda government system and by the transition of procurement and civil works to UNICEF and CRS (2014 Gavi FCE report).
- An assessment conducted by the Gavi Senior Country Manager (SCM), UNEPI, and a WHO official found that no progress was made on the construction of the Central Vaccine Store. Additionally, UNICEF did not procure the fridges due to delays from an unexpectedly lengthy transition process.
- Based on these findings, shipment of HPV vaccine was halted and the launch date was postponed from April to October.

In order to ensure vaccine delivery to all districts prior to the launch, the country further postponed HPV vaccine rollout.

- This decision was informed by previous experiences with the staged PCV introduction.
- This postponement until November 2015 allowed for sufficient time to distribute the vaccine to all districts before the launch.

The delay in HPV vaccine introduction has unintended consequences.

- There is a missed opportunity to deliver the vaccine to girls.
- The first cohort of eligible girls will not receive the complete vaccination schedule within a single school year, as these girls will receive the first dose in the 2015 school year and the second dose in the 2016 school year.
- Due to the timing of the immunization schedule, the second cohort of girls will receive their second dose a month earlier than the first. The two overlapping cohorts may cause challenges with the projection of the number of HPV vaccine doses needed in 2016 and could stretch the already limited storage space.
- Additionally, the two overlapping cohorts visiting facilities at the same time may overwhelm the understaffed health facilities.

FINDING 2

Uganda merged the measles campaign, polio Supplementary Immunization Activities (SIA), and HPV vaccine introductory activities due to limited bandwidth within UNEPI and the failure of the country to raise sufficient funds to cover all activities. However, this led to key critical shortfalls in HPV implementation: training of health workers on HPV vaccine was reduced from three days to one day; and there was no social mobilization messaging on HPV vaccine because the vaccine

had not yet arrived in the country – hence you would not increase demand and yet the vaccine was not available.

- As documented in the 2014 Gavi FCE report, the few staff of UNEPI are strained by the numerous immunization-related activities.
- Local partners had failed to raise the 50% operational costs for the measles campaign, which was expected by the Measles Rubella Initiative.

Uganda merged the measles campaign, Supplementary Immunization Activities (SIA), and HPV vaccine introductory activities to overcome limited UNEPI bandwidth and insufficient funding.

- UNEPI and country-level partners envisioned that integrating the measles campaign, Child Health Days, and HPV vaccine introduction activities would pool human, technical, and financial resources and promote effective and efficient implementation.
- Joint meetings for all activities led to time- and cost-savings, compared to if separate meetings had been held.
- Convening one workshop to develop an integrated training manual led to effective and efficient use of both human and financial resources available at the time.

However, critical shortfalls in HPV implementation also resulted from merging of measles campaign, SIAs, and HPV vaccine introduction activities.

1. HPV planning was overshadowed by the measles campaign and other immunization activities.
2. The HPV health worker training program had to cover many topics to accommodate the expanded activities, which rendered the training overfilled and rushed.
3. The HPV Vaccine Introduction Grant was used on the measles campaign and other immunization activities. Therefore, key HPV activities, including social mobilization, were unfunded.

RECOMMENDATION

1. Uganda should develop a long-term financial sustainability plan and consider the financial implications of each new immunization activity to avoid being forced to integrate activities which may result in unintended consequences, as was the case with HPV vaccine.

When integration of activities does occur, it should be driven by strategic rather than solely financial reasons. When strategically sound, EPI activities should be integrated where possible to leverage and maximize potential synergies and conserve resources.

HEALTH SYSTEM strengthening

Uganda has not implemented any civil works under the HSS grant due to a lack of anticipation of the time required to contract with partners, lack of consideration of potential partners beyond a single targeted partner to implement civil works, and a lack of clarity about the roles between Gavi and the country as they related to the civil works. This was further exacerbated by turnover in the Gavi senior country manager, which delayed contracting with partners for the civil works and approval of a no-cost extension for implementation of the HSS grant.

FINDING 1

Uganda has not implemented any civil works under the HSS grant due to a lack of anticipation of the time required to contract with partners, lack of consideration of potential partners beyond a single targeted partner to implement civil works, and a lack of clarity about the roles between Gavi and the country as they related to the civil works. This was further exacerbated by an unscheduled absence in the Gavi Senior Country Manager (SCM), which delayed contracting with partners for the civil works and delayed approval of a no-cost extension for implementation of the HSS grant.

Ranking: B

There was no competitive bidding to identify a construction agent; instead, Gavi identified Catholic Relief Services (CRS) to perform civil works without considering other partners.

- Cost estimates from CRS for construction of the staff houses and district medical stores were much higher than what was budgeted.
- In response to these high cost estimates, there were delays in deciding how to proceed.

There was a lack of clear understanding of roles between Gavi and the country.

- The country was under the impression that Gavi was to lead the contracting of a non-governmental partner, as they had done for the HSS procurement of equipment.

- However, there was no formal memorandum of understanding between Gavi, MOH, and CRS to guide the implementation of the construction works.

Delayed construction of the vaccine stores hindered the much-needed expansion of cold chain storage capacity necessary for the introduction of HPV vaccine.

- As a result the country postponed national introduction of HPV vaccine, with the launch occurring after UNICEF renovated the existing storage facilities at NMS to temporarily store HPV vaccine.

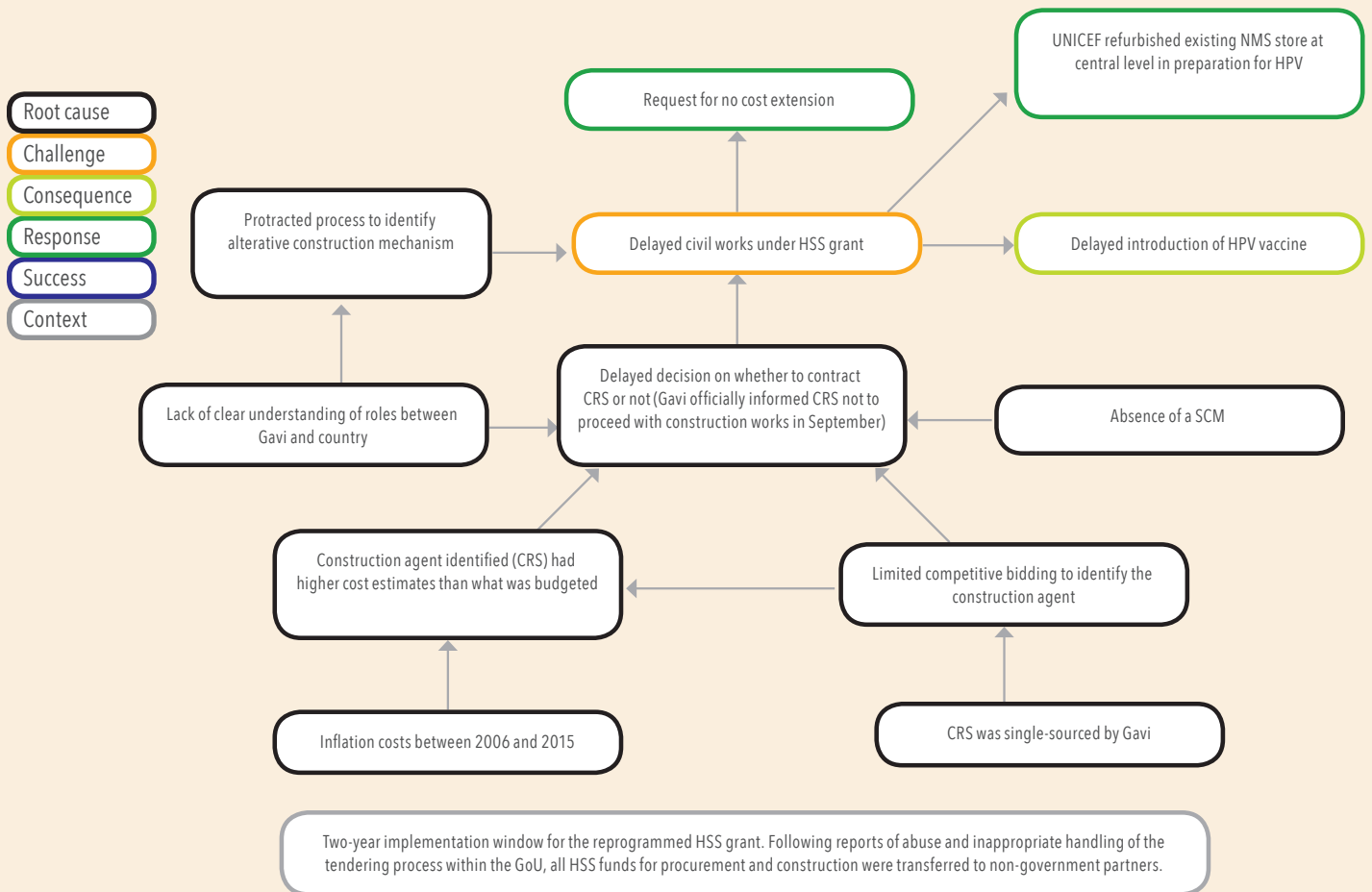
The country submitted a revised work plan and budget and requested a no-cost extension to accommodate delays in civil works construction.

- This followed a Gavi mission that found that construction activities could not be implemented within the HSS grant period.
- Following submission of a revised work plan and budget, there was no response from Gavi for about three months. Relatedly, the Gavi SCM was on leave and there were limited and delayed official communications about the SCM absence or the process of approving revised work plans and budgets from Gavi to the EPI.

There was a protracted process to identify an alternative construction mechanism.

- Following a meeting with the MOH, the Gavi SCM, WHO, and UNICEF, the Permanent Secretary of Ministry of Finance, Planning and Economic Development (MOFPED) directed that all HSS money for civil works be committed and implemented within the no-cost extension period.
- Later, Gavi informed CRS not to proceed with construction.
- Discussions are ongoing on how to move forward with construction and how to manage funds.

Root cause analysis for delayed civil works under the HSS grant



RECOMMENDATIONS

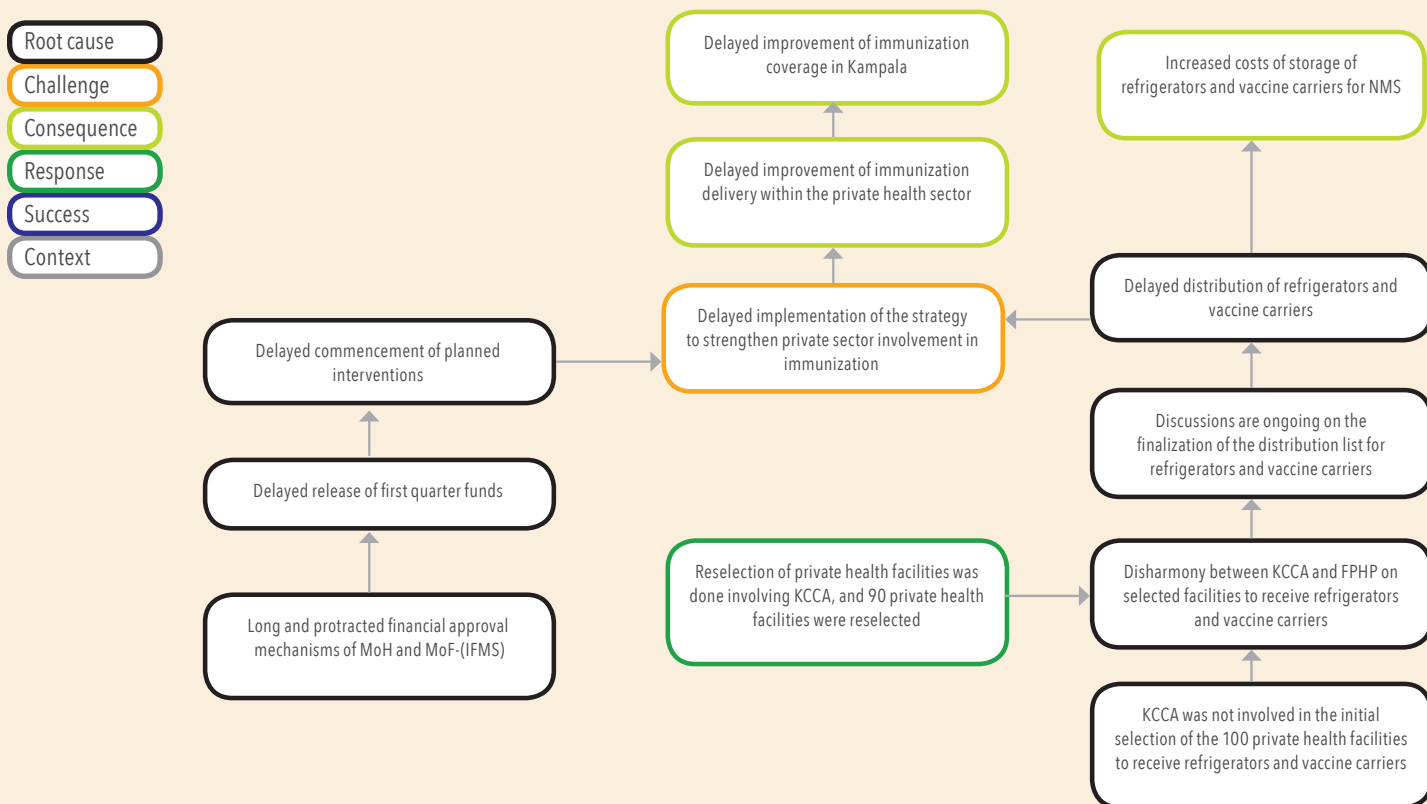
1. In situations where alternate implementation mechanisms are sought, for example procurement/civil works through other agencies, efforts should be made to clarify roles and responsibilities between Gavi and country.
2. As we recommended in the 2014 Gavi FCE report, the MoH, partners and Gavi should increase efforts to integrate the Ministry of Finance into all Gavi funded immunization-related planning and decision-making. This will ensure proper coordination and implementation of HSS activities.
3. Gavi should ensure timely communication to countries about SCM transitions and should move expeditiously to fill these posts or assign substitutes in the meantime.

FINDING 2

Implementation of HSS-supported activities to strengthen private sector involvement in immunization in Kampala district faced numerous challenges including resulting in several delays. The challenges include delayed disbursement of funds from MoH to FPHP due to IFMS, and partner disagreement over selection criteria of the 100 private facilities to benefit.

Ranking: A

Root cause analysis for delayed implementation of the strategy to strengthen private sector involvement in immunization in Kampala district



RECOMMENDATION

1. Implementing partners should ensure the involvement of all relevant stakeholders at all stages of implementation, particularly in the planning and decision-making process.

MoH should improve efforts to map out critical stakeholders and involve them in planning process and decision-making regarding implementation of immunization related activities. We have already indicated how the lack of involvement of

Ministry of Finance impeded the coordination and implementation of HSS civil works, and similarly the 2014 Gavi FCE findings showed the failure to engage the Ministry of Education in the HPV vaccine national application process. We therefore recommend mapping of all EPI partners with an aim of proper coordination and full involvement of key partners at all stages of implementing immunization-related activities.

FINDING 3

Despite limited implementation of Gavi's HSS in Uganda, vaccine coverage has improved in a number of districts in Uganda over the last three years. These improvements coincide with the country EPI revitalization plan. It will be important to reflect the successful drivers of these improvements in the new subsequent application for Gavi HSS. Our FCE HFS also identified a number of key areas that could be target areas for investments under Gavi HSS.

In the past five years, Uganda's routine immunization program performance has made steady progress in terms of immunization coverage.

- Third-dose vaccine coverage in 2015 remains low (<60%) in a number of districts in Uganda.
- However, notable improvements in vaccine coverage have been observed in a number of districts in Uganda, particularly those in the Western and Central, and to a less consistent extent, Eastern regions (Figure 5).

Though there has been limited implementation of the Gavi HSS-1 grant between 2010 and 2015, improvements in coverage coincide with the country EPI revitalization plan and the 2012-2016 immunization multiyear plan.

- The EPI revitalization and multiyear plans – in response to declining EPI coverage and the outbreak of both wild polio virus and measles – drew on strategies that included:
 1. Strengthen community-level mechanisms through Village Health Teams to reach the most vulnerable, underserved

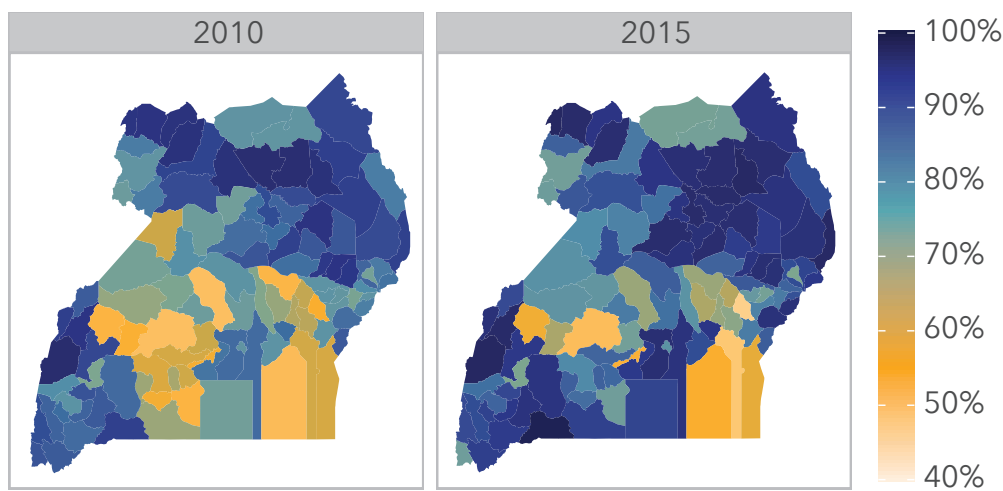
and un/under-immunized groups to ensure service delivery and sustained demand for immunization services.

2. Improve and streamline vaccine delivery mechanisms to minimize vaccine stockouts at service delivery points.
 3. Strengthen advocacy efforts, especially to establish a Parliamentary forum on immunization to influence higher budget allocation for EPI, and the enactment of favorable immunization laws.
- It will be important to reflect the successful drivers of these improvements in the new subsequent application for Gavi HSS.

FCE health facility data identified a number of key areas that could be target areas for investments under Gavi HSS.^v

- Primary vaccine storage equipment was broken in over 30% of district hospitals in the survey sample (Figure 6).
- Regular reporting or maintenance for equipment was particularly low in district hospitals and private facilities compared to all other facility platforms.
- Temperatures out of range. Among facilities with existing temperature monitoring systems, the highest proportion of facilities documenting cold chain temperatures that were out of the recommended range (<2°C and >8°C) were private facilities (Figure 7). Within the public facility category, district hospitals had the higher proportion of cold chain temperature recordings that were out of the recommended range (Figure 7).

Figure 5: Three-dose pentavalent coverage from 2010 to 2015^{iv}



^{iv}These estimates incorporate the Gavi FCE household survey conducted in 19 districts in 2015.

^vThe full 2015 Full Country Evaluations Uganda report contains detailed findings of the Uganda Health Facility Survey.

Figure 6: Percent of facilities reporting that their primary vaccine storage equipment was broken, Uganda HFS
 The red dashed line on the HFS graphs represents the mean across platform types.

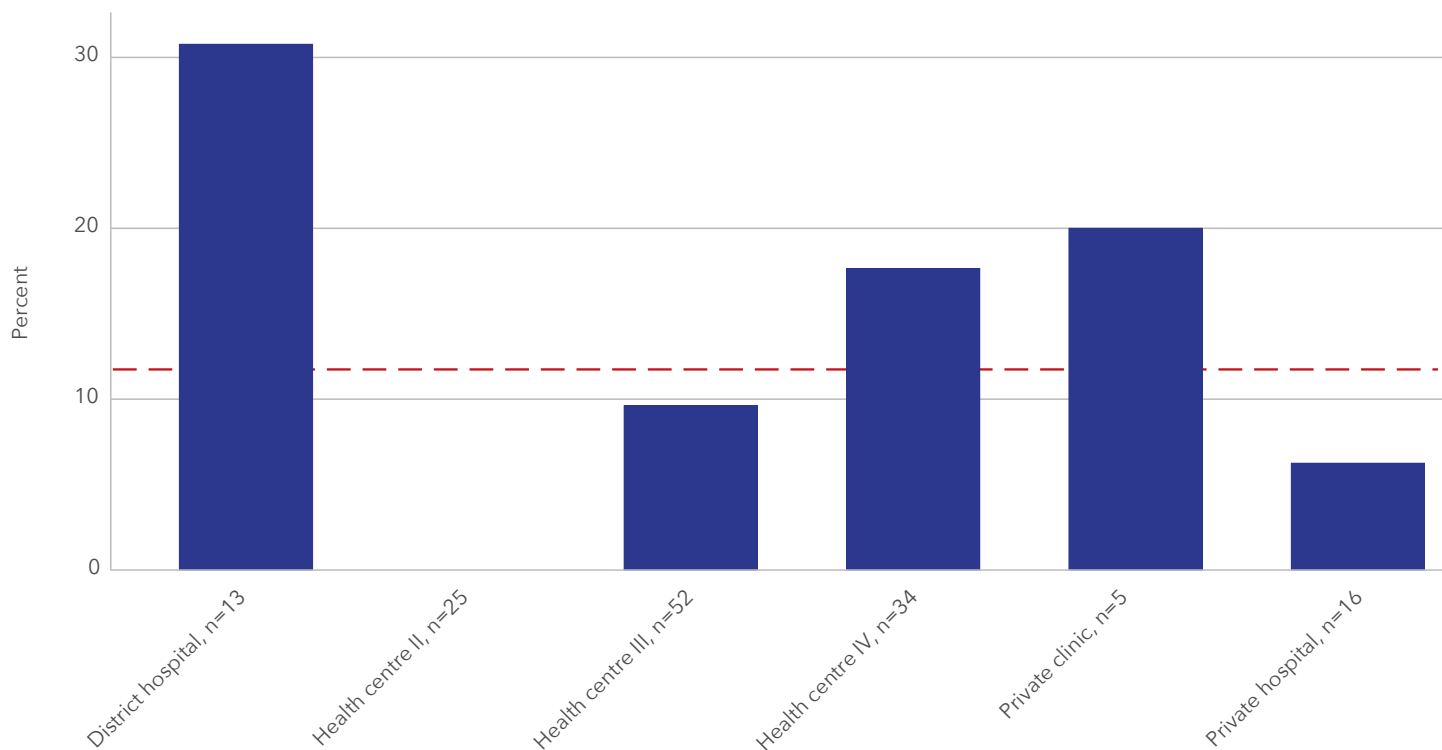
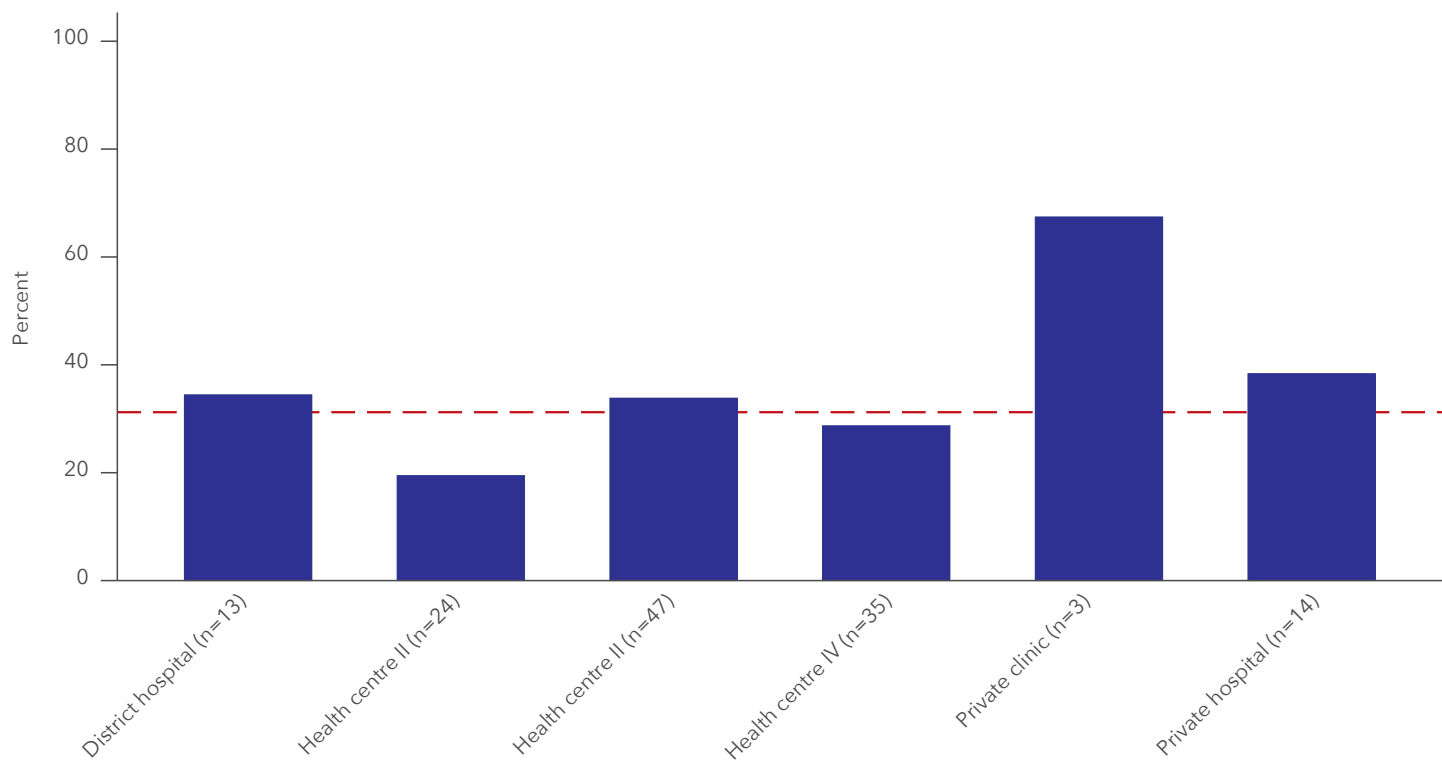


Figure 7: Percent of facilities reporting temperatures out of range, by facility platform
 The red dashed line on the HFS graphs represents the mean across platform types.

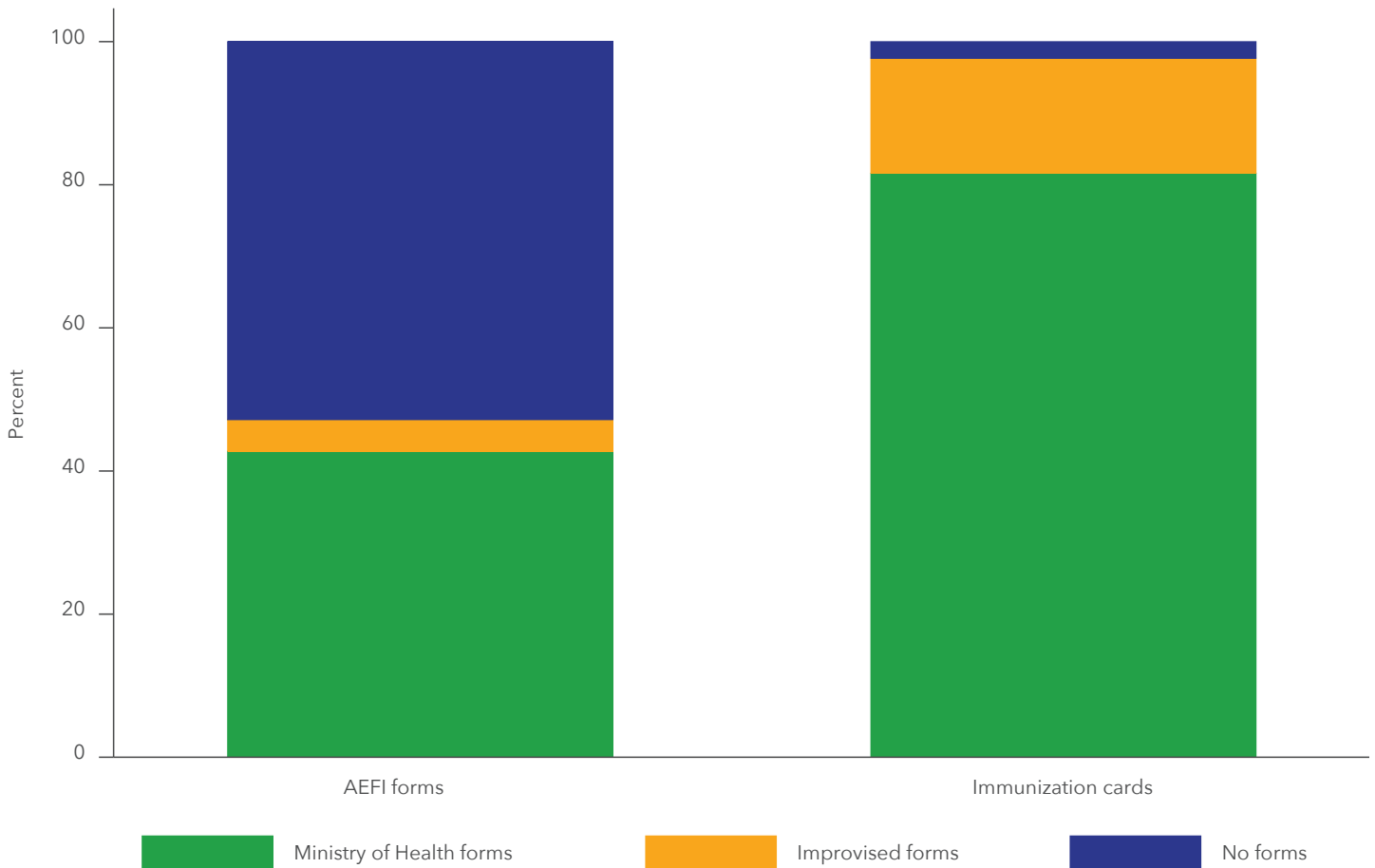


- M&E Tools. Official immunization cards were available in less than 80% of all other health facility platforms except district hospitals (Figure 8). Tally sheets were available in only 60% of private clinics in the survey sample. AEFI forms were lacking across all facility types, with only about 40% of all facilities reporting availability of these tools. Child registers, as well as official vaccine and injection

control books, were also notably lacking in health center IIs and private clinics, at 45% and 25%, respectively.

- Access to vehicles. Among public facilities, health center IIs had the least access to any vehicle for purposes of immunization compared to all other facility platforms.

Figure 8: Percent of facilities with AEFI forms and immunization cards, Uganda HFS



RECOMMENDATIONS

1. MOH/UNEPI and partners should ensure that the good practices and interventions responsible for the improved immunization performance are reflected in the Gavi HSS design.
2. MOH/UNEPI should consider data on geographic inequalities in vaccine coverage and existing deficiencies in the immunization system, such as those noted by the Gavi FCE, but also other mechanisms such as the Joint EPI review when designing the Gavi HSS proposal.

CROSS-STREAM

analysis

Major point 1

Uganda has faced challenges in adequately financing immunization operational activities, managing the available funds, and planning for financial sustainability of the immunization program.

There are overall increases in immunization funding, but declines in government contribution.

- A five-year trends analysis from the Gavi FCE resource tracking study and the Bill & Melinda Gates Foundation immunization costing study shows that funding for immunization has been progressively increasing in absolute terms.
- The contribution of the government, which is the greatest contributor to immunization activities, fell between 2012/13 and 2013/14 by 1.2 billion Ugandan schillings (UGX).
- The decrease in government expenditure is in part attributed to the government's outstanding balance for the obligation of PCV co-financing for the FY 2013/14.

With multiple new vaccine introductions and a growing population, the decline in government contribution is a concern.

- There was insufficient funding contributed by the government for the measles campaign, necessitating the combination of the measles campaign with HPV vaccine national introduction.

There are recurrent financial management challenges reported in 2013 and 2014 Gavi FCE reports.

- These include delayed disbursement of money from national to subnational levels due to challenges with the integrated financial management system (IFMS), bureaucratic local government systems, and misalignment of country systems with Gavi processes.

Additionally, Uganda experienced difficulty in meeting its co-financing obligations.

- Gavi expected the country to have fully paid all its co-financing obligations by December 31, 2014, but due to the addition of PCV and the mismatch of the country's quarterly budget procedures with Gavi's fiscal calendar year cycle, the budgetary allocation schedule that had previously facilitated full payment of the country's annual allocations was misaligned.

- Additionally, the Ministry of Health used a larger proportion of money received in the first two quarters to pay intern doctors who had gone on strike and pension arrears, leaving no money for co-financing.
- Because the country did not pay all its co-financing obligations by this date, it was declared to be in default.

The challenges with financial sustainability of new vaccines in Uganda are faced in other countries.

- A recent evaluation of Gavi's co-financing policy^{vi} found that in-country procedural challenges – as highlighted in Uganda's quarterly budget procedures – were a common reason for default.
- A second emerging reason is vaccine stacking (i.e., countries taking on additional co-financing requirements due to newly introduced vaccines), which was highlighted by Uganda taking on additional co-financing payments due to the introduction of PCV.

The immunization budget has tremendously increased, especially because of the co-financing obligations due to multiple vaccine introductions

Although not yet developed, there is growing recognition within the country that they need to develop a financial sustainability plan. The 2015 Uganda Joint Appraisal Report (JAR) includes a request for TA to develop a financial sustainability plan and an investment and sustainability plan for EPI (Figure 9).

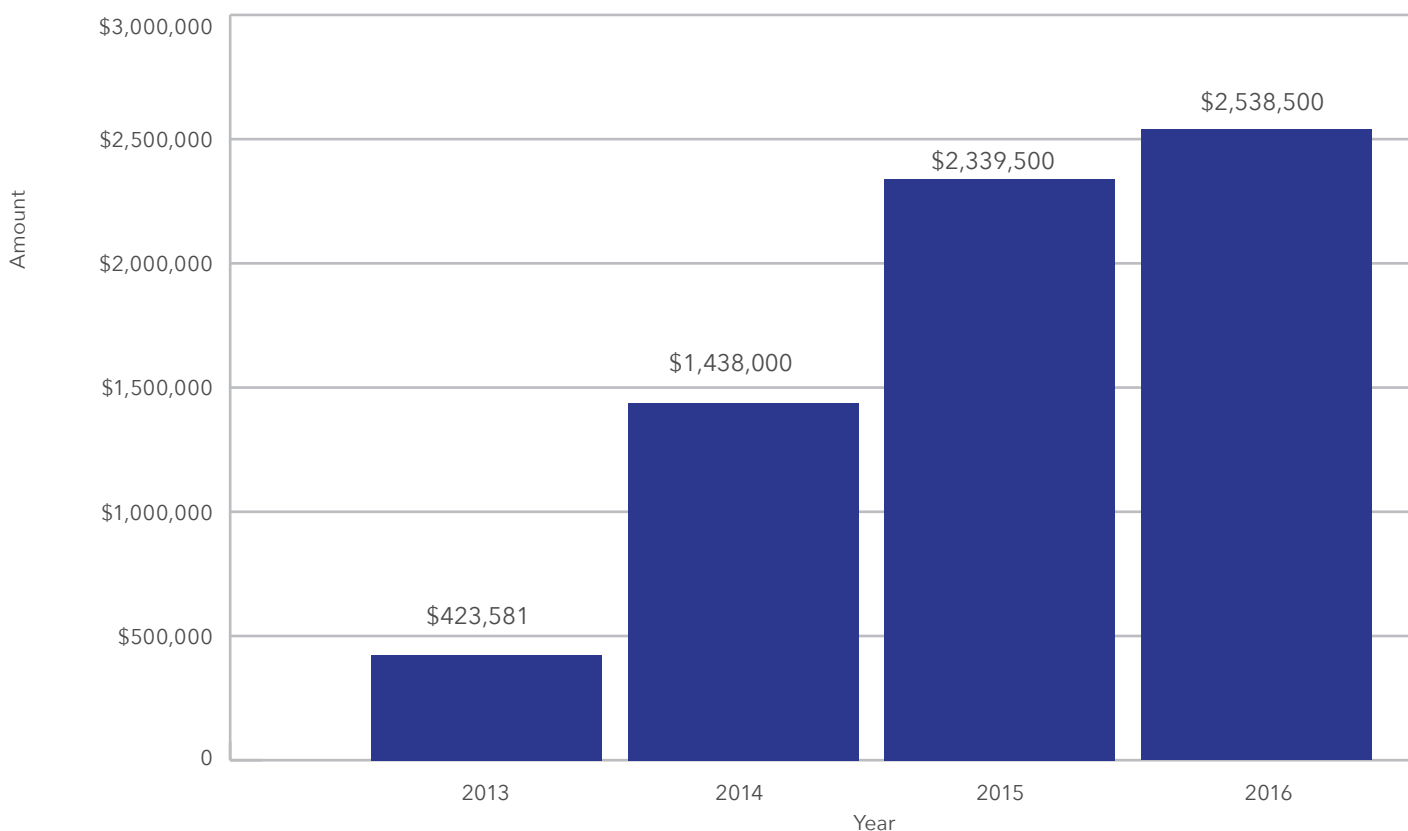
- At the same time, findings from the 2014 FCE resource tracking study show that overall government contributions toward immunization have decreased since 2012.
- Inevitably, this has resulted in co-financing challenges and insufficient operational funds to implement numerous EPI activities.

The co-financing challenges have raised debate among in-country immunization partners on the ability of the country to sustain the ever increasing immunization budget with each new vaccine added.

- This was reflected by the NITAG's demand for the MOH to clearly calculate the additional operational costs required for the introduction of rotavirus and meningitis A vaccines and explain how those funds would be raised.

^{vi}Gavi, the Vaccine Alliance, "Co-Financing Policy Evaluation."

Figure 9: Annual co-financing obligation in Uganda based on Gavi decision letters (\$US)



- Although not yet developed, there is a growing recognition within the country that they need to develop a financial sustainability plan. The 2015 Uganda Joint Appraisal Report (JAR) includes a request for TA to develop a financial sustainability plan and an investment and sustainability plan for EPI.

RECOMMENDATIONS

1. Gavi should initiate a dialogue with the Ugandan MOH on possible options to avoid a future co-financing default, including:
 - i. Allowing co-financing payments to spread across the year in alignment with the quarterly budget cycle in Uganda; and
 - ii. Supporting the Uganda MOH request to the Ministry of Finance to frontload committed monies for co-financing to MOH in the first quarters of the fiscal year before the December 31 deadline.
2. We reiterate the recommendation noted in the rotavirus and meningitis A section and the immunization finance review: Uganda should develop a long-term immunization financing sustainability plan, as recommended by the UNITAG and review findings. Each proposed new vaccine introduction should be considered in light of this sustainability plan.

Major point 2

Limited human resources within UNEPI have led to a reliance on short-term technical assistance to develop documents. Sourcing TA from consultants who are familiar with the country context and engaging stakeholders in a participatory process has resulted in positive TA experiences. An important focus, however, is to build capacity of UNEPI to undertake these activities with minimal technical assistance.

The understaffing at UNEPI has led to the appointment of multiple consultants to provide TA.

- The small team at UNEPI is often overwhelmed by the numerous competing immunization activities.
- As a coping mechanism, in 2015 UNEPI, with funding from Clinton Health Access Initiative (CHAI), sought out technical assistance via consultants to develop the country Multi Year Plan (cYMP), the applications for new vaccine support for Rotavirus and Men A vaccines, and the new HSS-2 application.

Uganda has, to this point, had positive TA experiences.

- The hired consultants were familiar with country context and the local stakeholders, based in country, and engaged stakeholders in a participatory process.

- This contrasts with other FCE country experiences, where external TA providers (i.e., individuals from outside the country) displayed less familiarity with local programmatic, policy-relevant, and contextual factors, as was the case for the HSS application in Zambia and Bangladesh and for the HPV vaccine demonstration project in Mozambique.
- While the TA in Uganda has been positive, it will be important to build additional capacity within UNEPI itself.

RECOMMENDATION

With multiple vaccine introductions and enhanced SIAs, there is a need to strengthen UNEPI's staff numbers and technical capacity. MoH should consider reviewing the UNEPI structure so as to increase staff numbers, thus addressing sustainability. Technical assistance provided by partners should aim at empowering UNEPI and MoH to own and fully take responsibility for all immunization activities to ensure sustainability.

Major point 3

Poorly communicated changes to Gavi processes have created confusion among country-level stakeholders, in some cases delaying implementation of Gavi funds. Although Gavi missions can be an efficient means of communication, numerous unplanned missions in quick succession have overburdened the small EPI team.

The FCE observes communication gaps between Gavi and the country across streams of Gavi support; these gaps have affected smooth implementation of Gavi support. We highlight a few examples:

Joint Appraisal Report.

- FCE findings of 2014 found that stakeholders perceived communication between Gavi and the country had improved tremendously, especially regarding in-country meetings to develop the 2014 Joint Appraisal Report (JAR) and discuss the Annual Performance Report (APR).
- In contrast, 2015's Joint Appraisal was remote via a Skype call with Gavi. The changed approach was not properly communicated to in-country stakeholders, which created confusion and resulted in UNEPI and partners submitting both an APR and JAR.

Revisions to HSS plan.

- Gavi recommended revisions to the HSS plan and budget that required a new approval process that was not well understood by country stakeholders (i.e., a "soft" reprogramming that was not formal).
- The country submitted the revised HSS work plan and budget to Gavi in March 2015, but no formal response was

provided by Gavi. The process of approval of revised budgets was not clear to EPI officials.

- All HSS activities were halted while waiting for approval of the revised budget; the delays led to postponement of the HPV vaccine rollout due to the shortage of vaccine storage space.

Numerous Gavi missions.

- Since the new Senior Country Manager (SCM) was appointed, the country has received numerous Gavi missions in rapid succession.
- EPI officials mentioned that the purpose of these missions wasn't clearly communicated ahead of time to allow for adequate preparation.
- Gavi missions are intensive and strain the capacity of the already thin UNEPI team.

RECOMMENDATION

We reiterate the recommendation noted under the HSS section: Gavi should ensure timely communication to countries about SCM transitions and move expeditiously to fill these posts or assign substitutes in the meantime.

