

Internal Appraisal 2014 ARMENIA

1. Brief Description of Process

This Internal Appraisal was conducted for GAVI by independent technical expert Zaza Tsereteli, in close cooperation with GAVI CRO for the country Nilgun Aydogan, and is based on reports and documentation supplied to GAVI by the national authorities and institutions in the country for the year 2013. In addition detailed inputs and updates provided by WHO EURO and UNICEF (including Supply Division) offices to the review process.

Immunisation decision support team is drafted the dose calculations for 2015 for all NVS programs using the approved targets (numbers of infants & wastage). The number of doses to be allocated (and planned for shipment) for 2015 for pentavalent are based on the approved targets (2015) as well reported opening stocks (Jan 2014), shipment plan (2014) and target closing stocks (2015). For others programmes, a stock analysis is carried out to determine the right level of stock to be deducted from 2015 allocation. Syringes and safety box calculations are derived from dose calculation. All this is done in consultation with the product managers and (if there are any significant changes) the country, and are signed off by the CRO.

2. Achievements and Constraints

The country remains as high performing country for all antigens that are in the national immunisation program. There is a positive trend of increased coverage since 2008 with introduction of new vaccines, reaching to 95% by 2012. The country had no outbreaks in the 2013 which is a good indication of the immunity levels. Armenia was not affected by the measles outbreaks experienced in the neighbouring countries and in the European region.

The drop-out and wastage rates are in accordance with the targets suggested by the UNICEF and WHO and the targets indicated are consistent with the JRF and WHO and UNICEF estimates. There is a slight difference in the surviving infants however that is due to the differences in definition of "surviving infants" for cut off dates in the State Statistics. New vaccines (DTP+HepB +HiB (intro. 2009), and Rota) were introduced into the national immunisation calendar. Rota was introduced in late 2012, in 2013; post introduction evaluation (PIE) was conducted. The PIE report indicates that rotavirus vaccination coverage for children born during October-December 2012 at each visited health facility by compiling the data in the vaccination registers. All but one visited health facility had greater than 80% rotavirus vaccination coverage. By the end of the 2013, the coverage with the two doses of vaccine reached to 35%.

The sentinel surveillance indicates that hospitalisations due to the rota virus among the infants reduced 2/3 in 2013 compared to seasonal figures of the same period of 2012. PCV 10 is included into the calendar with the official introduction planned for September 2014. There are no gender coverage differences, and any observations of gender inequality that affecting the access to the health facilities for the immunisation. This is confirmed by several surveys carried out in Armenia such as DHS and coverage surveys. However, there is no specific gender based data collected.

The main challenge is related to the financing of the immunisation program. Current MTEF includes budgetary figures for the period 2013 – 2015 and thus allocated amount for routine vaccines at its line item specific to vaccines. In two year time (by 2015), allocated amount to vaccines increases to US\$ 1,931,714, with approximately 90% increase compared to amount allocated in 2013. During the current MTEF cycle (2013 – 2015), significant funding gap is indicated for the year 2014. Approximately additional US\$ 480,000 needs to be mobilised to achieve the program objectives. As there is no other donor than GAVI Alliance in Armenia, required additional amount has to be mobilised from domestic resources. Only possibility other than the Government is Armenian Diaspora, but such an amount has never been mobilised from Diaspora in the past. Funding gap reflected for the year 2014 remains as an unaddressed challenge. This may also have negative impact on the implementation of supportive activities, which are facilitating the introduction of the new vaccines (media campaigns, or social

mobilisation). The country has plans to address the issues related to the cold-chain or capacity building; however there is no information on how the financial problems are going to be managed.

There is no HSS program, supported by the GAVI. It was concluded in 2012. If it will be a decision to introduce such a programme again, for example for Improvement of immunisation information systems, (through the introduction of electronic immunisation registers), then maybe the money allocated in the budget for this purposes, can be used for the purchase of vaccines, or other important activities.

3. Governance

According to the APR, the HSCC and ICC are merged, and it is operating as the National Interagency Coordination Committee (ICC). Minutes for the two meeting of the ICC in 2013 are available. The meeting took place at the end of the May 2014, as a result, minutes from that meeting are not obtainable. The Minister of Health is chairing this committee and the representatives from the several ministries, major international organizations and the local NGOs are presented there. Among the issues discussed at the meeting was the APR for submission to the GAVI and the progress of the new vaccine introduction in the country.

During the visit conducted to Armenia in May 2013 for graduation assessment revealed that the Program Manager for Armenia has very regular meetings with the key officials of the Ministry of Health, as well as the Government. The chief of staff of the Government and the head of the Standing Committee on Healthcare, maternity and childhood of the National Assembly are also regularly updated about the program issues as well as GAVI related matters. The Ministry of Finance is very well aware of the program needs and financial requirements. In March-April 2014, there have been some changes in the government with the designation of new prime-minister and several ministers including Minister of Finance and Minister of Health which caused some delays in obtaining signatures and completion of paperwork needed for the GAVI reporting.

4. Programme Management

In 2010, Armenia had developed a Comprehensive multi-year plan (cMYP) of the National Immunisation Programme (NIP) for the period of 2010-2015. It is costed and budgeted, and early plans and budgets are also well developed. The document is taking into account the yearly performances and emerging trends too. That is why; even alternative scenarios for a national programme strategy are described at the end of the NIP.

It needs to be mentioned that introduction of the new vaccines were delayed for some time. Mostly it is explained with the desire to guarantee a successful introduction. As for the PCV vaccine, in order to have sufficiently epidemiological data on bacterial meningitis, the vaccine will be introduced in September of 2014.

A comprehensive strategy of communication and social mobilization has been developed with objectives, strategies and education, communication, and advocacy activities to promote parents' and medical professionals. Guidelines on reporting of mild AEFI are usually updated, printed and distributed to health care workers involved in the immunisation prior to introduction of a new vaccine.

The immunisation program developed new guidelines for AEFI monitoring which clarified reporting of severe and mild AEFIs and included rotavirus vaccine and PCV vaccines. The NIP also developed a crisis communication plan. Of the health facilities visited, 93% had the Ministry of Health order describing the process for monitoring and reporting of AEFIs. From 27 June 2012 through 12 April, 2013, 105 AEFIs were reported after the administration of a new brand of BCG vaccine; all of these cases have been resolved. No AEFIs have been reported after administration of the rotavirus vaccine since the introduction.

5. Programme Delivery

As indicated above, the country showed a positive trend for the immunisation coverage over the years. The major activity for 2013 was the scaling up of the rota virus vaccine introduction following the November 2012 introduction.

Effective Vaccine Management (EVM) assessment was carried out in 2011 and a follow up mission on EVM improvement plan implementation was conducted in November 2013. The next EVM assessment is designed for the July, 2014. The EVM improvement plan is implemented with some delays, implementation rate is reasonable - 35 out of 44 activities are fully or partially implemented. The most important achievement is the establishment of a new central vaccine store (CVS) and restructuring the immunisation supply chain by removing one supply level (districts). Vaccines and injection supplies are distributed from the national warehouse to subnational stores by refrigerated truck quarterly and to HCFs in Yerevan on a monthly basis. Regional stores distribute vaccines to HCFs monthly using cold boxes and vaccine carriers. A computerised web based vaccine stock management using wVSSM software was implemented at national level and is expanding to sub-national vaccine stores.

The EVM recommendations which were not implemented relate to strengthening temperature monitoring and establishing effective maintenance. Country requests additional technical support to conduct a temperature monitoring study and temperature mapping in cold rooms, as well as additional funding to support procurement and introduction of 30-day electronic temperature data loggers. Lack of implementation of maintenance related activities is explained by challenges due to reorganizations in the health system and immunisation supply chain.

The current storage capacity at the CVS is sufficient to support introduction of the PCV 10 vaccination, subject to improving usage of storage space and reducing the supply period. 70 small non-PQS refrigerators were procured and distributed in 2012 to PHC facilities and further plans are in place to procure new refrigerators for facilities delivering immunization services. A situation update regarding storage capacity at different levels will be provided by the upcoming EVM assessment. Country would require also additional assistance in conducting a comprehensive cold chain inventory and needs assessment to make evidence based decisions on specific cold chain equipment needs.

The portion of introduction grant was allocated for procurement of the refrigerators and generators in order to upgrade the cold chain in the primary health care facilities. However, tenders to define the winners were unsuccessful and the implementation of the programme postponed for the next year. As for the training of the health care workers involved in the immunisation, it was financed by another donor organization. Therefore, lump sum of 100,000 US\$ is reallocated for the year of 2014.

Starting from the 2011, vaccine distribution system is centralized. Vaccines and injection supplies are distributed from the national warehouse to local stores quarterly and to health care facilities in Yerevan on a monthly basis. In the same way, from the local stores vaccines are distributed to regional health care facilities monthly. In 2012 cold chain was upgraded at primary health care level. 70 refrigerators were procured and distributed to primary health care facilities.

6. Data Quality

The MoH of the Armenia uses its own formula to calculate the coverage for the routine immunisation. That method is different from the one used by GAVI. Population data from two sources (National statistical service and MoH) always differ. It is requested to compare data of the mentioned sources at the local level before reporting. The MoH planned to introduce a case based software in health care facilities to improve data management. However, information on the timing or the possible financial support for this activity is not available.

Country has introduced the quarterly supportive supervisions. During this activity immunisation teams reveal inaccuracies in reporting forms and train responsible professionals to improve their reporting skills.

Vaccine Preventable Disease Surveillance including Sentinel Surveillance of Rotavirus infection, Invasive Bacterial Meningitis to collect local evidence for informed decision making.

The last immunisation coverage survey was carried out in 2006. The Demographic and Health Survey took place in 2010. In general, no significant discrepancies between immunisation coverage data were revealed during the last 5 years.

7. Global Polio Eradication Initiative, if relevant

The polio immunisation is well integrated into the routine immunisation (RI) program and there is no separate polio implementation in Armenia. Country together with other countries from this region is certified as Polio free since the 2002.

8. Health System Strengthening

Armenia had previously received HSS funding but the implementation is concluded in 2012.

9. Use of non-HSS Cash Grants from GAVI

During the 2013, ISS funds were not been used, and the amount of 184 251 US\$ was carried over to 2014. The reason for that was the donor support from WHO and Armenian diaspora. ISS grant will be used in the future, as the National Immunisation Programme of Armenia does not have its own budget line for immunisation services support. Mainly it is covered by the donor support which is limited to GAVI Alliance. There is technical support provided by WHO and UNICEF.

10. Financial Management

ISS funds are managed by Financial-Economical Department of Ministry of Health and Ministry of Finance. ISS funds are included in the national health sector plans and budgets. Annual Budget for the upcoming year is developed by ISS responsible accountant and presented at the ICC meeting. The country uses one bank account for vaccine introduction grant (VIG) and remainder of former ISS funds. The bank statements for each cash programme were presented.

According the financial statements for the VIG, the balance as of 31 December of 2103 was around 184,251 US\$. According the APR the available funds (previous ISS funds and remainder of VIG) will be used for procurement of 90 refrigerators and generators, supportive supervision and training of health workers for the second round trainings before PCV vaccine introduction.

11. NVS Targets

Penta vaccine

Penta vaccine was introduced in September of 2009. The APR reported that total doses of 97,300 were received in 2013. The remaining 49,400 doses were postponed for the year of 2014. However, country did not experience a stock out due to the decreasing of vaccine wastage rates and improved management of the immunisation services. For 2015, calculated doses are 144,100. The country has been informed that GSK produced 2 dose Lyophilised product is no longer available. Country is considering making a gradual shift to IPV containing hexavalent vaccine produced either by GSK or Sanofi. GAVI Alliance informed the country about prequalification status, and potential additional costs for having aP vaccine in the immunisation schedule. As of June 2014, the country did not make a final decision on the matter. It is expected that MOH will make a final decision on hexavalent and IPV by the end of 2014.

Currently there is no GAVI policy in place for IPV containing hexavalent with aP. The PPC concluded that although there is no scientific evidence against use of aP containing vaccines, PPC advised that GAVI not to fund vaccines that has additional financial implications for the countries.

The target for 2015 penta1 is 14% ahead of 2013, which is above the 10% rule. The increase is rather due to the lower than expected coverage in 2013. In view of the strength of the program, this target should be accepted and is considered to be reasonable.

Since GSK is discontinuing, the replacement process is important and needs to be flagged.

Rotavirus vaccine

Rotavirus vaccine was introduced in 2012. The Post Introduction Evaluation is conducted in July 2013. The following are the results obtained by the evaluators:

- Prior to introduction of rotavirus vaccine, national conferences on the rotavirus vaccine
 were held for healthcare workers, medical specialists and academics and comprehensive
 trainings of marz and health facility staff took place. All of the healthcare workers
 interviewed were satisfied with the training. Some healthcare workers requested
 continuous education training on vaccinations to keep them updated on new information.
- Vaccine doses administered were reported on a monthly basis health facilities to the
 district inspectorate offices where these data are compiled and submitted to the marz
 level. Based on evaluation team calculation all but one visited health facility had greater
 than 80% rotavirus vaccination coverage for children born during October-December
 2012. National monthly coverage data will be available since September 2013 when first
 vaccinated children have reached one year of age.
- The health facilities visited had qualified personnel, well-established immunisation planning, recording and monitoring systems, and well-functioning reminder and recall systems to bring children in for vaccination. All healthcare workers and marz staff interviewed reported a smooth or very smooth introduction of the rotavirus vaccine and 78% of healthcare workers and 66% of marz epidemiologists reported that the rotavirus vaccine improved their immunisation programme.
- The national vaccine storage site has adequate storage capacity and cold chain monitoring systems in place. Vaccines were observed to be adequately stored in refrigerators and there was adequate cold chain capacity in all health facility sites. Of the health facilities visited, three sites reported needing to make changes to the cold chain prior to the introduction of rotavirus vaccine (such as acquiring a new refrigerator or freezer) and 92% reported no problems with the cold chain since the rotavirus vaccine was introduced. Not all health facilities had freeze monitors in the refrigerators and one health facility was not monitoring the freezer temperature (where polio vaccine was stored).
- Armenia has a well-established system of forecasting, ordering, and distributing vaccines.
 Monthly reports are submitted on time by health facilities. All the immunisation recording
 and reporting forms were updated to accommodate rotavirus vaccine with the exception of
 the vaccine registers and child development cards. All but one health facility visited (96%)
 had immunisation policy guidelines for vaccine management available on site. 54% of
 sites visited reported a shortage of DTP vaccine; a DTP vaccine shortage occurred
 throughout the country from December 2012 through January 2013 and from June to July
 2013.
- Annual supervisory visits are made to each marz by central level staff and to each district
 by marz level staff. The marzes and districts are responsible for conducting quarterly
 visits to each health facility in their jurisdiction. All of the marz inspectorate offices
 reported that they had received at least one supervisory visit since the introduction of
 rotavirus vaccine and that they had received written feedback. Of the health facilities
 visited, all but one (96%) had received at least one supervisory visit from district or marz
 staff since rotavirus vaccine was introduced.
- All of the health care workers interviewed knew that rotavirus vaccine is intended to
 prevent diarrhoea or severe diarrhoea and 75% reported telling parents the disease the
 vaccine protects against, when to return for the next dose, and normal side effects from
 the vaccine during a vaccination session. During vaccination sessions observed,
 vaccines were stored and handled properly and appropriate vaccine administration

techniques were used. Most of the mothers interviewed had good knowledge about rotavirus vaccine and the vaccines their child had received.

In order to address the findings of the rotavirus vaccine post-introduction evaluation in Armenia, the international team recommended the following:

- Community advocacy and social mobilisation: Rotavirus vaccine well accepted by
 medical workers and most parents. However, there are vaccine hesitant and anti-vaccine
 populations in Armenia that refuse or delay all vaccinations. Country is advised to
 continue advocacy and social mobilisation activities to target vaccine hesitant groups such
 as educated parents in urban areas and religious groups that do not believe in
 vaccination.
- Healthcare worker training: To address the request of healthcare workers from primary health care facilities, conduct continuing education of healthcare workers and medical specialists to provide updated information about vaccinations including the benefits of vaccination and vaccine safety data.
- Improve waste management: Ensure proper immunisation waste disposal in small rural health facilities by signing contracts with a waste disposal company or if this is not possible arrange disposal of waste on site in accordance to WHO recommendations.
- Rotavirus and intussusception surveillance: The National Immunisation Program should continue rotavirus surveillance to monitor the impact of rotavirus vaccination and continue the case control study to evaluate the effectiveness of rotavirus vaccine. Intussusception surveillance to monitor the safety of rotavirus vaccine should also be continued. The Ministry of Health should provide the necessary support to ensure uninterrupted implementation of these projects.

Rotavirus Sentinel Surveillance

Rotavirus sentinel surveillance has been implemented since 2009 in two sentinel hospitals in Yerevan with WHO support. Standardised WHO surveillance protocols are being utilised in this project. All children under five years of age hospitalised due to diarrhoea are tested for rotavirus. The National Rotavirus Laboratory performance was confirmed by the WHO Reference Laboratory to be of a high quality. Data from rotavirus sentinel surveillance shows that from 2009-2012, 34% to 37% of children under the age of five hospitalised with diarrhoea at these sites had rotavirus infection. The NIP plans to utilise sentinel surveillance data to monitor the impact of rotavirus vaccination on the number of hospitalisations and number of rotavirus gastroenteritis in children less than five years of age.

The NIP uses sentinel surveillance as a basis to conduct a case control study to evaluate the effectiveness of rotavirus vaccine. The study has been conducted since January 2013 with WHO and U.S. CDC support.

Sentinel Surveillance for Intussusception

Sentinel surveillance for intussusception was implemented in 2011 in six children's hospitals in Yerevan, Lori, Shirak, and Syunik regions, with WHO and U.S. CDC support. Data on intussusception were collected retrospectively for 2007-2011. On average, 22 cases of intussusception were identified each year prior to the introduction of rotavirus vaccine. Over 70% of cases were in children 6-12 months of age. The NIP is going to continue implementation of intussusceptions surveillance to monitor safety of rotavirus vaccine.

Lessons learned from rota introduction were translated to planning and training strategies worked well for the introduction of pneumococcal conjugate vaccine (PCV) in 2014:

- For the PCV planning and training, strategies included on how to communicate with vaccine hesitant parents, data on the safety of multiple injections, and reminders for health facilities on proper temperature monitoring and recording.
- More advocacy and communication to be implemented prior to PCV introduction because PCV is less likely to be accepted by parents since it is an injectable vaccine.

- The vaccine register and child development card are updated in 2014 to include both rotavirus vaccine and PCV.
- Implementation of bacterial meningitis surveillance continues to monitor pneumococcal disease epidemiology before and after PCV implementation.

Based on the 2012 APR, the shipment of total doses of 70,500 took place in 2013. This amount was based on the revision of the requested dosage as the implementation was delayed. Originally it was requested it total 93,000 doses. According the APR, for the 2015 country is requesting 91,500 doses of vaccine.

PCV10 vaccine

PCV 10 will be introduced in September 2014. The introduction has been delayed from 2013 to 2014 to avoid the sharp increases to co-financing within 2013. Therefore GAVI moved the introduction of the PCV10 and revised the decision letter. There have been further delays to the introduction due to elections, change of MOH structures as well as readiness assessment for PCV10. In 2015 the requested number of vaccine is 150, 000 doses.

As indicated in the summary below there is a potential funding challenge for the 2014 vaccines.

12. EPI Financing and Sustainability

The government of Armenia is covering about 80% of all expenses related to the EPI, GAVI support finances 11% of the vaccine costs. According the calculations, the programme will be sustainable if no changes in the immunisation calendar will be introduced. However, Measles and Rubella vaccination campaign is planned in 2014, and that may result of financial gap for the immunisation program. Although the Government committed to increasing the budget for procurement of vaccines and injection supplies in each year, it is not sufficient to cover all resources required for traditional and underused vaccines and injection supplies unless targeted actions aimed at increasing the immunisation budget are implemented. With introduction of PCV10 in 2014 there may be further financial challenges particularly for the year 2014. The uncertainty with funds available may continue to have an impact on the sustainability of the immunisation program financing in the long term.

In May 2013, a graduation assessment conducted by the Alliance that reviewed some key issues related to immunisation financing, vaccine procurement and program related matters. Below is a short summary of the outcomes of the graduation assessment.

Key to ensuring vaccine security is determined in the most part by 4 key parameters: (i) Stringent Quality Assurance parameters; (ii) Accurate Forecasting; (ii) Sufficient and timely funding and (iv) appropriate contracting. While the assessment at the time was not intended to be a review of the National Regulatory Authority (known in Armenia as the Scientific Centre of Drug and Medical Technology Expertise) functionality in relation to vaccine regulation two issues raised during the mission indicated the need to include consideration of vaccine regulatory capacity in Armenia. These issues were the consideration by the country to moving to self-procurement of vaccines, and the existing requirement of the country to procure only European manufactured vaccines.

Some recommendations have been provided to ensure financial sustainability of the national immunisation program (NIP):

- Continuously advocate for benefits of immunisation to mobilise additional resources to meet programme target and sustain the political commitment to the program by the key officials and leaders.
- Immunisation advocates should be actively involved in development of National Health Strategy 2020, to ensure that the NIP priorities and targets are reflected.
- Allocate funds for operational activities (training, supervision, monitoring, surveillance) to improve quality of services.
- Ensure that critical functions of the NIP are secured, while reforming inspection and public health functions of the MoH.

- Keep essential functions of the NIP centralized (i.e., policy setting and guidance, procurement, vaccine management, training planning, supervision, monitoring, surveillance, advocacy and communication).
- Ensure collaboration, coordination and accountability among different structures and levels.
- Investing and building capacity of newly established NITAG
- Continue updating vaccine cost projections and develop different scenarios based on alternative vaccine products and presentations that meet programme needs.
- Continue communicating vaccine resource requirements to MTEF process.
- Forecast available fiscal space to assess financial sustainability of the NIP.
- The country stakeholders involved in developing vaccine procurement capacity including EPI Programme, Vaccine Regulation and Finance should work together to develop a plan for self-procurement detailing the necessary steps including roles and responsibilities of the stakeholders, plans for capacity building in areas of need, conducting analysis for vaccine investment and procurement.
- Continue with most cost-efficient vaccine procurement modality (currently through UNICEF Supply Division).
- In the interim while the process of development and capacity building is being conducted the MOH should secure the current arrangements allowing for continued access to and use of UNICEF Supply Division Procurement Services for EPI vaccine supply. This will allow for the continued access to globally negotiated prices specifically for GAVI graduating countries.

The country has a graduation (transition) plan that has been agreed, details the above key recommendations. However, as per the GAVI Alliance board decision of November 2013, there will be another assessment by the Alliance to further detail the graduation process with additional focus on programmatic aspects and develop a costed plan which will be partially supported by GAVI.

13. Renewal Recommendations

Topic	Recommendation
NVS	Penta vaccine
	Approve 2015 NVS support based on country request target. It should be noted that the product the country prefers is no longer available by the supplier. The country has been informed about the choices available by other manufacturers, however the country has not made the decision on product preferences. (Please see the section on Penta vaccine for details)
	Rotavirus vaccine
	Approve 2015 NVS support based on the targets provided by the country using the standard wastage rates. For 2014, the country is requested to provide pro-rated targets based on the September introduction.
	PCV10
	Approve 2015 NVS support. Due to the delayed introduction of PCV, target doses will be revised.

14. Other Recommended Actions

Topic	Action Point	Responsible	Timeline
	The country uses standard formula to calculate coverage: number of surviving infants fully vaccinated / number of		

	surviving infants. However, the immunisation program uses different sources for the nominator and denominator. The country needs TA on coverage calculation, and recommendations should be provided on what data to use as denominator to calculate vaccine coverage, including possibility to triangulate available population data.	
Cold Chain	The recommendations form the EVSM-VMA-EVM, needs to be implemented. During the last three years, only 57% of those recommendations were implemented. The tender on the procurement of the new refrigerators needs to be finalised and the refrigerators needs to be procured. It is planned that a comprehensive cold chain inventory and needs assessment shall be implemented to address cold chain needs at all levels. Country shall focus on procuring WHO prequalified equipment for storing vaccines.	
EPI financing and graduation	Governmental support towards EPI financing needs to be strengthened.	
	A graduation assessment was conducted in May 2013 and there is an agreed report and plan with key recommendations. As per the GAVI Alliance board decision of November 2013, there will be another assessment by the Alliance (planned for 2015) to further detail the graduation process and develop a costed plan which will be partially supported by GAVI.	
NVS targets	Secretariat to revise targets for dose calculation and decision letter (DL) for 2015 to be amended for PCV, given the delayed introduction of the vaccine and the inability to amend the 2014 DL.	
Financial Management	Country is requested to correct information related to GAVI fund's closing balance in income received. As the amount of income of US\$ 44,515 coming from other donor is included in GAVI fund's balance and income, the balance of US\$ 184,251 is overstated by that amount. The real balance of GAVI funds as at 31/12/2013 should be US\$ 139,736.	