

**REPORT OF THE NEW PROPOSAL  
INDEPENDENT REVIEW COMMITTEE TO  
THE GAVI ALLIANCE SECRETARIAT ON  
THE REVIEW OF APPLICATIONS**

**Geneva**

**June 20-28, 2016**

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## List of Acronyms

AEFI	Adverse Effects Following Immunization
AFP	Acute Flaccid Paralysis (Polio Surveillance)
AHI	Adolescent Health Intervention
BCC	Behavior Change Communication
BCG	Bacillus Calmette-Guérin (vaccine against tuberculosis)
CB	Cold Box
CC	Cold Chain
CCEOP	Cold Chain Equipment Optimization Platform
CCL	Cold Chain Logistics
cIP	Country improvement plan (cold chain)
cMYP	Comprehensive multi-year plan for immunization
CSO	Civil society organization
cVDPV	Circulating Vaccine-Derived Polio Virus
DHS	Demographic and Health Survey
DIT	Data Quality Improvement
DTP3	Diphtheria-Tetanus-Pertussis, 3rd dose
DQSA	Data Quality Self-Assessment
EPI	Expanded Programme on Immunization
EVM	Effective Vaccine Management, an assessment tool
FCE	Full Country Evaluation
FMA	Financial Management Assessment
GPEI	Global Polio Eradication Initiative
HCW	Health Care Worker
Hep B	Hepatitis B vaccine
HLRP	High Level Review Panel
HPV	Human Papilloma Virus
HR	Human Resources
HSCC	Health Sector Coordination Committee
HSSP	Health Sector Strategic Plan
HSS	Health Systems Strengthening
ICC	Inter-Agency Co-ordination Committee (for immunization)

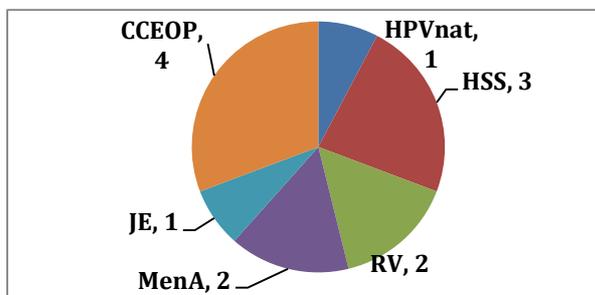
IDQA	Independent Data Quality Assessment
IDP	Internally Displaced Person
IDSR	Integrated Disease Surveillance and Response
IHP+	International Health Partnership +
IHR	International Health Regulations
IM	Intra Muscular
IPV	Inactivated Polio Vaccine
IRC	Independent Review Committee
ISCL	Immunization Supply Chain and Logistics
JA	Joint Appraisal
JE	Japanese Encephalitis
JRF	Joint Reporting Form (on Vaccine Preventable Diseases, WHO / UNICEF)
MCV	Measles Containing Vaccine
MDG	Millennium Development Goals
MDVP	Multi-Dose Vial Policy
MICS	Multiple Indicators Cluster Survey
MMR	Measles, Mumps and Rubella vaccine
MNCH	Maternal Neonatal and Child Health
MenA	Meningococcal A vaccine
MoH	Ministry of Health
MR	Measles-Rubella vaccine
MSD	Measles Second Dose
NCD	Non Communicable Diseases
NITAG	National Immunization Technical Advisory Group
NRA	National Regulatory Authority
NVS	New and underused Vaccine Support
OPV	Oral Polio Vaccine
PCA	Programmatic Capacity Assessment
PCV	Pneumococcal Conjugate Vaccine
PEF	Partners Engagement Framework
PFSA	Pharmaceutical Fund and Supply Agency
PIE	Post Introduction Evaluation

PMU	Project Management Unit
PPC	Programme and Policy Committee
PQS	Performance, Quality and Safety (of immunization equipment)
RBF	Result Based Financing
REC	Reaching Every Community
RED	Reaching Every District
RI	Routine Immunisation
RV	Rotavirus Vaccine
SAGE	Strategic Advisory Group of Experts (WHO)
SC	Sub Cutaneous (injection)
SCM	Senior Country Manager
SDD	Solar Direct Drive (vaccine refrigerators)
SDG	Sustainable Development Goals
SIA	Supplementary Immunisation Activities
SWAp	Sector Wide Approach
TA	Technical Assistance
TT	Tetanus Toxoid
TWG	Technical Working Group
VC	Vaccine Carrier
VDPV	Vaccine-Derived Poliovirus
VIG	Vaccine Introduction Grant
VPD	Vaccine Preventable Disease
VVM	Vaccine Vial Monitors
WUENIC	WHO and UNICEF

## Summary Report

### 1 Purpose

During the last IRC meeting held between June 20th and 28<sup>th</sup> 2016 in Geneva, Switzerland, a 14-membered committee reviewed a total of 13 applications from 10 countries.



Applications reviewed included 3 HSS and 4 CCEOP proposals and requests for support for each of the following vaccines: Meningitis A routine (2), Rotavirus (2), HPV National rollout (1) and JE (1). The new Cold Chain Equipment Optimization Platform (CCEOP) was further reviewed during this window with three new applicants

and a resubmission from Ethiopia.

### Main Findings

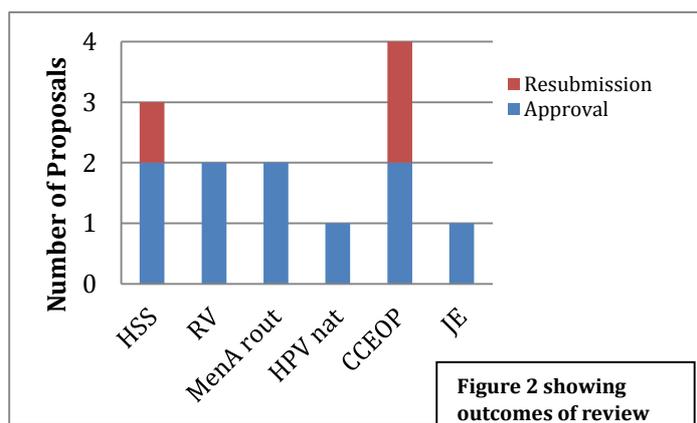


Figure 2 showing outcomes of review

#### Main Findings:

The main findings are summarized in Figure 2. 10 out of the 13 proposals were recommended for approval by the IRC (77% approval rate for all proposals). One HSS proposal was recommended for resubmission whilst 50% of the CCEOP applications were recommended for approval.

The IRC was particularly pleased to note that there is an increasing equity prioritization by applicant

focus on coverage and countries. There is a more systematic and evidenced based methodology in the selection of geographical areas by country applications. The IRC also noted the following improvements:

- Immunization Law in Uganda as a good step towards sustainability. However, there is a need for this to be taken beyond the law to the implementation level by country.
- Better quality cMYPs
- Country response to CCEOP is good with 50% applications recommended for approval
- Increasing involvement of CSO as partners.

Country applicants recommended for approval are again requested by the IRC through the Secretariat and Alliance partners to strongly consider additional comments and recommendations by the IRC to strengthen their interventions whilst

at the same time requested to address/clarify critical concerns within thirty days of receipt of their decision letters.

The IRC recognizes the continued improvement in the quality of proposals submitted by countries and commends the efforts of the Secretariat and Alliance partners for their technical support.

## 2 Introduction

The meeting was chaired by Bolanle Oyeledun MD and co-chaired by Miloud Kaddar. Reviewers cutting across a range of disciplines took part in the review (see Annex 1 for list of members). The review team included reviewers with expertise in Health Systems strengthening, EPI, MNCH, RH program management, epidemiology, monitoring and evaluation, financial analysis, BCC and Gender. One reviewer is a current cross-cutting member of the Technical Review Panel of the Global Fund.

### 2.1 Methods

**Review methods** included independent peer review with daily plenaries and subsequent consolidation of findings. **Decisions** were made according to two decision categories - Recommendation for approval with issues to be addressed and resubmission with explanations.

**Criteria for review** include the extent to which proposals (a) meet mandatory requirements and (b) principles of support as specified in Gavi guidelines and (c) contribution to achieving Gavi mission and strategy.

### 2.2 Focus of IRC Review

The 14-person independent review committee focused on the following specific tasks:

- Review funding requests and all other documentation attached to the requests which include Health Sector Plans, comprehensive Multi Year Plans and supporting documents as applicable to each country.
- Review funding requests and supporting documentation attached to applications for funding through the CCE optimization platform to support countries with improving their supply chains and contribute to efforts to strengthen the coverage and equity of immunization.
- Provide the Gavi Secretariat with final evaluation reports and recommendations of support for each country.
- Provide the Gavi Secretariat with a consolidated report of the review, including recommendations for improving funding requests, including planning, budgeting, M&E, financial management, gender and equity considerations;
- Provide the Board and the Alliance partners with recommendations improving the processes relating to Gavi policies, governance, and structure.

### 2.3 Secretariat response to previous IRC recommendations

The IRC commends the Secretariat for more structured briefings and most especially the sessions on the new HSIS briefing and further recommends more clarity to be provided on the element of Independence and its assurance especially through the new HSIS approach. The IRC is also re-emphasizing the need for Secretariat and partners to ensure that PEF, PCA, JA and transition plans have very clear linkages/alignment to enhance overall grant performance.

The IRC also requests that the Secretariat provide feedback on IRC recommendations at the beginning of each review window whilst reiterating the need to further review November 2015 and March 2016 reports and recommendations alongside emerging ones from this review window.

#### 2.4 Evaluation grids on Key performance indicators

During this review, the IRC was again requested to evaluate each country in terms of the quality of its application using a revised KPI grid tool.

The IRC recommends a further enhancement of the tool as it currently has many parameters that influence each criterion. The IRC found it very challenging to give a score in such an instance. The 6<sup>th</sup> criterion on the revised form was not very clear and needs to be further unpacked for ease of use. There is also a need to consider allotting weights to different parameters.

#### 2.5 Feedback on the evolving HSIS -Gavi model

The IRC recognizes the portfolio approach as a positive development but further identifies the challenge of how to operationalize this new approach in a way that preserves the quality and the independence of the IRC review (a detailed report of the IRC feedback is provided in Annex 2). In this light, the IRC recommends the considerations of answers to the following questions and issues highlighted below to further improve the process:

**Scope of in-country review:** What the in country IRC is supposed to do needs to be clarified: only portfolio review? Also HSS and CCEOP proposals reviews? A combination of both? The IRC strongly recommends the need for in-country reviews to be strategic and focused on the portfolio so the timing is critical (after EPI review, or after a new cMYP has been signed off);

**Segregation of roles:** The link between the portfolio review and the actual independent and technical review of the actual grants needs to be spelt out. Furthermore, given the SCMs often being under pressure from countries, it may become challenging for them as individuals to push back on non-value for money budget lines especially when there is no independent review;

**Assessment of value for money:** The issue of assessing value for money remains important when approving individual grants and it is not clear who and how this will be done especially at country level reviews;

**Internal Consistency:** Issues of consistency between how country reviews are conducted as a smaller group undertakes the in-country review with possible limited expertise than the whole group, and there is no subsequent plenary discussions to calibrate and ensure consistency among review outcomes.

#### Recommendations:

- There should be well-defined preparatory steps/milestones to be monitored by Gavi Secretariat to ensure that in-country consultations with all constituencies at country level (Government, Development Partners, CSO/Private Sector) have been conducted and documentation of inputs from

the all interested parties is provided by the applicant country before the in-country reviews happen;

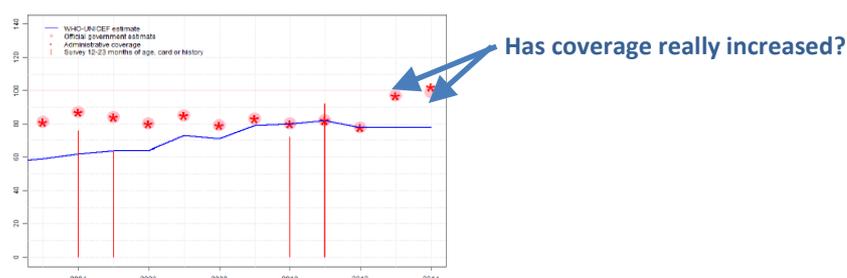
- If the key input document within the HSIS mechanism at country-level is the Programme Support Rationale (PSR), countries should be given sufficient time to develop and generate this concept note, making sure that it is aligned and harmonized with national planning and budgeting cycles;
- A "country dialogue" process can be the first filter to check whether the investment case (PSR) on the in-country IRC table reflects the view of the entire EPI stakeholders;
- Other key review filters may include also past performance and/or future eligibility criteria on health sector governance standards in general and EPI in particular;
- An in-country review is meant to be strategic and should also consider a review of the entire Gavi portfolio. Ideally the in-country review should follow soon after a robust EPI Review (a country-led process). In countries which have not had a recent EPI review, Gavi partners should increase support for high quality EPI reviews;

The overall cost of the new review approach should be considered.

### 3 Key Findings and Recommendations

#### 3.1 Data Quality, Immunization Coverage

**Issue 01: Poor Data Quality:** The IRC, as in previous sessions, notes that many countries continue to report administrative data that are dramatically different from survey results. The IRC reiterates its concern over this situation and further illustrates this concern with a case study of Uganda in Annex 3. In Uganda, the national coverage is estimated to be over 100%. Administrative data reported by Uganda suggest that DTP1 coverage has been over 100% since 2012<sup>1</sup>. This is shown by the following chart, taken from the report of the country's WHO / UNICEF Estimate of National Immunization Coverage (WUENIC).



While administrative estimates from 2012 and earlier years have been largely consistent with survey estimates, recent administrative coverage estimates of greater than 100% have clearly been implausible and WUENIC estimators have, for the last 2 years, chosen to discount the administrative data.

In fact, each year for the last three years Uganda's reported number of first doses of DTP/Penta vaccine have exceeded widely accepted estimates of the number of

<sup>1</sup>The 2015 administrative estimate of DTP1 coverage was 109%. This 2015 statistic appears on the Joint Reporting Form for 2015 and in the WUENIC report (July 2016).

surviving infants in the country<sup>2</sup>. The evidence suggests that the implausibly high administrative estimates of immunization coverage are due to unreliable numerator data. Uganda is not alone with this challenge. Given the various country level challenges and limitations, the concern arises on how best Alliance partners and technical support can address these data quality issues in Uganda and other countries with data quality issues.

**Recommendation:** Given the persistence of problems with data quality, the IRC opines that now seems an opportune time to consider next steps. Some of these possibilities might include:

- Develop and implement protocols for facility and district staff to review data quality each month. Suspicious values need to be identified almost real-time, queried and, if necessary, corrected.
- Develop a quick and practical approach for district supervisors to incorporate data quality assessment into their integrated, routine supervision;
- Commission in-depth research (perhaps including qualitative methods) to better understand the incentives for over-reporting.
- Conduct small scale implementation research to document the effectiveness of interventions to promote data quality (mitigating incentives for over-reporting).
- Each year conduct a desk review of the entire national dataset. Look for progress in the completeness and internal consistency of the data.
- Repeat an independent data verification survey each one or two years.
- Conduct at least one high quality immunization coverage survey each 3 years.

Several of these options (data verification surveys; coverage surveys each 3 years for countries with lower coverage and persistent data discrepancies; regular monitoring of data quality by facilities and districts; a well-defined approach to desk review) are not yet reflected in Gavi's current M&E guidelines. It is notable that the most recent WUENIC estimates suggest that 57% of 46 countries with 2015 DTP3 coverage below 85% had administrative data which over-estimated coverage by 10 percentage points or more (as much as much as 40 percentage points). Given the persistent prevalence of data quality problems, the IRC recommends that Gavi continue to refine its M&E guidelines and seek ways to make these guidelines more robust, particularly for countries with substantial discrepancies between administrative, survey and WUENIC estimates. Like almost all approaches to strengthening data quality, the above options would need to be carefully evaluated for their effectiveness.

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<sup>2</sup> For 2013, for 2014 and again for 2015, Uganda reported on the JRF administering more than 1.6 million first doses of DTP/Penta vaccine. This compares with an estimated 1.5 million surviving infants based either upon projections from the 2002 census or upon the 2014 census. Hence, there is no evidence that administrative estimates of coverage greater than 100% are the result of an underestimate of the denominator.

## 3.2 New Vaccine Introductions (including HPV) and Campaigns

### Issue 02: Using Lessons learned from prior IRC recommendations

Two of six new vaccine introduction applications this IRC were resubmissions, MenA in Niger and rotavirus in Nigeria. Bolivia's HPV introduction was preceded by an HPV demonstration (not Gavi-funded). In general, these applications were of higher quality and addressed some prior IRC recommendations. In particular, Bolivia's plan to address the possibility of anti-vaccine movements and Nigeria's consideration of the long-term financial sustainability reflected serious consideration of prior experiences, the HPV demonstration and the IRC's recommendations on prior applications respectively.

However, in all three cases; some other important recommendations were not thoroughly addressed. In particular, Nigeria's response to prior IRC recommendations to link their equity analysis to specific activities to address inequities, and Niger's progress on the cold chain was not well addressed.

**Recommendation:** The Secretariat and Alliance partners should continue to support countries to introduce HPV whilst thoroughly and explicitly considering the lessons learned from their HPV demonstration projects.

**Recommendation:** As with any resubmission, it is critical that countries include a specific response to each action point from the original application's decision. (See broader report recommendation.)

**Issue 03: Consideration of long-term impact of new vaccine introductions on the financial sustainability and cold chain elements and the relationship between new vaccine introductions and other funding windows in the country.**

**Recommendation:** When preparing new vaccine introductions, countries should clearly specify how cold chain plans and long-term fiscal planning intersect with the new vaccine introduction, i.e., plans to address funding gaps in the overall EPI plan, the relationship between strategies to address short-term cold chain needs for catch up campaigns and other, larger scale cold chain improvements.

## 3.3 Health System Strengthening

**Issue 04: Using previous HSS evaluations to inform new grants:** While there is significant improvement on the quality of the proposals, the IRC notes that some of the countries are still not taking into account lessons learned (Chad, Uganda) from previous HSS evaluations. Furthermore, the findings are not explicitly used, leading to new proposals that lack innovation and use of scientific evidence to inform proposed interventions.

**Recommendation:** Alliance partners and PEF partners need to support applicant countries in ensuring that proposals build on lessons learned from results of evaluations and previous experience/investment (guidelines).

**Issue 05:** The IRC notes that an adequate health workforce is still a critical key bottleneck especially where countries are pre-transition (Uganda per diem, Mauritania).

**Recommendation:** Secretariat to ensure that guidelines take into consideration especially among countries going to condition? preparatory transition HR is a key problem but the level of investment is limited (Chad, Mauritania).

**Issue 06:** While there have been improvements in the quality of the bottleneck analyses done, there is often a lack of root cause analyses and especially a lack of in-depth focus on equity analysis (Uganda: not clear which districts, lack of clarity around nomadic populations /IDP in Chad). Sometimes there is no clear use of findings of root cause analyses, especially in delineation and/or prioritization of proposed interventions from a strategic perspective (e.g. Uganda) or the repetitions of previous HSS strategy (Mauritania, Chad), especially where evaluations findings showed low and/or inadequate outcomes. The lack of innovative approaches and use of “more of the same” approaches are likely to produce the same results with very low return for investments made (e.g. transfer innovation from one region/country to other e.g. Punjab).

**Recommendation:** The IRC strongly urges applicant countries to promote a more focused approach, based on equity analysis and lessons learned. It is important that countries also propose pilot studies of what works rather than have a generic strategy that has often not demonstrated results for immediate scale up with no evidence base.

**Issue 07:** The IRC notes that HSS investments remain heavy in requests for equipment and vehicles with minimal or commensurate investments in system-focused issues.

For example there were requests for many vehicles especially at central level in the Ugandan and Chad applications with the possibility of duplicating what has already been procured under HSSI and possibly with other donor resources like the GFATM. This reiterates the IRC’s concern about value for money efficiencies for Gavi’s investments at country level. This becomes more of a concern in preparatory transition countries where HSS investments should be focused on sustainability enhancing investments rather than low value capital expenditures.

**Recommendation:** The IRC reiterates the need for the Secretariat to provide clear guidance to countries especially those in the pre-transition phase and ensure investments are meaningful and will drive immunization outcomes.

**Issue 08:** No clear strategies on trainings especially with refreshers, new recruits etc. Proposals also have very high training costs with very little or no explanations of the cost drivers. There are no clear approaches especially for monitoring trained, and evaluating the trainings for efficiencies, effectiveness and impact. Strategies have also continued to be generic, questioning the value for money of these approaches.

**Recommendation:** Alliance partners and PEF partners should work with countries to explore approaches that will enable trainings to be more on-site, modular, cost-effective and competency based, with built in tracking using new technologies.

**Issue 09:** Country applicants sometimes propose community outreaches to create demand especially in underserved areas. However, quite a number of the outreaches lack adequate planning/details and evidence of integration and referrals and a clearly defined minimum package of activities are often not provided, despite huge budgets.

**Recommendation:** Country applicants with support from technical partners need to focus on clear, evidence informed, integrated, cost effective and result oriented outreaches that focus on the underserved and marginalized populations.

**Issue 10:** The CCEOP window provides innovative approaches to addressing cold chain equipment challenges across applicant countries. However, there is limited co-ordination and/or programmatic linkages between the HSS programs/application and the CCEOP requests.

**Recommendation:** Gavi secretariat should ensure that the HSS and CCEOP guidelines are streamlined to address these gaps and ensure better linkages between the two windows.

### 3.4 Gender and Equity

#### **Issue 11: Lack of plan/Inconsistent use of equity and coverage plans in designing implementation strategies**

The Gavi Strategy 2016-2020 calls for removal of “barriers to immunisation particularly those related to wealth, geography and gender, to make sure we reach all children”. Of the 10 countries reviewed at the June 2016 IRC, 4 countries seemed to have equity and coverage plans but only 2 reflected these plans in designing their implementation strategies. Two countries did not recognize any gender or equity barriers to immunization. The IRC recognizes that there are higher costs to servicing difficult/hard to reach groups. This is rarely visible in narratives and budgets.

The IRC also considers that the involvement of civil society organizations (CSOs), especially domestic community based organizations (CBOs), can make an important contribution to reaching the most marginalized communities, whether in urban slums or in difficult to access regions. Of the 10 countries considered, 6 included CSOs in their ICCs or in their strategies, but only 4 mentioned CBOs.

As Gavi moves to new partnership and approval processes, countries should be prepared to be specific on their equity and coverage challenges and their choice of goals and strategies.

#### **Recommendations:**

- Within the proposed Program Support Rationale process, countries without an **Equity and Coverage Plan or Strategy** should be asked prepare one and make a clear **link** between the equity and coverage analysis and the cMYP implementation strategies and the budget proposed
- There should be regular reports on the Equity and Coverage Plan and its indicators should be **linked** to the country’s **performance framework** and Performance Based Funding
- This equity strategy should also address how **fragility** affects the country’s immunization strategy and implementation.

#### **Issue 12: CCEOP Applications and Equity Linkages**

The CCEOP application form focuses on equity among health posts but does not ask how improvements in the supply chain and cold chain equipment will lead to better coverage and equity in immunization.

**Recommendation:** Countries should be asked to document whether improvements in clinic equipment lead to increased vaccination uptake (e.g. Number of sessions before/after CCEOP, number of infants/children vaccinated per session, etc.)

### 3.5 Supply Chains and the CCE Platform

#### 3.5.1 Cold Chain Equipment Optimization Platform

The IRC reviewed four CCEOP applications, three of which were new (Chad, DRC, and Uganda) and one was a resubmission (Ethiopia). The applications of Chad and Uganda were accompanied by HSS proposals. Two CCEOP applications (DRC and Uganda) were recommended for approval, with actions points and comments. Resubmission of the Chad and Ethiopia CCEOP applications was recommended.

Ethiopia has preferred to rewrite the CCEOP proposal and revise attachments rather than responding specifically to the actions requested in the March 2016 review. The application also included major changes to the initially proposed equipment selection, revisions to the budget and inclusion of several well formulated mandatory documents not provided in the earlier submission including the M&E plan. However, more than 50% of the action points recommended by the March 2016 IRC review were not addressed. For the following reasons: inclusion of ineligible products, inadequate linkages to the cMYP and equity objectives, non-alignment with declared HSS objectives and allowances for bundling, a resubmission was recommended.

Chad's CCEOP proposal was also recommended for resubmission along with the HSS proposal. The application was fundamentally sound and responded to CCE needs in Chad. However information on the 20% country joint investment (cash) was required, some mandatory documents did not respond to requirements, there were inconsistencies across documents, and corrections and adjustments in the quantities and costs of requested equipment are required.

**Issue 13: CCEOP Concept:** Applications to the CCEOP focus upon a “replace and expand” strategy of cold chain equipment at district and health service delivery locations to store vaccines for underserved and/or hard to reach populations.

Whilst this may contribute to increasing vaccine access of these populations, applications do not address key issues regarding the role and place of the cold chain in the supply chain and how a performing supply chain contributes to the improvement of immunization services and coverage and equity outcomes. A systematic and thorough analysis of bottlenecks and interdependencies especially with HR is missing.

Also, the CCEOP does not address vaccine quality issues at national and intermediate supply chain locations and its contribution towards providing quality immunization services. This may detract from improving supply chain operational efficacy and efficiency. The concept should use more the opportunity to encourage innovation, adoption of emerging cold chain technologies, operational solutions and learning from doing. ISCL is a complex system in which equipment is only one component required for successful operation. EVM assessments of supply chain and vaccine management consider nine criteria of which CCE is only one. Inventory management and temperature monitoring are integral elements of the long-term effective use of installed equipment. Management Information Systems and real time monitoring of systems should be inclusive in the concept.

Below are some more recommendations on approaches and adjustments to be made to the CCEOP to enable supply chain improvements that enhance efficiency of supply, quality and availability of vaccines. These recommendations are in general additional to those given in the March 2016 report.

### Recommendations

Adopt a systemic approach to clearly identify the logical path between cold chain investments and coverage and equity outcomes. The CCEOP approach should be:

- Strategic outcome driven - To what extent can the supply chain improve the program efficiency, quality of and access to vaccines

The bottleneck analysis should include questions related to vaccine access in specific geographic areas, affordability and comparative advantage of supply chain strengthening versus other activities, sustainability, and complementarity with demand generating activities.

- Tactical output driven - what supply chain model supports the immunization strategy?

Analysis should include supply chain performance analysis, modelling and lead to discussion on supply chain network design and organization, governance and management; including innovation.

- Operational activity driven - how does the cold chain perform and fit into the logistics system?

Analysis should include the overall equipment effectiveness and adequacy, support for cold chain equipment management and management information system and actively open the door for technical innovation.

To ensure better value for money, cold chain design and expansion must be included in an immunization service strategy supported by activities ensuring vaccine demand generation through communication and community mobilization and availability of trained immunization services providers.

The CCEOP process does not encourage countries to improve supply chain network efficiency. Installing better quality equipment is not necessarily improving efficiency. This needs to be urgently taken into consideration. The present model only encourages an enhancement of shopping list, with little ownership.

The rehabilitation and expansion plan should be reflected in the cMYP, which should be updated. The CCEOP Application/Guidelines should prompt countries to perform this task as part of the application process.

Planned CCEOP components of national rehabilitation and expansion plans should be clearly indicated and where there is HSS planned or ongoing this should also be clearly indicated.

This will allow complementarity and synergy of support by ensuring non CCEOP eligible products, and in particular CCE management support functions are included in the HSS support while all CCEOP eligible products are planned for CCEOP support.

CCEOP tends to request nationwide equipment whereas HSS support is often limited to geographic regions. There should be clarity on whether HSS supply chain procurement can only apply to the HSS zones or be nationwide.

#### Issue 14: Application/Guidelines

Countries should receive sufficient guidance to respond to the requirements of the CCEOP application. Ethiopia, for example, does appear not to have received sufficient guidance to respond to the requirements of the application.

The application process requires attachments for deployment, maintenance, rehabilitation, EVM improvement plan progress, inventory, in addition to signatures, program plans (cMYP), strategies (NHP), endorsements etc. In addition to the March 2016 IRC report recommendations, aiming to reduce the time spent by countries in developing proposals, the risk of inconsistencies across documents and a CCEOP application which is fragmented rather than an integrated business plan, as well as to streamline the review process, the IRC formulates the following recommendations:

#### Recommendations

- a. Each attachment file (mandatory and optional) be numbered as defined in the CCEOP application.
- b. Each document should be final document bearing a cover page with country name, title of the topic of the attachment and date (even the stand alone or accompanying excel files)
- c. The table in Part G should be filled with version number and dates of respective attachment, in the column on the right, in place of file link.
- d. Attachment 2: in the case of dual applications of HSS and CCEOP, indicate if the signature sheet for HSCC/ICC endorsement is the same as Attachment # 3 of HSS application.
- e. Attachment 5: the most recent Progress Report on the EVM Improvement Plan update should not be more than 3 months prior to the date of submission of the application.
- f. Attachment 6: Cold chain inventory should be updated within the last 24 months.
- g. Attachment 7, 10 and 12: The cold chain rehabilitation and expansion plan, maintenance plan with financing, and national M&E plan should be national plans. They should clearly indicate the specific portions applicable to CCEOP and appropriate reference (section and page number) mentioned in the application form.
- h. Attachment 11: Proof of status for CCE tariff exemptions waiver: if countries are submitting tax law then a precise reference to the page and clause should be mentioned for ease of identification.
- i. The CCEOP application should indicate synergies and cross linkages between CCEOP/cMYP/HSS regarding coverage and equity, bottlenecks including supply chain issues and M&E.
- j. Products on the list in CCEOP application and the related attachment (maintenance plan) should be clearly defined.

- k. A master spreadsheet, along the lines of HSS or cMYP costing tool should be developed for CCEOP to avoid quantitative inconsistency between documents.
- l. The spread sheet on bundling allowances needs revision as does the strategy to arrive at bundling costs of eligible products, which should be evidence based on past experience.
- m. Part D.12: details on funding arrangement for co-investment should be provided.
- n. Part F of the CCEOP application does not specifically state the need for supply chain performance or strategic indicators. The M&E section needs to require an explanation of how data will be collected, (Phone Apps, GSM temperature monitoring etc.)
- o. The Application form and instructions do not indicate that yearly or several consecutive CCEOP applications can be submitted. What are the conditions governing sequential submissions?

### Issue 15: costing and financing issues

The CCEOP application instructions do not adequately address how the 20/50% country joint investment (cash payment) should be dealt with in the application and the application does not include a section requiring details of the planned arrangement. The CCEOP instruction informs that the country contribution can be provided in totality or partially through the HSS grant, which raised a number of issues, including providing little incentive for the country to take ownership.

### Recommendation

- a. Provide indication on how cash payment gets addressed if it is to be part of an HSS programme which simultaneously submitted and approved with the CCEOP application.
- b. When a CCEOP is submitted and HSS support is already in place, the scope/conditions for updating HSS to include CCEOP cash component needs to be defined.
- c. The application should include details on financial arrangement for country contribution, maintenance, training and other supportive activities
- d. There is need for consistency in how the bundled pricing for equipment is addressed in HSS and CCEOP applications. HSS is frequently based on PQS Catalogue price, while the CCEOP is based on bundling price. Currently there is a mismatch which is confusing both to the country and partners.
- e. The present allowances for generic items appear way too high. A methodology is required to arrive at bundling margins based upon 1) evidence from past installations or 2) some key national parameters. i.e: GNI, population/country areas ratio, population/# storage locations etc.
- f. Sustainability and resilience is not addressed in the CCEOP Application form or Instructions.

### Issue 16: Use of Appropriate Technology

Currently the CCEOP drives the countries to go in for new technologies rather than the classical, well tested ones. There is a need for guidance to select appropriate

equipment for country and situation specific needs based on climate, risk, prevalence of natural disasters etc. vGavi should prompt some mechanism/support for field evaluation and feedback of the new technologies to accelerate confidence building as related to their utilisation.

### Recommendations

- a. The present version of the Cold Chain Equipment Technology Guidelines includes tables on pricing and product eligibility. It would be more appropriate if it were restructured to make it generic, and linked in the application to the WHO/PQS Catalogue and E003 CCE database and if it provided guidance for determination of bundling costs based upon evidence and a methodology for computation (if evidenced based information is not available).
- b. Excluding CB's and VC's because they are not grade A is restrictive. Eligibility would better be linked to Long Range, Cool life, cold life and evidence from specific country experience.
- c. The technical specifications for SDD technology should require anti-theft devices on PV modules/arrays as a mandatory supply condition.
- d. Applications should require a progressive scaling up of rollout when new products are introduced and when a bundled supply approach is adopted for the first time. Rollout should also be linked to past experience and skilled HR resources.
- e. For each type of equipment there should be an IOQ and Acceptance Test to perform at location.
- f. Countries need to be better informed about how 'the bundle package deal' is organized and country involvement regarding liabilities, warranty terms etc.
- g. There is also little in terms of proper disposal at the end of the life of the equipment
- g. Note: The symbol of a crystal to define GRADE A (nonfreezing) is actually misleading as a crystal is a symbol depicting freezing.

### Issue 17: Management, government and CSO Issues

Strong supply chain management leadership is necessary to ensure coordination with relevant MoH departments and influence decision makers in strategic development and resource mobilization. Governance is poorly addressed in the application or instructions.

CCE installations require community engagement and replacement planning to be sustainable.

### Recommendation

- a. Governance and management arrangements, roles and responsibilities should be described including any bodies such as supply chain working committees or similar.
- b. Support national logistics working group establishment and empowerment, with an inclusive membership and delegations at subnational level.
- c. An explanation of CSO involvement in community engagement and ownership is required, especially in countries like Chad where theft is a major problem.

### 3.5.2 Supply Chain Findings

Ten countries submitted applications during this review. Applications from 2 countries (Ethiopia and DRC) were for CCEOP support only, applications from 2 other countries (Chad and Uganda) were for both HSS and CCEOP support whilst applications from 5 other countries were for the introduction of new vaccines, with one country (Mauritania) requesting for HSS support.

Significant supply chain improvements have been made in Nigeria and Pakistan, although progress varies from province to province. Mauritania, Chad, Uganda, Ethiopia and Niger are still confronted with major supply chain shortcomings, but Uganda, Ethiopia and Chad have submitted CCEOP applications which should contribute substantially to supply chain needs when applications are approved (Ethiopia and Chad applications were returned for resubmission) and if effectively implemented. Bolivia and Myanmar are not confronted by major supply chain issues for the HPV and JE introductions requested.

**Issue 18:** 50% of applications from the 10 countries reviewed are still confronted by major supply chain shortcomings. These shortcomings are not limited to equipment. In 2 countries (Chad and Niger), major management and HR shortcomings are an integral part of supply chain weaknesses.

**Recommendation:** Gavi should consider supply chain shortcomings from a holistic perspective, as a systemic problem not an equipment problem as addressed by the CCEOP established in January 2016.

**Issue 19:** Only 2 countries, (Nigeria and Mauritania), and possibly Bolivia are improving waste management practices. Three countries acknowledge “burn and bury” is practiced whilst 5 countries are silent on waste management issues.

**Recommendation:** Gavi should consider the recommendations provided in previous IRC reports and as a minimum include waste management material needs and equipment in the CCEOP, including a clear plan for introduction of improved practices.

**Issue 20:** Alliance support to countries with notably weak supply chain management capacity has not effectively addressed shortcomings.

**Recommendation:** A revised strategy of medium/long term embedded TA is adopted where systemic weaknesses are evident. This approach should be complemented by measures to ensure that Alliance partners are adequately informed and on the same page in terms of guidance provided to national governments. Furthermore TA inputs should be clearly defined and targets to respond to specific needs.

### 3.6 Governance Issues

**Issue 21: National NGOs/CSOs are underrepresented on governance bodies, particularly women’s organizations**

Six of the countries discussed did not seem to have domestic CSOs involved in governance bodies. This is a missed opportunity as CSOs have a vital role to play in demand creation and communication. Furthermore, several proposals mention CSOs as important in reaching remote or uncovered populations (slums) but without

including them in the development of outreach strategies or budget line items. Or the CSO line item is the first to be cut.

It is more common to see the names of internationally affiliated (e.g. Rotary International) rather than domestic CSOs, including women's associations, on ICC member lists. In particular, women's associations should be encouraged/supported to address the challenges of reaching undereducated mothers and caregivers and to communicate the long term health risks associated with early marriage.

### Recommendations

- Encourage countries to consult and include national CSOs in the preparation of immunisation planning, programme delivery, and **oversight mechanisms**.
- Women's **associations** should be involved in governance bodies and implementation activities.

### 3.7 Technical Assistance

**Issue 22:** There are proposals that state a “highly needed” TA, however, it is not adequately defined and needs more a detailed description and be prioritized according to project implementation needs.

**Recommendation:** TA is necessary at all levels (national, local) particularly when a large investment is requested. Therefore, it is important to clearly define the timing of TA within the life-time of the project as well as detailed budget of TA activities that must be clearly justified.

**Issue 23:** Countries do not respond to previous IRC and/or JA recommendations. The PEF ought to be carefully followed in the process of development of a proposal by a country. Countries may have low capacity to fully develop the proposal requiring sufficient guidance and accompaniment for the preparation of the proposal. As multiple partners are providing TA, it will be also important to clearly articulate roles played by each partner in order to identify and address gaps.

**Recommendation:** Secretariat should request actions on previous TA Recommendations by IRC. Secretariat to track PEF process and its impact on country processes and to define critical milestones or measures of engagement with the countries.

**Issue 24:** Implementation of a comprehensive EVM as well as cold chain efficiency and sustainability require long term TA support that must be clearly justified and timely planned. Furthermore, for HSS applications, in TA activities and budgets there must be a clear indication what they are addressing: HR, delivery of services, project implementation, and cold chain issues.

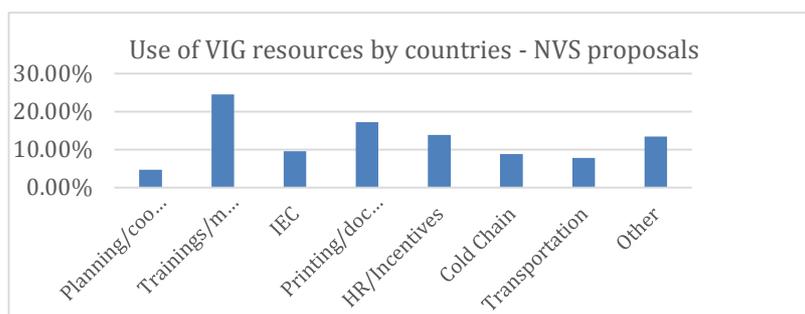
### Recommendation:

IRC encourages Alliance partners at country level to provide closer and more meaningful technical support when preparing proposals to ensure above linkages are clearly considered and demonstrated.

### 3.8 Financial Sustainability

#### Issue 25: VIG complementarity with other Gavi investments

Countries continue to use significant components of VIG resources to fund activities such as training, HR incentives and printing. During this review, the three countries which account for more than 98% of VIG approved have allocated these funds to trainings (41% for Nigeria), per diems and incentives (33% for Myanmar) and printing documents (29% for in Pakistan). The IRC continues to note that other critical vaccine introduction activities (PIE, AEFI, Surveillance and Monitoring, etc.) have lower budget allocations.



**Recommendation:** Long term EPI bottlenecks and needs should be addressed through other Gavi funding mechanisms and VIG funds targeted strictly to vaccine introduction activities (preparation, demand generation, implementation, monitoring and evaluation, etc).

### 3.9 Lack of Communication Strategy

**Issue 26:** Demand Creation and mobilisation are not sufficiently designed around evidence-based models and remain a significant recurring issue (June review: Uganda and Chad; March review: Niger)

**Recommendation:** Partners need to work closely with countries in the development of more **robust evidence based and innovative communication strategies** that go beyond basic IEC (T-Shirts, Fez caps, leaflets, radio broadcasts etc.) and is focused on individual and institutional behaviour change.

### 3.10 Technical Assistance (TA)

**Issue 27:** It is increasingly evident that there is **growing country dependence on donors to provide TA** in the areas of program and financial management without leading to sustainable capacity development. Most do not provide comprehensive and rational plans. While TA may be needed in the short-term, there needs to be an evolution towards sustainable capacity.

**Recommendation:** Where TA assistance is being used in this way, countries must have comprehensive TA plans that show a clear and timed transition plan towards fully developed internal capacities. TA support should encourage innovations and systems wide thinking at country level to address key challenges.

## 4 Conclusions

The IRC commends the on-going efforts at the Gavi Secretariat to review processes with the aim of improving them. Differentiation for HSIS is a welcomed approach but must consider country complexities and ensure that elements of independence and consistency are always preserved. It is also critical to acknowledge that reviewing dual CCEOP and HSS application windows introduces a level of complexity due to the interdependence of critical components ( e.g. co-investment; HR requirements, coverage and equity considerations). Finally, the Secretariat is strongly urged to consider a future plan to consolidate all country level equipment requirements and support systems under a single platform.

## 5 Acknowledgement

**The IRC acknowledges the Gavi executive team** for their continued responsiveness to key IRC recommendations; **the A & R Team** especially Peter Hansen, Patricia Kuo, Verena Oustin, Anjana Giri; the Country Support Team especially Hind Khatib-Othman and all the Senior Country Managers/key members for invaluable insights into the country activities and progress.

**The IRC further acknowledges the role of the CCEOP/HSIS Team:** Alan Brooks, Hamadou Dicko, Marya Getchell, Olamide Folorunso in ensuring that the lessons learned from the roll out of the CCEOP platform are rapidly integrated and shared through revised guidelines. Finally, the IRC particularly thank the **WHO** and all the Alliance partners for their invaluable technical inputs and increasing attention to quality technical support to countries.

## Annex 1: List of IRC Reviewers

NO.	Name	Nationality	Profession/Specialisation	Gender	French Speaking
1.	Dora Curry	USA	Senior Technical Adviser, CARE	Female	
2.	Gabriel Carrasquilla	Colombia	Director, Center for Health Research, Bogota	Male	
3.	Linda Eckert	USA	Professor, University of Washington (Gynaecology)	Female	
4.	Terence Hart	UK	Independent Consultant	Male	X
5.	Sandra Mounier-Jack	France/UK	Lecturer London School Hygiene and Tropical Medicine (Health Policy)	Female	X
6.	Philippe Jaillard	Benin/France	Agence de Medecine Preventive (AMP) Country Representative	Male	X
7.	Miloud Kaddar -VICE-CHAIR	Algeria	Independent Consultant (ex WHO)	Male	X
8.	Bolanle Oyeledun - CHAIR	Nigeria	CEO, Center for Integrated Health Programs	Female	
9.	Diana Rivington	Canada	Senior Fellow, University of Ottawa	Female	X
10.	Mario Stassen	Netherlands	Independent Consultant	Male	
11.	Ousmane Amadou Sy	Senegal	Independent Consultant	Male	X
12.	Robert Pond	USA	Independent Consultant	Male	
13.	Kshem Prasad	India	Independent Consultant	Male	X
14.	Shamsa Zafar	Pakistan	Head of Department, Centre of Excellence MNCH	Female	

## ANNEX 2: SUMMARY OF IRC FEEDBACK ON THE PROPOSED IN-COUNTRY REVIEW MODEL

Challenges with the current Review model and procedures	Potential Challenges with proposed in-country review
<p>Remote desk review</p> <p>Fragmented windows by type of support</p> <p>Possibility of limited knowledge of actual context and stakeholder dynamics</p> <p>IRC recommendations not well understood and used</p> <p>Very limited interactions with countries and partners on comments and action points</p> <p>Comments and actions points maybe not concrete enough</p>	<p>Dilution of neutrality, objectivity and independence</p> <p>What is to be reviewed (cut date, final documents,..) and with whom exactly, what would happen if a document or a stakeholder is not there?</p> <p>In-country reviewers would not be challenged by their IRC colleagues and will not benefit from feedback, expertise</p> <p>Confusion between mandates of external consultants and external reviewers</p> <p>Risks of influence and pressure on reviewers</p> <p>Reviewers too much involved in the improvement of the application and related documents</p> <p>Risks of free interpretation of Gavi guidelines</p> <ul style="list-style-type: none"> <li>- Cost of in country review could be high, higher than Geneva based review</li> <li>- Current pilot of in-country reviews are only on HSS and CCEOP and not the whole portfolio</li> <li>- Risk of establishing 2 review mechanisms: one in Geneva and on in-country; who will decide? Criteria? Fairness?</li> </ul>
Advantages with current model	Potential advantages with in-country review
<ul style="list-style-type: none"> <li>- Fairness: all countries are treated equally</li> <li>- Objective and independent review</li> <li>- Benefits of the collective intelligence, competence and experience of the whole IRC members as a group to ensure consistency</li> <li>- Interaction among IRC members and clear rules for interacting with Gavi secretariat and partners</li> </ul>	<ul style="list-style-type: none"> <li>• Potentially simpler and more meaningful step for countries</li> <li>• Greater focus on implementation</li> <li>• Building on existing documents and processes</li> <li>• Improve country ownership, reduce reliance on consultants</li> <li>• Placing the review closer to the country, introducing some interaction with local stakeholders,</li> <li>• Possibility of reduced time between application to approval</li> <li>• Align with in-country mechanisms</li> <li>• Minimise duplications in information submission requirements</li> <li>• More immediate feedback and dialogue</li> </ul>

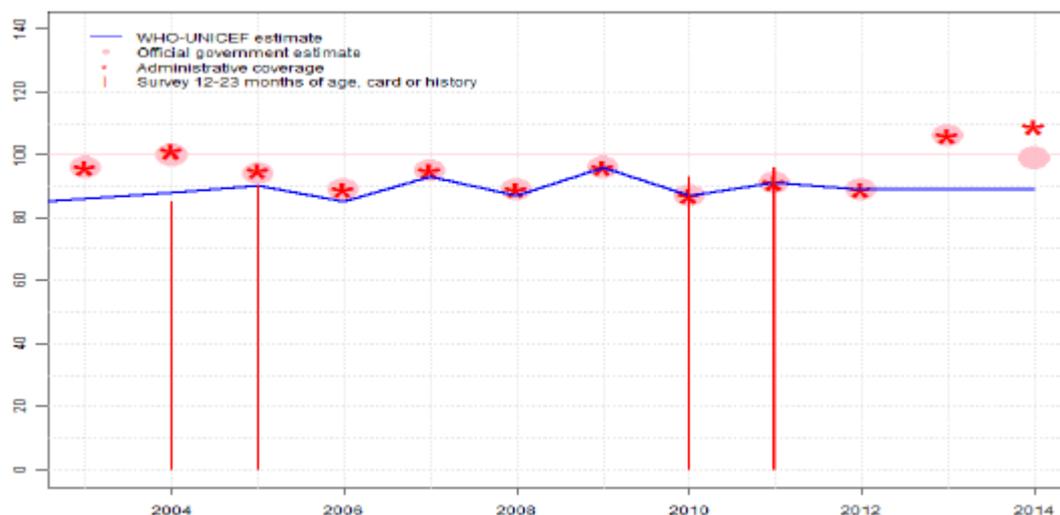
## ANNEX 3: DATA QUALITY ISSUES

### A case study: immunization data quality in Uganda

#### The problem - national coverage estimated to be over 100%

Administrative data reported by Uganda suggest that DTP1 coverage has been over 100% since 2012<sup>3</sup>. This is shown by the following chart, taken from the report of the country's WHO / UNICEF Estimate of National Immunization Coverage (WUENIC).

**Figure 1: Estimates of national DTP1 coverage, Uganda, 2003 - 2014. Administrative versus official versus WUENIC versus survey estimates. Taken from the most recent WUENIC report for Uganda.**



While administrative estimates from 2012 and earlier years have been largely consistent with survey estimates, recent administrative coverage estimates of greater than 100% have clearly been implausible and WUENIC estimators have, for the last 2 years, chosen to discount the administrative data.

In fact, each year for the last three years, Uganda's reported number of first doses of DTP/Penta vaccine have exceeded widely accepted estimates of the number of surviving infants in the country<sup>4</sup>. The evidence suggests that the implausibly high administrative estimates of immunization coverage are due to unreliable numerator data.

#### Evidence of over-reporting of immunization data

Reports of a series of data quality assessments conducted between 2002 and 2015 provide rich information about immunization data quality in Uganda. These documents make for a worthwhile case study.

<sup>3</sup>The 2015 administrative estimate of DTP1 coverage was 109%. This 2015 statistic appears on the Joint Reporting Form for 2015 but is not yet reflected in the WUENIC report as of June 2016. It will appear in the WUENIC report to be released in July 2016.

<sup>4</sup> For 2013, for 2014 and again for 2015, Uganda reported on the JRF administering more than 1.6 million first doses of DTP/Penta vaccine. This compares with an estimated 1.5 million surviving infants based either upon projections from the 2002 census or upon the 2014 census. Hence, there is no evidence that administrative estimates of coverage greater than 100% are the result of an underestimate of the denominator.

## Assessing data accuracy with the verification factor

Data quality assessments have assessed the accuracy of immunization and other data of samples of Ugandan health facilities. For each assessment the “verification factor” for one or more indicators was determined:

Verification factor (V.F.) =  $\Sigma$  data from registers or tally sheets /  $\Sigma$  reported data

A V.F. less than 1.0 indicates over-reporting while a V.F. of greater than 1.0 indicates under-reporting<sup>5</sup>.

For each of the data quality assessments for which a report is available, mismatches were found between the data on facility registers or tally sheets and the data that facilities reported to higher levels:

- A multi-country analysis of data from immunization “data quality audits” performed in 25 countries in 2002 - 2003 found that 16 of the countries, including Uganda, had a verification factor < 0.85, indicating over-reporting by more than 15%<sup>6</sup>.
- A Data Validation Exercise (DVE) was conducted in 2008 in all 80 districts of the country. The report of this DVE is not available but the APR submitted to Gavi<sup>7</sup> notes that half of the 720 health facilities surveyed had data on registers or tally sheets which mismatched the data they had reported.
- An assessment in 2011 of 34 health facilities found verification factors of 0.95, 0.86 and 0.93 for three indicators related to ART<sup>8</sup>. Two-thirds of health facilities were found to have over-reported each of the indicators.
- The 2013 immunization Data Quality Self-assessment (DQS)<sup>9</sup> covering 132 facilities in 29 districts found facilities over-reporting of DTP1 (V.F. = 0.96), DTP3 (V.F. = 0.94) and measles vaccination (V.F. = 0.96). Each of the 3 indicators was over-reported in 18 to 20 of the 29 districts.
- An assessment in 2014 of 42 health facilities found under-reporting in 4 of 6 districts (V.F. = 1.18 overall) of one indicator and over-reporting in 5 of 6 districts of another indicator (V.F. = 0.84)<sup>10</sup>.

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<sup>5</sup> Unless data are omitted from facilities with some registers, tally sheets or reports missing, a V.F. of less than 1.0 or a V.F. of more than 1.0 could also be the result of poor record storage (i.e. archiving) practices.

<sup>6</sup> O. Ronveaux et al. The immunization data quality audit. Bulletin of the WHO 2005; 83: 503 - 510. <http://www.who.int/bulletin/volumes/83/7/503.pdf>

<sup>7</sup> Annual Progress Report, 2008. This report to Gavi is available online

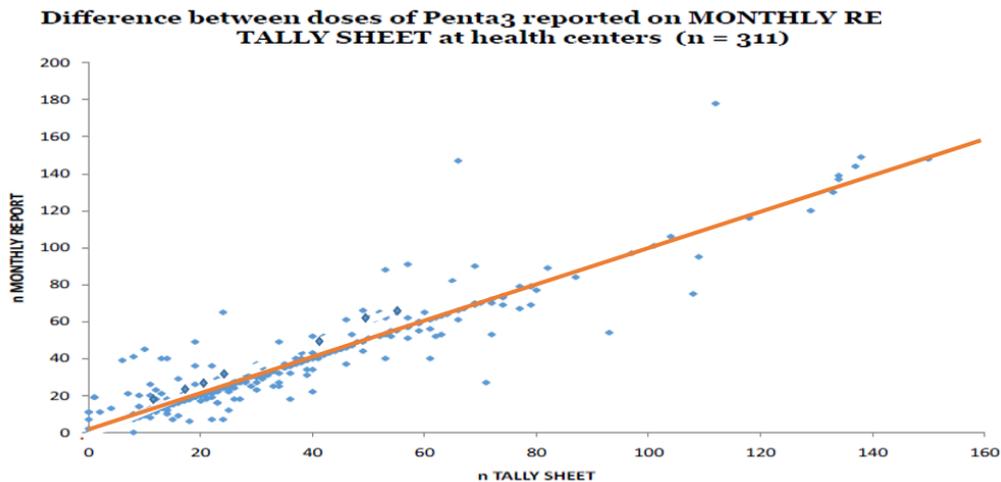
<sup>8</sup> The Validity of Self-assessment Data in a Ugandan Quality Improvement Program. URC 2011. This report is available online. The survey assessed a representative sample of facilities supported by the USAID-funded Health Care Improvement Project. The three indicators were TB screening of ART patients, ART adherence and clinical improvement of ART patients respectively.

<sup>9</sup> Ministry of Health of Uganda. 2013. UGANDA NATIONAL DATA QUALITY SELF ASSESSMENT (UNDQS) REPORT

<sup>10</sup> The Ministry of Health of Uganda. 2015. *Data Quality Assessment (DQA) for the Partnership for HIV-Free Survival (PHFS) Report: Uganda*. The indicator for which there was under-reporting was % of HIV+ pregnant women who were already on ART prior to their first ANC visit or who were started on ART. Under-reporting may have been due to failure to report some HIV+ pregnant women who were already on ART prior to their first ANC visit. The indicator for which there was over-reporting was % of HIV-exposed who were given ARV prophylaxis. Data on a third indicator (% of HIV-exposed infants fed according to guidelines) were also greatly over-reported (V.F. = 0.12) but data were available for only 2 of 6 districts.

- The 2015 Immunization Data Quality Improvement Team (DIT) Plan<sup>11</sup> presents data gathered by district Data Improvement Teams from visits to 311 health facilities. As shown in Figure 2, a sizeable number of these health facilities (above the orange line) over-reported DTP3 and a sizeable number of health facilities (below the orange line) under-reported DTP3<sup>12</sup>.

**Figure 2: DTP3 doses, by health facility, Uganda, 2015, tally sheet versus monthly report. Source: D.I.T. Plan**



### Assessing the internal consistency of Uganda’s data

Uganda’s routine data have also been assessed using WHO’s “data desk review” methodology. This is an approach, involving no travel expense and no sampling, which examines the completeness and internal consistency of the entire national datasets. The report of a desk review conducted in Uganda in 2011 can be downloaded from a WHO website<sup>13</sup>. The assessment found that, with the creation of new districts, facility reporting completeness had dropped from 92% in 2008-2009 to 85% in 2010-2011. At the same time, the percentage of district monthly reports which had missing values for DTP3 administration increased from 3% in 2008-2009 to 12% in 2010-2011.

To assess the internal consistency of data, district annual totals of DTP3 were plotted against district annual totals of ANC1<sup>14</sup>. The resulting scatterplot (see Figure 3) suggested that the values of these two related indicators were highly inconsistent

<sup>11</sup> Ministry of Health of Uganda. 2015. Immunization Data Quality Improvement Team Plan

<sup>12</sup> The same report notes that the discrepancy was even greater between the data on monthly reports and the data on the child health register. For the great majority of health facilities, the reported data was substantially greater than the data on the child health register. However, this marked discrepancy with data on registers may be due to the fact, as observed by the 2013 DQS, that health staff at most health facilities record doses on a tally sheet (see Figure 2), but frequently not on the child register.

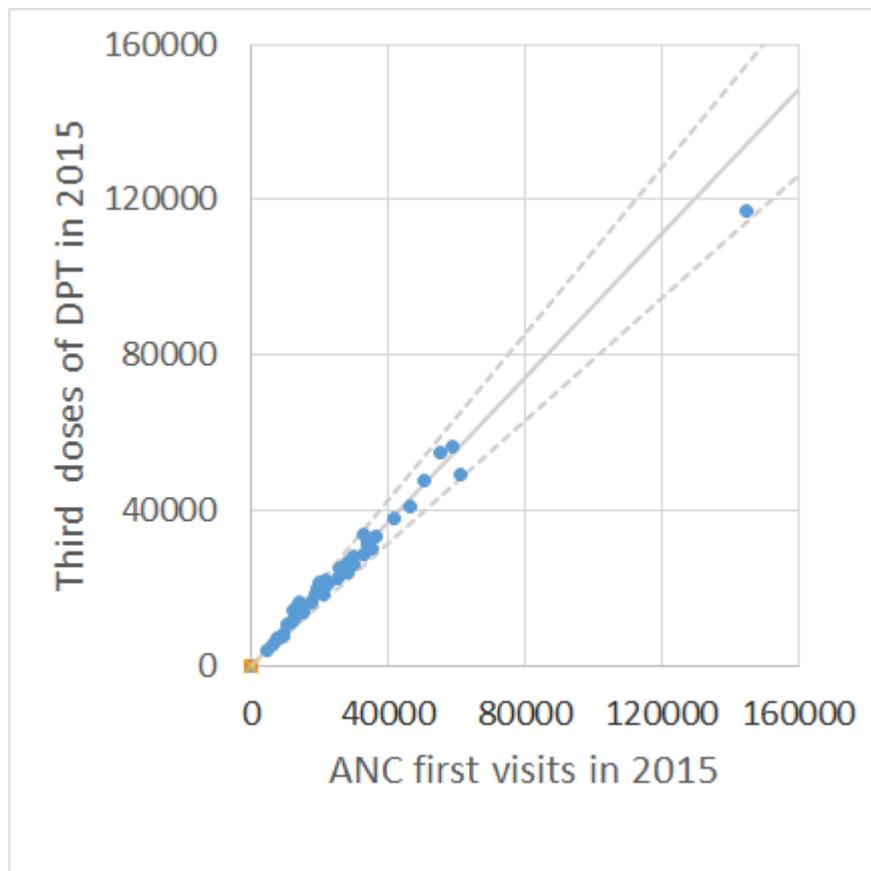
<sup>13</sup> Data Quality Report Card, Uganda, 2010 - 2011. Prepared by the Department of Health Statistics and Information Systems (HSI), WHO, Geneva, in close collaboration with the Resource Centre and Quality Assurance Department of the Uganda Ministry of Health.

Uganda WHO country office.

<sup>14</sup> The preferred comparison is between a district’s annual total of first ANC visits and the district’s annual total of first doses of DTP. If ANC1 coverage and DTP1 coverage are both stable and close to 100% in the great majority of districts then a district’s annual value for ANC1 should be roughly equal to a district’s annual value for DTP1. DTP1 data were not available at the time that the analysis was conducted so DTP3 data were substituted. The 2011 DHS found that nationwide ANC1 coverage was 96% and nationwide DTP3 coverage was 72%.



Figure 4: Consistency between DTP3 and ANC1 coverage for 2015, counties of Kenya (solid line indicates the ratio of national DTP3 and ANC1 coverage - dashed lines indicate 15% relative difference from the national ratio)

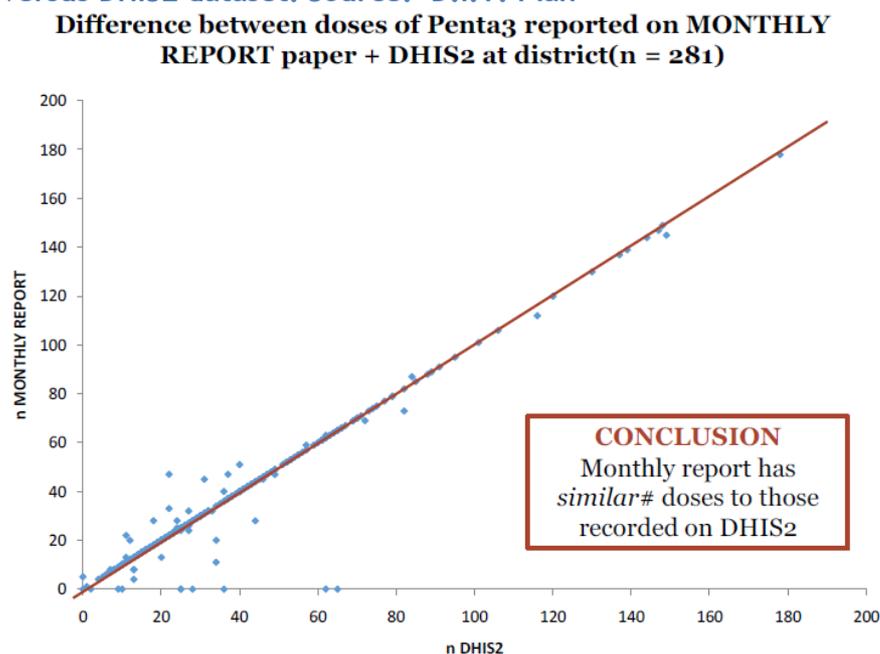


#### What may be the under-lying causes of inaccurate reporting?

Remarkably, the reports of various data quality surveys say little about the underlying causes of the substantial and persistent problem of over-reporting of data:

- The report of the 2013 DQS notes that tally sheets were often in short supply, archiving of records was a problem and there appeared to have been transcription errors. “There are several factors associated with this which need to be explored and correct measures put in place.” The report does not elaborate.
- The DIT Plan says that, as shown in Figure 4, “... monthly reports submitted to the district and district DHIS2 were found to have similar number of doses of DTP3.” This suggests that it is health facilities rather than districts which have been doing most of the over-reporting. However, careful review of Figure 4 shows that, in fact, there were some districts which over-reported data and some districts which under-reported data.

Figure 5: DTP3 doses, by health facility, Uganda, 2015, facility monthly reports versus DHIS2 dataset. Source: D.I.T. Plan



- The report of the 2011 DQA notes that “Causes of the inaccuracy were identified as double counting, counting ineligible patients, poor record keeping, incorrect data compilation procedures, and staff rotation and lack of teamwork.”

#### Interventions to improve the Uganda’s data quality - What has been tried

As summarized in the following table, the report of each data quality assessment has been accompanied by diverse recommendations to improve data quality

Recommendation	2006 APR	2008 DVE	2011 DQA	2013 DQS	2015 DTE plan
Develop a data quality improvement plan(s)	X	X			X
Improve the supply of forms		X		X	X
Improved the archiving of forms. Provision of shelving/cabinets		X	X		X
Facilities to compile their data more frequently			X	X	
Disseminate data quality guidelines. Train health providers in data management. Build strong skills in tallying by health workers.			X	X	X
Recruit more data clerks for health centres and hospitals		X			
“Devise mechanisms to daily cross-check the collected data... “			X	X	
“Health facilities should conduct internal data quality verification semi-annually, with			X		

technical supervision from HCI coaches. The purpose of the review should be to identify quality gaps and recommend interventions for data quality improvement.”					
“Health data should be discussed during support supervision visits and the DHT should ensure that the support supervision checklist has a section of data analysis and utilization.”	X	X		X	X
Provide regular feedback to health facilities				X	X
“HMIS Focal Persons at district level should validate the data received from Health Units before it is aggregated to get the district report.” “Use the data validation protocols which must be used to check on data before the submission to the next level.”		X	X	X	
Expand use of ICT at district level		X			
Support data use at each level. Ensure that monitoring charts are updated regularly.		X		X	X
Train & support regional/district QI teams			X		X

### What to do next about data quality in Uganda?

Given the persistence of problems with data quality, now seems an opportune time to consider next steps. Some possibilities might include:

- Expand and sustain the current DIT strategy (regular visits by regional/district QI teams for data quality assessment and mentoring) using a small number of data quality metrics to document progress.
- Develop a quick and practical approach for district supervisors to incorporate data quality assessment into their integrated, routine supervision;
- Commission in-depth research (perhaps including qualitative methods) to better understand the incentives for over-reporting.
- Conduct small scale implementation research to document the effectiveness of interventions to promote data quality (mitigating incentives for over-reporting).
- Each year conduct a desk review of the entire national dataset. Look for progress in the completeness and internal consistency of the data.
- Repeat an independent data verification survey each 2 years.
- Conduct at least one high quality immunization coverage survey each 3 years.