Joint appraisal report

Country	Mozambique
Reporting period	*January to December 2014*
cMYP period	*2015 – 2019*
Fiscal period	*January to December*
Graduation date	*N/A*

1. EXECUTIVE SUMMARY

1.1. Gavi grant portfolio overview

Mozambique has secured Gavi funding for the introduction of all available new vaccines with the exception of HPV that is still being piloted in one district with Gavi funds, and two other districts with government of Mozambique (GOM) funds. Pentavalent and PCV were introduced in 2009 and 2013, respectively. Rotavirus, IPV and MSD introductions will happen back-to-back starting September 2015. The first disbursement of the HSS grant, originally scheduled for 2014, took place in June 2015 due to delays (Gavi and GOM) in fulfilling financial arrangements and operational requirements. The exponential growth of the Gavi portfolio will require intensified coordination between the Expanded Immunization Program (PAV), other units at the Ministry of Health (MISAU), subnational programs and technical partners to avoid disruptions in routine immunization and grant implementation. Attention is needed to more complex financial reporting requirements as per Financial Management Requirements (FMR).

Expenditure by category	Expenditure Year 2014	Source of funding (in USD)						
		Country	GAVI	UNICEF	WHO	Village Reach	PROSAUDE	N/A
Traditional Vaccines	2,257,023	2,257,023	0	0	0	0	0	
New and underused Vaccines**	22,984,346	1,238,000	21,746,346 (Vaccine and freight)	0	0	0	0	0
Injection supplies (both AD syringes and syringes other than ADs)	283,663		283,663	0	0	0	0	0
Cold Chain equipment	874,644	0	0	874,644	0	0	0	0
Personnel	1,825,742	1,354,759	0	0	0	0	470,983	0
Other routine recurrent costs	2,715,458	86,181	259,038 (GAVI-ISS)	223,321	422,195	442,620 (mainly distribution)*Overall cost	1,282,103	0
Other Capital	78,060	0	0	33,484	40,584	3,992	0	0

Costs								
Campaigns costs	5,293,345.71	2,761,665.68	-	1,199,154.74	147,599.53	0	1,184,925.76	0
N/A	0	0	0	0	0	0	0	0
Total Expenditures for Immunization	36,312,282	7,697,628.68	22,289,047.00	2,330,603.74	610,378.53	446,612	2,938,011.76	0
Total Government Health								

1.2. Summary of grant performance, challenges and key recommendations

Grant performance (programmatic and financial management of NVS and HSS grants)

The key contextual challenges that influence the implementation of Gavi grants:

- Shifting the paradigm in immunization from vertical to health system strengthening (HSS)
- Increasing absorptive capacity at all levels and efficient use of HSS funds
- Raising visibility of immunization to address implementation challenges and sustainability
- Technical assistance (TA) activities instead of comprehensive TA systems to support a broad range of needs beyond immunization (e.g., financial management, human resources)

Mozambique embraced continuous new vaccine introductions (NVI) by learning from each process to anticipate implementation bottlenecks. Key achievements include:

- Coverage above 80% in most provinces and of Gavi supported interventions; and improvements in coverage of fully immunized children, dropout rates and stock outs.
- Improvements in the 2015 Effective Management of Vaccines assessment (EVMA) were due to increased training and resources. CC upgrade efforts were ongoing during the EVMA. CC capacity is adequate at central level, at 7 of 11 provinces and at 100 of 148 districts, for all vaccine introductions
- An inventory of the CC is on-going and is informing specific logistic measures to ensure all vaccines availability at delivery levels. For sites with inadequate capacity, logistic arrangements are concentrated on bypassing levels and increasing frequency of distribution.
- Campaign-based communication are shifting to more evidence-based behavior change.
- Productive partnership between PAV and key stakeholders for NVIs

Some of the current challenges include:

- Weaknesses of the information system and data quality.
- June 2015 EVMA constraints as compared to 2012 EVM: 1) Maintenance, distribution and support functions (e.g., supervision, reports) did not show improvement; 2) Central to provincial level distribution deteriorated (76% to 49%); 3) Province to district to health facility distribution improved but still under-expected level; 4) CC capacity for all 2015 NVI still not adequate in 3 of 11 provinces (See table in Section 3.1.1).
- Equity, gender and other contextual factors not routinely used to address low-coverage.
- Gaps in outreach due to constraints in financial and human resources.
- Weak financial management at subnational levels.

Specific grants:

- **PCV:** PCV integrated into routine immunization without major problems; lessons learned applied to next NVIs. Coverage of PCV in 2014: 104% for 1st dose; and 88% for 3rd dose. Challenge is to address problems with denominator and still have high coverage. Country plans to switch to PCV13 in late 2016/early 2017, 4 dose presentation when available. This request will be made in JA 2016 after endorsement from NITAG (COPI) [1].
- **HPV:** Two assessment completed out of five planned: PIE and Coverage Survey were realized. Coverage target of 50% surpassed: 71% for 1st dose and 61% for 2nd dose. Implementation had multiple problems that included an imposed design and "easy target site" from Gavi Secretariat, inadequate TA, and increased coordination challenges brought about by adding 2 government funded sites in an effort to correct flawed design. End of Year 1 (Y1) evaluations as required by Gavi are still pending; therefore there is not enough evidence to advise on national introduction. The three remaining assessments (Cost-Effectiveness Analysis, Viability Assessment for integrating HPV within other Health Programs, Strategic Plan for control of Cervical Cancer Development) are planned to occur until Mid-2017.
- **Pentavalent:** 2015 is the last year of program support for the Pentavalent vaccine; an extension was requested in May 2015 (APR 2014) and is also mentioned here (see section 3.1.2). It is included in the cMYP 2015-2019.
- **Rotavirus, MSD and IPV**: Rotavirus, MSD and IPV introduction are planned for 2015. There is concern on the exponential growth of the level of effort and the increasing government co-financing requirement as more new vaccines are introduced. Upgraded CC capacity, on-going equipment installation and logistic measures are in place to enable NVI.
- **HSS:** Grant approved in 2013, FMR signed in March 2015 and first disbursement made in July 2015. Due to delay, USAID and World Bank financed part of the upgrade of national CC storage; HSS proposal and Y1 work plan were amended accordingly. ICC instrumental in expediting in-country processes for 2015 implementation and allotting additional human resources from MISAU to support PAV in financial management.
- **Cold Chain Capacity:** The CC upgrade in line and in prevision of the NVI ensures adequate storage capacity as per plan. The purchase plan for new WICR and fridges as per GAVI plan ensures further expansion. Quarterly monitoring of CC will be performed to promptly respond and address eventual constraints. (see Annex F)

Financial performance and challenges: GOM has honored its co-financing commitments. Timely and complete financial reporting is a challenge even if funds end up being used and accounted for. To minimize the risk of disruptions, PAV needs additional staff with financial management expertise, political influence to expedite procedures and decisions at higher levels, and more coordinated TA.

TA: Technical partners have been supporting Gavi grant implementation for long and champion country-driven TA coordination since it will make the process more transparent and allow for accountability. Nevertheless, there are many needs. Developing a comprehensive TA plan in early 2016 can help avoid creating another layer to the management burden of PAV.

Key recommended actions to achieve sustained coverage and equity (list the most important 3-5 actions)
1. Implement RED/REC strategy but enhance its capacity as a tool for comprehensive equity-based programming (service delivery including phased inclusion of other community and population-based child survival interventions + supply of vaccines + demand creation).

[1] National Immunization Technical Advisory Group, focused on scientific, technical aspects of immunization recommendations to complete the more programmatic, financial policy dialog of ICC and other donor / partnership forums. http://www.nitag-resource.org/

Accompany the process with TA and partner coordination, introduction of locally tested innovations aimed at improving the efficiency of the whole system (e.g., modeling results) and capturing HSS grant activities at sub-national level in the PES ("Plan Economico Social") which is updated annually and includes all activities that should be implemented at the district level.

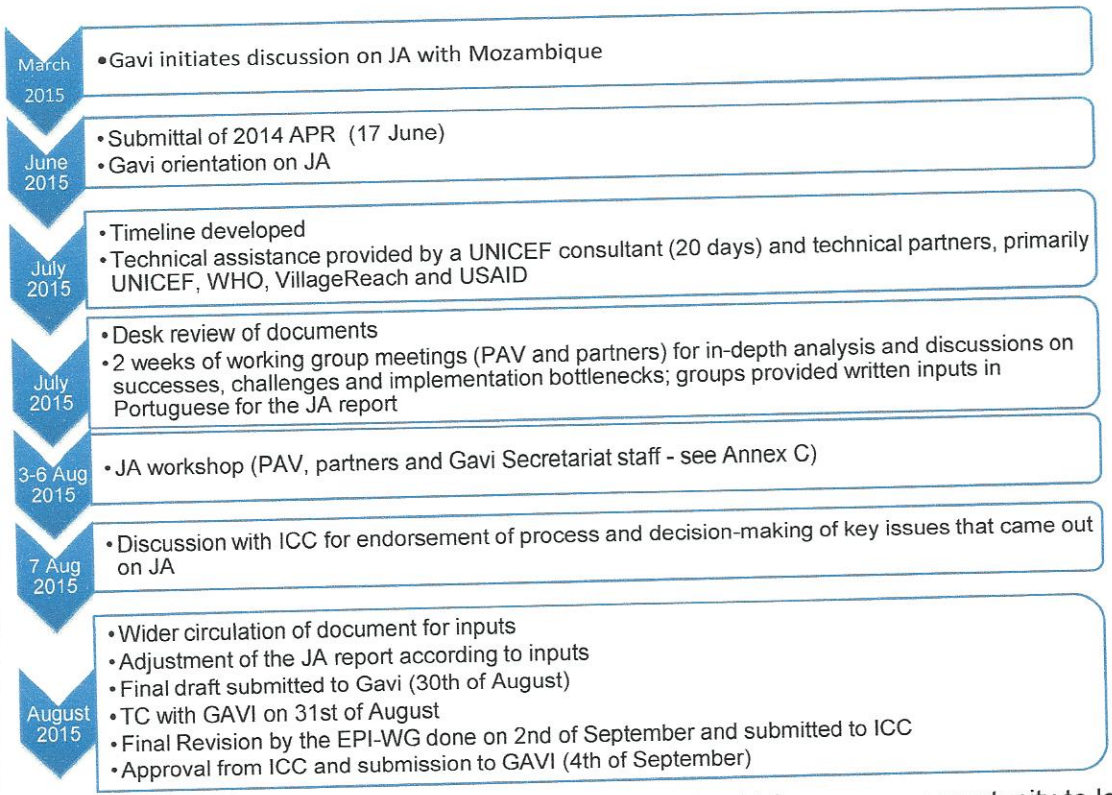
2. Respond to EVM gaps by developing a comprehensive improvement plan that builds on all components of a supply chain (e.g., HR, CC, transport, system design, policies and procedures, leadership).
3. Strengthen the information system, especially as it relates to consolidating different reporting streams, updating indicators in shift from HMIS to DHIS2, improving data quality at subnational levels, AEFI reporting and supervisory practices and follow up.
4. Strengthen the role of the ICC so it can expand the strategic partnerships needed for the implementation of all Gavi grants (e.g., comprehensive programming, comprehensive TA, additionality) and lead the design of policy-level advocacy plan focused on ensuring future sustainability from non-Gavi sources, particularly national budget allocations.
5. Develop a comprehensive TA plan that better captures and acts on lessons learned from NVI (e.g., PIE, impact assessment), strengthens PAV's financial and programmatic management capacity (including the oversight and management of TA activities), and is conducive to sustainable capacity development beyond the life of Gavi support.

1.3. Requests to Gavi's High Level Review Panel

Grant Renewals
Pentavalent: 2016-2017

1.4. Brief description of joint appraisal process

The following summarizes the JA process that took place in Mozambique:



Since the country's last EPI review took place in 2006, the JA became an opportunity to look at

broader issues that affect the program as a whole, not just the Gavi portfolio. The JA was also framed as an opportunity to develop capacities of the PAV team and partners and encourage better coordination among existing and new technical partners (e.g., CSOs, national universities and research institutes). The first two weeks of analysis were primarily carried out with the PAV team and local partners. A JA workshop took place on the third week with additional representatives from WHO and UNICEF Regional Offices and Gavi Secretariat. An ICC meeting was organized to endorse the JA Report and process.

2. COUNTRY CONTEXT

2.1. Comment on the key contextual factors that directly affect the performance of Gavi grants.

A thorough and reiterative analysis of the contextual factors affecting Gavi grant performance was conducted guided by the HSS building blocks. The challenges revealed during the JA process reinforced the findings from several other program reviews (e.g., EPI review, surveillance review, PIE, EVMA). These were examined using a systems perspective so that the complexities surrounding sustainability, equity-based comprehensive programming and capacity development could become evident to the group. The key contextual factors may be summarized according to the following challenges:

1. Shifting the paradigm in immunization from vertical to HSS and performance based programming

The Gavi HSS grant introduces two major mindset shifts in PAV: the need for comprehensive programming and for performance based management (not to be confused with Gavi's "performance based funding" model, which is a reward structure, not a management system). Creating common understanding of the technical and managerial complexities that surround both of these aspects is challenging because neither the immunization program nor the tools to support it have been designed for such purposes. Subnational levels implement immunization activities without distinguishing the source of funding. The lack of knowledge of performance-based requirements that accompanies governmental commitments (e.g., Gavi, World Bank) may interfere with the timeliness, quality and completeness of reporting to PAV.

2. Increasing absorptive capacity at all levels for efficient use of HSS funds for program expansion

PAV has never had to manage large operational budgets such as the one in the HSS grant. Key challenges to the country's absorptive capacity are:

- *Human resources.* PAV's HR plan may need updating in light of current needs and new competencies required to address HSS grant implementation. The HSS grant is aligned to the National Human Resources Plan that ends in 2015. PAV should ensure that immunization HR priorities are reflected in the new 2016–2025 Plan.
- *Financial management capacity.* There are constraints in accurate and timely financial reporting due to the complex nature of MOF/MISAU procedures and PAV's financial management capacity. Absorptive capacity at subnational levels require operational systems that can help make processes as seamless and transparent as possible to all.
- *Microplanning.* Integrated outreach activities and mobile brigades are the core strategy for increasing coverage in hard-to-reach areas. A challenge of the HSS grant is taking equity microplanning using RED/REC instruments from 2 districts in one province to 5 provinces without a model of integrated delivery. Partners focusing on optimizing last-mile distribution may help to identify ways to increase absorptive capacity at sub-national levels.

3. Raising the visibility of immunization and securing additional support to address new implementation challenges and sustainability

Immunization is a priority for the GOM but its routine nature masquerades challenges of NVI and the need for comprehensive programming. Raising the visibility of immunization and its importance for HSS is crucial, in the short-term, for expediting institutional action at different

levels to avoid in-country delays that will have a negative impact in grant management. In the long-term, it influences decisions that lead to additionality and sustainability. A strong technical guidance from NITAG (COPI) and ICC leadership and participation is fundamental to this effort. The ICC is headed by the National Public Health Director, which permits addressing some of the potential constraints within the MISAU in an effective manner. Nevertheless, senior participation from other influential ICC member institutions is needed for high-level advocacy aimed at securing additional funding from other donors and increased national budget allocations. The ICC may need to meet more frequently (twice in 2014), review its membership and operating procedures to better address the new and complex challenges and threats to sustainability that come with the exponential growth of the Gavi portfolio.

4. TA systems that can support, in a coordinated fashion, a broad range of needs beyond immunization

Technical partners are interested in supporting Gavi grant implementation and country-driven TA coordination since it will make the process more transparent and allow for accountability. Nevertheless, there are many needs. Developing a comprehensive TA plan in 2016 can help avoid creating another layer to the management burden of PAV and the process can build the capacity of PAV to coordinate TA delivery and monitor its quality, relevance and impact on grant performance. Attention needs to be given to building the capacity of national institutions so that they can support TA needs with sustainable collaborative knowledge systems.

3. GRANT PERFORMANCE, CHALLENGES AND RENEWAL REQUESTS

3.1. New and underused vaccine support

3.1.1. Grant performance and challenges

1. Overall program performance:

Mozambique has embraced the challenges of continuous new vaccine introductions by learning from each process and being proactive in identifying and addressing implementation bottlenecks. Indicators of equity (e.g., geographic, socio-economic) are beginning to be considered routinely in programming. Some of the key achievements of PAV to date include:

- DTP3 coverage above 80% (source: Admin. coverage data) in most provinces and of Gavi supported interventions (128/148 districts in 2013; 130/148 districts in 2014). Coverage of fully immunized children increased from 79% in 2013 to 82.4% in 2014 and dropout rate was reduced from 11.5% in 2013 to 9% in 2014. During the last 6 months, routine immunization has proceeded with less stock outs at most of the health facilities. These results are linked to 92% of health facilities offering immunization services by the end of 2014, strengthened mobile brigades with vaccine availability, health workforce efforts and awareness raising among mothers.
- Coverage of DTP-HB-Hib 1st/3rd dose is improving but general data quality issues remain.
- There are improvements in the June 2015 EVMA mainly due to increased training and resources. Provinces that had additional TA from partners like VillageReach to strengthen distribution to the health facility level (e.g., system design) showed major improvements.
- Communication for development (C4D) is shifting campaign-based communication to more evidence-based behavior change interventions, including training health workforce in interpersonal communication (IPC) and religious leaders for community outreach.
- There is movement towards better collaboration among PAV, technical partners and civil society for service delivery as well as technical assistance.

Some of the **key challenges** include:

- Weaknesses of the information system and data quality and their impact on measuring program performance (e.g., the 19 percentage points difference between administrative data and WUENIC estimates, problems in establishing the denominator leading to coverage rates above 100% in some areas). This includes the need to pay more attention to sub-national registration bottlenecks, improving the quality of supervision, strengthening

the feedback loop at lower levels, strengthening inventory management of CC assets, accompany the migration of the HMIS to DHIS2 and establishing a system for reporting adverse events following immunization (AEFI).

- There are iSCM challenges at all levels, which will be incremented by the additional volumes of NVIs, especially at the lower end. Constant breakdown of fridges and maintenance gaps affect the availability of vaccines. Areas that remain a challenge when compared to the previous EVM assessment are: 1) Maintenance, distribution and support functions (e.g., supervision, reports) – did not show improvement; 2) Central to provincial level distribution deteriorated; 3) Province to district to sanitary unit distribution improved but is still under expected level. The table below summarizes progress in the EVM results made in June 2015.

EVM Criteria	Req. 80% Vaccine supply chain levels							
	PS 2012	PS 2015	SN, 2012	SN 2015	LD 2012	LD 2015	HF 2012	HF 2015
E1: Vaccine arrival	71%	75%	N/A					
E2: Temperature	39%	72%	62%	66%	69%	64%	52%	62%
E3: Storage capacity	78%	95%	52%	89%	48%	80%	75%	81%
E4: Buildings, equipment, transport	84%	92%	72%	77%	59%	64%	71%	66%
E5: Maintenance	62%	59%	62%	72%	48%	67%	48%	63%
E6: Stock management	59%	74%	65%	74%	61%	52%	38%	44%
E7: Distribution	76%	49%	41%	69%	43%	53%	60%	75%
E8: Vaccine management	38%	85%	46%	84%	61%	84%	71%	74%
E9: IMS, supportive functions	53%	46%	62%	60%	56%	44%		
EVM categories								
Buildings	100%	100%	73%	80%	80%	73%	67%	64%
Capacity	80%	100%	51%	92%	53%	84%	91%	96%
Equipment	85%	89%	74%	68%	64%	64%	74%	67%
Management	52%	69%	52%	52%	47%	40%	44%	45%
Repairs/Maintenance	62%	59%	62%	72%	48%	67%	48%	63%
Training	87%	94%	82%	94%	80%	88%	70%	82%
Vehicles	17%	100%	67%	78%	24%	18%		

- 66 districts still have coverage below 80% of fully immunized children, the worst performing range from Kamavota (35%) to Gurue (54%).
- Equity and other contextual factors do not seem to be routinely used to address specificities of low-coverage areas. Gender is seen just as a boy/girl ratio in immunization. It is not a parameter that is used routinely for programmatic purposes. The JA process helped in identifying ways to address equity in planning.
- Mobile brigades do not always proceed as planned and there are still gaps in planned social mobilization activities due to constraints in financial and human resources.
- Weak financial management at subnational levels.

2. PCV

- Many issues identified in the previous post-introduction evaluation (PIE) of the pentavalent vaccine were addressed in the introduction of PCV; several issues such as lack of updated M&E tools and delayed training were common to both introductions.
- PCV has been integrated into routine immunization without major problems. Lessons learned from the 2013 PCV PIE are now being applied for the introduction of rotavirus, IPV and MSD, mainly ensuring ample time for preparatory activities (e.g., training district and health facility managers before the launch, availability of updated data collection and reporting tools in health facilities, pretested media messages for delivery of accurate and clear messages to the population).

- PCV introduction helped bring attention to broader health system issues that would normally be overseen in routine immunization (e.g., data quality, CC capacity and maintenance). Some of these have started to be addressed while others will be tackled by the HSS grant and additional TA.
- Coverage of PCV in 2014 was 104% for 1st dose and 88% for 3nd dose. The challenge is to solve the problems with the denominator and to strengthen the health system to continue having high coverage. Unlike the other vaccines, PCV did not have a previous year comparison since it had not been incorporated in the HMIS.
- Additional TA in preparation for PCV introduction has helped expand C4D planning beyond communication campaigns to include advocacy and community mobilization.
- There is epidemiologic evidence and political will to support the switch to PCV13, as per country's initial intention. However, competing priorities and programmatic challenges force the country to request for a switch only in late 2016 or early 2017. A four dose presentation of PCV13 is preferable.

3. HPV

Mozambique proved that it can reach and surpass the minimum required coverage target of 50% of the girls in the cohort. The program managed to vaccinate 71% of the cohort with the 1st dose and 61% with the 2nd dose – an 11% dropout rate, roughly 1% more than the recommended maximum. However, coverage alone was enough to provide evidence for decision-making since reaching girls in school is an easy target. Questions remain on how to reach out-of-school girls and those through health facilities. The implementation of the grant suffered from multiple problems:

- Prescriptive initial design instead of flexibility for a country-driven one to address socio-cultural differences led to a complex country-funded expansion to 2 additional sites.
- Underestimated costs, difficult alignment of the evaluation teams and coordination especially at the district level affected the quality of the interventions.
- Poor communication with Gavi, inadequate TA did not permit timely correction of design.
- Data from Year 1 of the demo was socialized but the 5 required evaluation reports have not been finalized, further delaying the decision-making on the future of the project. These reports are currently being finalized by the implementing organization. PAV will convene a meeting between partners and COPI to analyze results and decide way forward.

Despite the problems, the HPV demo has proven useful to unveil derailers of future HPV vaccine introduction, among them:

- Excessive focus on implementation and the vertical nature of participating MOH programs (e.g., PAV, adolescent health, school health) interfered in alliance building.
- Reaching pre-adolescent girls for HPV health interventions increases the complexity for PAV and requires efforts to better coordinate with adolescent health, education and others.
- Remaining gap on how to define a comprehensive package to accompany the offer of HPV vaccines (e.g., counseling, nutrition, cervical cancer screening for the mother).

4. Pentavalent

2015 is the last year of program support for the Pentavalent vaccine; an extension was requested in the April 2014. Gavi granted extension for one single year 2015. Now Mozambique can ask for another extension but not after the end of the current NHSSP 2014-2019 (refer to section 3.1.2). It is included in the cMYP. Pentavalent vaccine was the first NVS and the country did not have guidance on all the aspects that need to be taken into consideration for new vaccine introduction. Lessons learned proved useful for PCV introduction.

The National EPI program would like to perceive better why a yearly request for renewal is required whilst the NHSSP as well as the CMYP covers 2014 to 2019. National EPI program would appreciate to have an extension until 2019.

5.Rotavirus, MSD and IPV

Rotavirus, IPV and MSD will follow starting in September 2015 (MSD is the last in the series of vaccine introductions). While their introduction will benefit from the lessons learned of previous ones, there is concern about the exponential growth of the level of effort with every new vaccine. PAV needs a system that will help them optimize future introductions. Pilots/small scale initiatives that have proven successful to strengthen provincial and district level delivery (e.g., HERMES) and other creative solutions could be assessed as potential instruments to ease NVI processes.
Delay in disbursement of GAVI HSS funds in order to ensure sufficient capacity exists at all level for NV introductions, UNICEF through its funding from USAID has; i) procured 4 x 40 cbm WICRs for installation in the central store (Zimpeto), ii) entered into a cooperate agreement with CHAI based on an assessment report made by a Cold Chain Technical consultant and has renovated and/or optimized the existing cold rooms in the central level (Zimpeto) and all provinces.

At the same time, and based on an inventory and situation analysis of existing equipment made by EPI Logistics partners (Village Reach, CHAI and MISAU) UNICEF through USAID funds have also procured 305 refrigerators and supported the ministry for distribution of 230 to be placed at provincial and district levels, where there were no or low storage capacity for the upcoming introductions.
Items under GAVI-HSS plan that includes 7 WICR and 100 fridges shall arrive and be installed in 2016 and continuously address storage capacity.
The EPI-TWG will monitor semi-annually the cold chain situation.
(See Annex F for Cold Chain Capacity)

6.Financial performance and challenges:
The GOM has honored its co-financing commitments. Timely and complete financial reporting has been a challenge even if the funds are eventually accounted for. However, PAV staff is already overstretched even before the upcoming three NVIs and the start of the HSS grant that has additional and more stringent procedures. Now, more than ever, PAV will need to be supported with additional staff with financial management expertise, political help to expedite procedures at higher levels and at DAF and MOF, and more coordinated technical assistance to minimize disruption in programming. In terms of HR, MISAU has appointed a full-time HSS focal point and a part-time financial officer. UNICEF will contract an HSS advisor to build the capacity of PAV, and the HSS grant will contract 3 positions to be positioned in the provinces.

3.1.2. NVS renewal request / Future plans and priorities

NVS & INS support

Type of Support	Current Vaccine	Preferred presentation	Active until
Routine New Vaccines Support	Pneumococcal (PCV10), 2 dose(s) per vial, LIQUID	Pneumococcal (PCV10), 2 dose(s) per vial, LIQUID	2018
Routine New Vaccines Support	DTP-HepB-Hib, 10 dose(s) per vial, LIQUID	DTP-HepB-Hib, 10 dose(s) per vial, LIQUID	2016
Routine New Vaccines Support	Measles second dose, 10 dose(s) per vial, LYOPHILISED	Measles second dose, 10 dose(s) per vial, LYOPHILISED	2018
Routine New Vaccines	Rotavirus, 2-dose schedule – single-dose oral presentation	Rotavirus, 2-dose schedule – single-dose oral presentation	2018

Support			
Routine New Vaccines Support	IPV, 5 dose per vial, LIQUID	IPV, 5 dose per vial, LIQUID	2017

Programme extension

Type of Support	Vaccine	Start year	End year
Routine New Vaccines Support	DTP-HepB-Hib, 10 dose(s) per vial, LIQUID	2016	2017

3.2. Health systems strengthening (HSS) support

3.2.1. Grant performance and challenges

There have been significant delays in initiating the HSS grant (decision letter dated May 2014) brought about by adjusting formal requirements (e.g., work plan, budget), and difficulties on agreeing with financial management requirements (FMR) between Gavi and MISAU. Constant changes at the Gavi Secretariat (e.g., 6 country focal points in 2 years) and, to some extent, governance changes at MISAU (e.g., Head of PAV, National Public Health Director, Minister of Health) have brought about communication gaps. Since these changes are inevitable, PAV and Gavi could benefit from introducing a risk assessment and mitigation perspective that can minimize disruptions during such fluctuations. The FMR was finally signed in March 2015 and the first disbursement to the country for implementation and to UNICEF for procurement was made in July 2015 and August 2015 respectively. During the period between grant approval and first disbursement, USAID and the World Bank financed part of the CC equipment component (WICR at central level) of the HSS grant to ensure sufficient capacity for the 2015 new vaccine introductions. This led to an amendment to the original proposal, a new procurement plan so that UNICEF could start the procurement process, and a revised Year 1 work plan. The bottleneck at this moment is the time that it takes for the funds to be made available from MOF to MISAU, which could take until end of 2015. This issue was brought to the ICC, headed by the National Public Health Director, who responded to potential derailers of the HSS grant by: 1) committing to work with the MOF to expedite disbursement processes so that implementation could start in 2015; and 2) allocating additional governmental human resources to PAV to aid with the financial management and reporting of the Gavi grants.

Lessons learned from the introduction of PCV have helped to raise awareness of HSS needs in immunization. The timing of the HSS grant implementation coincides with a stronger immunization program and better coordination with partners as compared to the period when the proposal was developed.

3.2.2. Strategic focus of HSS grant

The Gavi HSS will support the National Health Sector Strategic Plan 2013-2017 (NHSSP) and is aligned with updated national documents, mainly the cMYP (2015-2019) and EVMA conducted in June 2015. The new timeline of the HSS grant is 2015-2019. The HSS grant is instrumental to eliminate some of the key bottlenecks and address contextual issues that interfere in routine immunization as well as introduction of new vaccines. It aims to strengthen all levels of the national vaccine delivery system (central, province, district, health facility, community outreach) and through advocacy led coalition-building, promote the engagement and participation of a wider base of civil society actors and the creation of additional public-private partnerships who will contribute to address the following identified constraints:

- Persistence of logistics and supply chain management (LSCM) bottlenecks
- Limitations in information management including data quality management
- Limitations in management of health services at district level and below
- Inadequate number and distribution of human resources, insufficient staff training and inadequate technical supportive supervision of staff at all levels
- Inadequate health financing for the entire sector
- Inequity in coverage due notably to limited outreach activities for delivery of priority health services, weak community participation in health service delivery and demand creation for immunization.

The joint appraisal process contributed to assess the country's preparedness for HSS implementation and identify steps that need to be in place before it actually takes place. These are described in Section 3.5.

3.2.3. Request for a new tranche, no-cost extension, re-allocation or reprogramming of HSS funding / Future HSS application plans

None: Year 1 HSS funds have just been disbursed so no need to request a new tranche

3.3. Graduation plan implementation *(if relevant)*

N/A

3.4. Financial management of all cash grants

FMR March 2015 annex 6 of the partnership Framework Agreement signed in May 2013. It defines requirements between the Government of Mozambique and Gavi for financial management of the grants. During the JA workshop the financial reports and bank statements for 2014 (which were to be provided with the APR 2014) were made available to Gavi team. Pending documents and explanations requested by Gavi for 2012 and 2013 were also provided.

3.5. Recommended actions

The table below captures priority actions based on an analysis using an HSS lens. There is a need to develop a higher level system for better TA coordination.

Actions	Responsibility	Timeline	Potential financial resources needed and source(s) of funding
Inadequate health financing for the entire sector; complex financial management systems and insufficient skills for comprehensive financial management of large grants			
Resolve bottlenecks that delay availability of HSS funds, update financial and programmatic reporting, and improve financial management capacity at PAV and sub-national levels by hiring a full-time Gavi HSS TA and a part-time (50%) financial officer.	MOH and partners	2015-2017	MOH counterpart funding
Develop a national advocacy plan that includes strengthening ICC's high-level advocacy influence (e.g., revision of TORs, membership, planning support, decision making processes)	MOH, ICC, UNICEF and partners	2015-2016	Gavi Partners Engagement Framework (PEF)
Conduct a comprehensive EPI review linked to the next JA that includes a thorough analysis of partners' activities, a joint comprehensive TA plan linked to EVM and JA priorities to assist PAV coordinate for complementarity	MOH, WHO, UNICEF, partners	2016	PEF
Persistence of logistics and supply chain management (LSCM) bottlenecks			
Develop a comprehensive improvement plan and monitor the implementation of a comprehensive EVM/IP (cEVM/IP) process.	MOH, UNICEF and partners	2015-2017	PEF
Improve CC logistics and maintenance, vaccine distribution and stock management by updating the CC inventory, examining the overall system design and incorporating proven technologies to increase performance (e.g., GIS, modeling, temperature monitoring)	MOH, VR and partners	2015 - 2017	PEF
Poor data quality management			
Support the development, implementation and monitoring of a data quality improvement plan	MOH, VR and partners	2016	PEF
Poor management of health services at district level and below			
Design an integrated service approach to microplanning and a framework for taking microplanning and RED/REC brigades to scale	MOH, UNICEF, WHO VillageReach	2015-2017	PEF
With MISAU's Planning Department, link the RED/REC process to district PES	MOH, UNICEF, and partners	2015-2017	PEF

Lack of human resources, insufficient staff training and inadequate technical supportive supervision of staff at all levels			
Improve management system of PAV to include HR planning (e.g., review and update TORs, profiles)	MOH, WHO, UNICEF	2015-2016	MOH, PEF
Review and update PAV HR plan to ensure it responds to current NVI and HSS needs, and feeds into the National HR Plan 2016-2025	MOH, WHO, UNICEF	2015-2016	MOH, PEF
Participate in the process of creating training plans for a new career in logistics to ensure that PAV's needs are reflected appropriately.	MOH, CMAM, WHO, UNICEF, VillageReach, and partners	2015-2017	PEF
Develop and implement a strategy to strengthen HR in maintenance that accompanies CC upgrade	MOH, WHO, UNICEF	2015-2017	PEF
Limited outreach activities for delivery of priority health services and weak community participation in health service delivery and demand creation HSS			
Strengthen targeted social mobilization activities in low coverage areas for routine immunization linked to micro-planning	MOH and UNICEF	2015-2017	PEF
Training on interpersonal communication (IPC) for health workforce at the health facility and community levels to accompany NVI as part of a comprehensive C4D strategy	MOH and UNICEF	2015-2016	PEF

4. TECHNICAL ASSISTANCE

4.1 Current areas of activities and agency responsibilities

PAV has a Technical Working Group (TWG) that meets weekly and advises PAV on major programmatic decisions. It is organized into thematic Working Groups (WG) and, while it still needs further strengthening, it has begun to streamline multi-partner technical support actions. The Logistics Working Group (LWG) has intensified its activities to accompany the upgrading of the CC. The NITAG (COPI) has rekindled its participation. It meets regularly and is up-to-date with the developments in PAV. The HSS grant will further support it financially.

Technical partners have prioritized their TA according to the key health systems constraints that the HSS grant will address (described in Section 3.2.2; See table in Annex G for full list of Technical Assistance). Summary of current areas covered and partner responsibilities include:

- **WHO:** Technical working groups facilitation; data stock management training; management training DVDMT, SMT; vaccine coverage surveys; data quality assessments, TA quality assessments; collaboration with UNICEF on 2 REC pilots (conception phase); surveillance of vaccine preventable disease; prevention of AEFI training; immunization financial review and sustainability work plan.
- **UNICEF:** Day-to-day technical support to the national immunization team; contracting of an HSS Advisor seconded to MOH; iSCM (e.g., coordination of ISC committee, cEVM/IP); cold chain (e.g., assessments, procurement of CC equipment, temperature monitoring devices and their distribution and installation); vaccine supply (e.g. forecast, procurement, stock management); C4D (e.g., RI and NVI communication plans, formative research, IPC training of health workforce); equity analyses and RED/REC (e.g., revision and upgrade of RED to

REC tools to enhance community engagement and defaulter tracking; pilot of REC approach and tools and advocacy for scale-up); elaboration of budget briefs, financial flow bottleneck assessment, investment cases for immunization and other interventions/programs; support to DQS and coverage surveys.

- **VillageReach:** Main strength is innovation to strengthen last mile solutions including last mile logistics training for supply chain management and making data available for supervisors for strengthening targeted supervision. Includes design and optimization of the supply chain system; streamlined Informed Push System (Dedicated Logistics System-DLS); use of Hermes modeling for system design; RTM using ColdTrace for temperature monitoring and data visibility for CCE plus inventory management; private sector engagement & outsourcing; social enterprise (VidaGas); advocacy and change management; data for management using Electronic System for Vaccine Logistics (SELV) based on OpenLMIS to enhance data gathering, analysis and use; VAN: enhancement of SELV to respond to PAV needs; mVaccination pilot for registering children, stock management and SMS to increase demand; Locally Adapted Population for calculating vaccine coverage; TA project from the UN Commission on Life-Saving Commodities to contribute to strengthen human resources for supply chain management component of national plans (PELF/CMAM and PAV).
- **CHAI:** Transport and storage; equip provincial stores; install CC equipment; training maintenance workers; online temperature control with alarm for action; temperature control during transport; baseline information in 4 provinces; Coca-Cola partnership for distribution of vaccines with other health supplies; SCM distribution to district level.
- **Centro de Investigação em Saúde de Manhiça (CISM) and Eduardo Mondlane University:** National partners of the Full Country Evaluation provided focused support on HPV training on 1st cycle HPV demo; 2nd cycle grant refreshment training in NVI.

Sources of funding to partners come from UNICEF, USAID, Gavi, CIDA, DFID, Bill and Melinda Gates Foundation, CHAI/HQ, among others.

4.2 Future needs

Addressing the challenges revealed during the JA will require intensifying improvement activities at district, health facility and community levels as well as delivering coordinated TA that responds to the country's comprehensive needs with partner inclusiveness. PAV, supported by WHO and UNICEF, will lead the process of identifying a broader range of TA partners – including other governmental bodies, CSOs and Mozambican institutions – to develop a joint TA plan that can: 1) address TA needs with systemic solutions and appropriate delivery mechanisms; 2) generate a collaborative knowledge network that will strengthen national institutions for sustained capacity development; and 3) capture the impact of increased capacity in grant performance. In the meantime, WHO and UNICEF will implement the following TA priorities identified during the JA. Two CSOs, VillageReach and JSI, that have comparative advantages at sub-national levels, will work together with PAV, WHO and UNICEF to define the best way to complement the TA efforts with their expertise.

WHO

WHO support will focus on the 4 of the 5 priority areas highlighted in the country HSS proposal, namely:

- Strengthening health management capacity at district and health facility levels in the context of decentralization
- Strengthening the Supply Chain Management capacity, which also includes adequate management of vaccine and other essential supplies at all levels
- Strengthening Health Information Systems (HIS) and EPI Data Management
- Strengthening the Human Resources Capacity at all levels of the system

In line with the above, the areas of support that would be provided by WHO include (see annex G):

1. Strengthening Routine Immunization with a holistic health system focus including program reviews and assessments
2. Strengthen vaccine management system
3. NVI: technical support to develop application processes, training of health staff, post introduction evaluation of new vaccines including surveys
4. Developing/updating the existing policies/strategies/guidelines as necessary.

WHO will also provide support in the following areas: Integrated Disease Surveillance Risks (IDRS) with emphasis on Vaccine Preventable Diseases (VPD) surveillance including laboratory support; AEFI surveillance; capacity building (inside and outside the country, as relevant); and program management with special focus to district and provinces. WHO will strengthen ICC, NCC and NITAG capacity to better perform their respective roles supporting peer review meetings and exchange of experiences. WHO will also exercise its convening and coordinating role to bring on board the required expertise for other identified technical gaps, and to promote integration and synergies for more efficient use of available resources.

In order to provide quality technical support to PAV with a health system focus domain, there is a critical need of financial support for: 1 professional staff for EPI in WHO country office,;1 national program officer at WHO (in order to ensure sustainability and capacity building of national staff for future needs of the country) ; 1 logistician at WHO to build capacity of national staff on and support stock management of consumables, and keep updated inventory; consultants to support the immunization system program activities, as needed.

UNICEF

UNICEF will provide TA in the following four priority areas (see detail in Annex G):

1. iSCM/cold chain & logistics

- Champion efforts and coordinate with WHO the development of a comprehensive approach to EVM/IP process and monitor the implementation of the cEVM IP. UNICEF will take a special focus on National and District level vaccine management capacity development linking it to partners working at the community level and the RED/REC roll-out.
- Coordinate with WHO to ensure harmonized engagements across partner iSCM efforts
- Strengthen inventory management capacity to ensure the development of a comprehensive full country inventory of CCL assets
- Strengthen capacity to monitor CC performance leveraging partners' efforts to strengthen temperature management and to implement preventive maintenance and repairs according to an endorsed CC Maintenance Strategy

2. Communication for Development (C4D)

- Advocacy capacity building and the development of a national advocacy strategy and plan to be implemented with government, community and religious leaders. Includes advocating for inclusion of communication in cMYPs, HSS and NVS applications/grants, annual EPI plans and mapping resource requirements.
- Design and roll out social mobilization initiatives with focus on equity to create demand among populations in low coverage areas. Includes developing materials and targeted communication efforts in local languages.
- Conduct audience rapid assessments to determine level of reach and recall of communication campaigns, focus groups for pre-testing communication products, and formative research to strengthen
- Promote attitudinal changes among the health workforce and provide them with interpersonal communication skills to enhance quality of care.

3. Equity/RED/REC

- Finalize and print the REC guideline including the social mobilization component

- Roll out RED/REC in collaboration with MISAU's Department of Planning DPC to ensure linkages to PES, and engagement of partners by province to support quality of cascade.
- Support the scaling up of RED/REC to 5 provinces to address the equity gap while maintain the 2 original district pilots as a living laboratory to test models of social innovation, expanded partnerships and integrated programming.
- Analytical evaluation on the feasibility of and the needed processes for expanding interventions delivered through RED/REC and linkages to existing decentralized structures.

4. Monitoring and Evaluation

- Triangulation of data sources to assess performance (IMASIDA, DQAs, smaller surveys)
- Process evaluation focused on health facility levels for: RED/REC microplan quality, implementation; impact of moving away from National Health Weeks; perceptions of new vaccine introduction; CCL performance

To this end UNICEF will need financial to support for 1 Immunization Specialist to ensure the coordination and championing of integration of efforts for monitoring and addressing the equity gap; 1 supply chain specialist as assurance to the forecasting, stock management, CCL inventory and maintenance systems and logistics HR strengthening that is needed to ensure availability of quality vaccines; 1 HSS advisor to support the capacity development, implementation, monitoring, reporting and knowledge management which needs to accompany a smooth HSS implementation; and short-term consultancies as deemed necessary.

VillageReach

VillageReach, a member of the ICC, can institutionally contribute by:

- Providing the last mile perspective so challenges faced at the health centers and community health workers are represented all the way up the chain of command.
- Flexibility to implement MISAU priorities and, with partners, shape those priorities based on global conversations and lessons learned.
- Building on all components of a supply chain – HR, CC, transport, system design, policies and procedures, leadership – to improve the overall system.

Specific TA for PAV based on the needs identified by the JA include:

- Data for management: Together with UNICEF and the efforts around DHIS2, provide TA on how to bring systems together for improved visibility, and then establish the people and processes necessary to actually use the data that is collected.
- Addressing supply chain bottlenecks: Utilize the current modeling activities both at provincial and national levels to support the implementation plans to improve the performance of the supply chain making it a more efficient system.
- HR and improving management practices, particularly with how HR fits into the overall system and looking at it holistically. Provide TA on capacity building, or developing a new cadre of health workers, or changing system flows, all in order to reduce the burden on health workers and improve the quality of care and the performance of the supply chain.
- Equity: Share lessons learned from other programs that have fine-tuned microplanning (e.g., eHealth Africa and polio campaigns in Nigeria).
- The financial flow study that we are doing with UNICEF, and the locally adjusted population study that may give us better denominators for more accurate coverage estimates.

JSI

JSI, under the USAID funded Maternal and Child Survival Program (MCSP), can offer at central level the support of the program's national immunization advisor who will participate in the immunization technical committee and share tools, approaches, and lessons learned from the field. The main support to PAV under MCSP could be in the 3 provinces (Cabo Delgado, Nampula and Sofala), districts, health facilities, and communities where the project works. JSI and its consortium is able to provide TA to support for the following:

- Program management
- Strengthening coordination and policy bodies (e.g., ICCs / HSCCs)

- Supply chain strengthening
- Data availability, management, quality and use
- Demand promotion and community mobilization
- Special strategies for low coverage or high inequity areas
- Sustainability - programmatic and financial

In addition, JSI's Immunization Center can potentially provide TA in many areas if additional funding is secured.

5. ENDORSEMENT BY ICC, HSCC OR EQUIVALENT & ADDITIONAL COMMENTS

The joint appraisal process and key results were presented to the ICC in the last day of the workshop (see Annex C). In addition to the information, four decision points were presented and are summarized below with the ICC's decision:

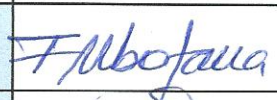
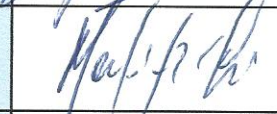
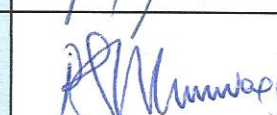
1. **Starting date of the HSS grant implementation impeded by national financial procedures:** The ICC maintained the start date to 2015 and for this the Head of the ICC committed to: 1) As National Director of Public Health, address the system's bottlenecks to expedite the flow of funds; and 2) Appoint 2 MISAU human resources to PAV, one 100% and the other 50% of the time, to oversee the financial management of the Gavi portfolio.
2. **Change PCV 10 presentation to PCV13:** A decision was taken to switch to PCV13 only towards the end of 2016 or in 2017.
3. **Future steps of the HPV demo:** Year 1 evaluation reports will be finalized to meet Gavi requirements. Year 2 implementation will continue while technical committees (e.g., NITAG, TWG) will analyze the evidence and decide on national introduction.
4. **Endorsement of the JA process:** Process endorsed and the final JA report will be submitted to Gavi by September 04th after broader consultation within MISAU.

Issues raised during debrief of joint appraisal findings to national coordination mechanism:

The ICC is responsive to needs as demonstrated by the timely decision to address HSS implementation bottlenecks. The recommendations for an expanded role of the ICC that came from the JA process may need to be discussed further under the perspective of high-level advocacy for sustainability.

Any additional comments from

- Ministry of Health:
- Partners:
- Gavi Senior Country Manager:

Name/Title	Agency/Organization	Signature	Date
Dr Francisco Mbofana - National Director of Health	Ministry of Health		3/9/15
Dr Hilde de Graeve – WHO Acting Representative	WHO Country Office		3/9/15
Dr Marcoluigi Corsi - UNICEF Representative	UNICEF Country Office		3/9/15
Ruth Bechtel - Resident Director	Village Reach		3/9/15