Overview of Gavi Full Country Evaluations Findings

Bangladesh

2013-2016

Summary of recommendations

Expanded Programme on Immunization

- With country-level partners, target efforts on low coverage areas and groups and shift attention to maintaining high routine measles-rubella vaccine coverage.
- Focus future social mobilization and demand generation activities on increasing awareness and understanding of rubella.
- Allocate proper time for preparatory activities to minimize the workloads of service providers and ensure successful completion of assigned responsibilities without interruption.
- Better coordinate HPV-related activities, including supporting collaboration between school teachers and education officers at every level of the system.

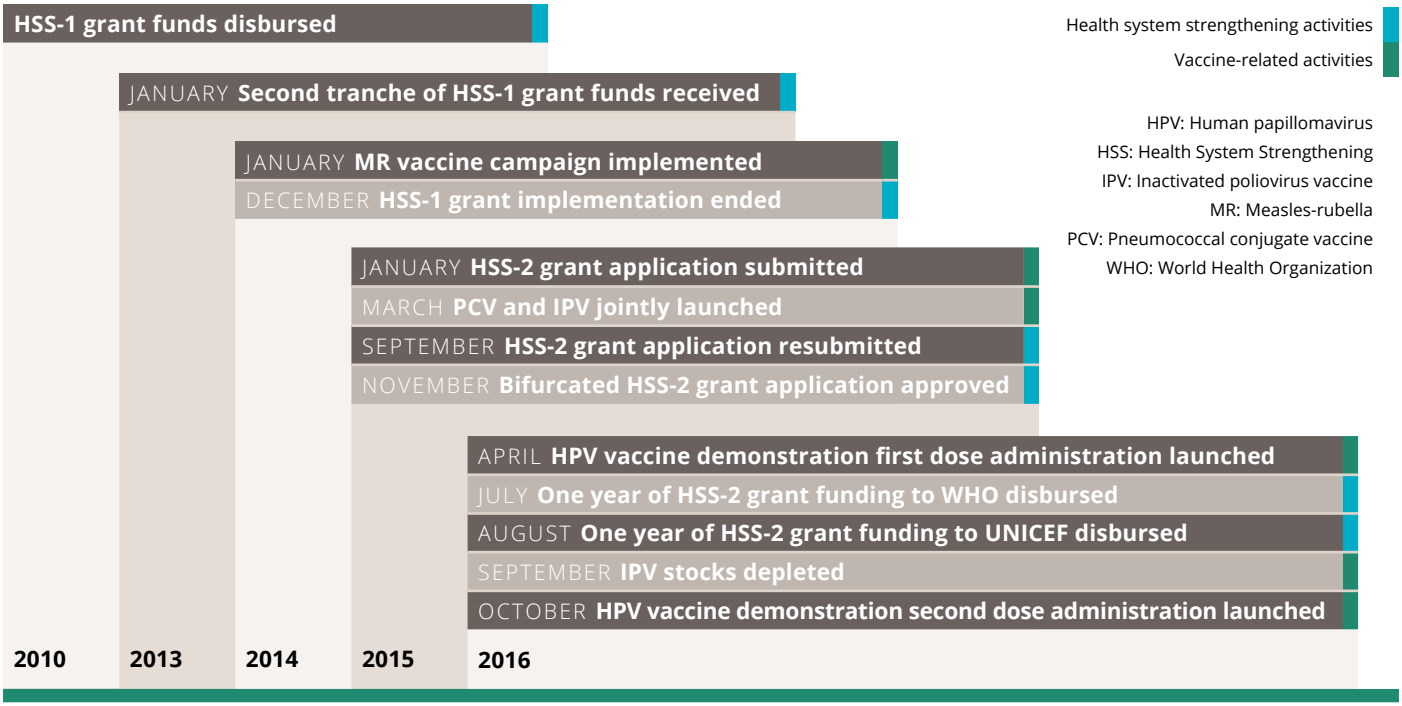
Government of Bangladesh

- Identify human resources and management training from Gavi and other partners as a technical assistance priority for 2017. While it is likely to be included in the second Health System Strenthening-2 grant application, earlier investment will ensure the continuation of a strong network of skilled Expanded Programme on Immunization (EPI) managers.
- Assess programmatic and financial sustainability of human papillomavirus vaccine by considering Bangladesh's capacity to co-finance and estimate the project cost post Gavi support.

Gavi Secretariat

- With partners, ensure that appropriate technical guidance is provided to EPI managers in the design of campaigns in order to maximize positive impact, including designing campaigns as an opportunity for provision of catch-up for other vaccines.
- Ensure that sufficient vaccine supplies are available at the global level for smooth implementation of new vaccines.
- Increase the focus on disbursing funds directly to country governments, rather than technical assistance providers, to ensure country ownership by enhancing the capacity of government staff.

Key activities



Introduction

PURPOSE

The Gavi Full Country Evaluations (FCE) was a prospective study from 2013 to 2016 in four countries: Bangladesh, Mozambique, Uganda, and Zambia. The study aimed to understand and quantify the barriers and drivers of immunization programme improvements, with a focus on the contributions made by Gavi, the Vaccine Alliance. This brief summarizes the key findings and recommendations from the 2013-2016 evaluation period in Bangladesh, with an emphasis on the 2016 recommendations that are most timely, relevant, and actionable.

GAVI SUPPORT

Bangladesh first received Gavi support in 2001. Over the next 16 years, Gavi provided funding for new vaccine introductions, health system strengthening, and other related activities (see Table 1).

TABLE 1: GAVI SUPPORT IN BANGLADESH, 2001-2017[1]

TYPE OF GAVI SUPPORT	PERIOD	TOTAL AMOUNT OF FUNDING ($US)
Pneumococcal conjugate vaccine	2014–2018	161,581,500
Pentavalent vaccine	2009–2017	235,012,750
Human papillomavirus vaccine demonstration project	2015–2016	734,000
Human papillomavirus vaccine demonstration cash support	2015–2016	358,500
Measles second dose vaccine	2012–2016	8,575,522
Measles-rubella vaccine, campaign	2013	35,781,812
Measles-rubella vaccine, operational costs	2013	33,586,500
Inactivated poliovirus vaccine	2015–2017	19,829,310
Hepatitis B monovalent	2002–2008	20,224,465
Health System Strengthening grant	2009–2018	47,594,231
Immunization Services Support grant	2001–2004, 2006, 2009	23,340,200
Injection Safety Support grant	2004–2006	6,144,414
Vaccine Introduction grant	2002, 2008, 2012-2014	8,314,000

New Vaccine Introductions

MEASLES-RUBELLA VACCINE

JANUARY 2014 **MR vaccine campaign implemented**

The measles-rubella (MR) vaccine campaign achieved widespread awareness, resulting in high coverage of the MR vaccine among the target age group. Rubella antibody prevalence increased substantially and significantly between pre- and post-campaign surveys. Measles antibody prevalence was universal in pre- and post-campaign surveys, reflecting a combination of high routine measles vaccine coverage, previous measles vaccine campaigns, and exposure to disease.

Positive effects of the campaign included:

- Increased public awareness of the intended effects of vaccines and high acceptance of the MR vaccine.
- Improved provider-caregiver communication as a result of door-to-door registration.
- Improved logistics due to cold chain equipment being repaired or purchased during the campaign.

In addition, lessons were learned on coordination and integration across sectors, which can be incorporated into future immunization campaigns. Stakeholders did note that the campaign was time consuming for health workers and diverted attention from their routine activities.

[1] *Source: http://www.gavi.org/country/all-countries-commitments-and-disbursements, accessed November 21, 2016. Values shown represent Gavi commitments, those which Gavi intends to fund over the lifespan of the program, subject to performance and availability of funds.*

2016 Recommendations

Expanded Programme on Immunization: With country-level partners, target efforts on low coverage areas and groups and shift attention to maintaining high routine MR vaccine coverage.

Expanded Programme on Immunization: Focus future social mobilization and demand generation activities on increasing awareness and understanding of rubella.

Gavi Secretariat: With partners, ensure that appropriate technical guidance is provided to EPI managers in the design of campaigns in order to maximize positive impact, including designing campaigns as an opportunity for provision of catch-up for other vaccines.

PNEUMOCOCCAL CONJUGATE VACCINE AND INACTIVATED POLIOVIRUS VACCINE

MARCH 2015 **PCV and IPV jointly launched**

DECEMBER 2015 **IPV final shipment received**

FEBRUARY 2016 **IPV final supply distributed to districts/subnational level**

MARCH 2016 **IPV severe shortage communicated**
(told to proceed with switch from trivalent to bivalent oral poliovirus vaccine)

SEPTEMBER 2016 **IPV stocks depleted**

Prior to introduction, a pneumococcal conjugate vaccine (PCV) readiness assessment was successfully completed, ensuring sufficient health worker knowledge about handling requirements. After introduction, PCV scaled up rapidly. Caregivers quickly routinized the first and second doses of PCV, with PCV third dose initially lagging behind. Data from 2016 show that all three doses are now fully routinized (see Figure 1).

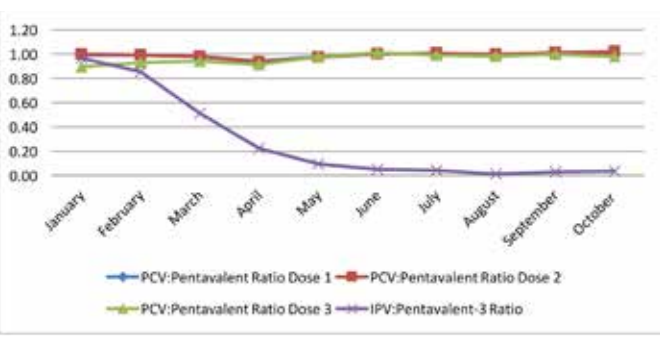
In a study comparing before and after PCV introduction in Mirzapur, we observed reductions of approximately 25% in vaccine-type pneumococcal carriage among children who were age-eligible for PCV, but no change among age-ineligible children. There were increases in non-vaccine serotypes of 17 to 20% among age-eligible children.

Following the introduction of inactivated poliovirus vaccine (IPV), the government of Bangladesh faced several challenges that resulted in stockouts:

- High wastage rate—41% compared to the expected 30%.
- Underestimation of the target population.
- Supply shortages in the global market.

The FCE found that the IPV stockout had no effect on PCV coverage or on caregiver confidence in the EPI. IPV stocks were depleted in September 2016.

FIGURE 1: PCV/IPV TO PENTAVALENT RATIO IN BANGLADESH, FROM HEALTH MANAGEMENT INFORMATION SYSTEM DATA, JANUARY-OCTOBER 2016



2016 Recommendation

Gavi Secretariat: Ensure that sufficient vaccine supplies are available at the global level for smooth implementation of new vaccines.

HUMAN PAPILLOMAVIRUS VACCINE

SEPTEMBER 2014	**HPV vaccine demonstration application submitted**
MARCH 2015	**Application approved**
APRIL 2016	**Demonstration project first dose administration launched**
OCTOBER 2016	**Demonstration project second dose administration launched**

The human papillomavirus (HPV) vaccine demonstration project was a hybrid of school-based and out-of-school-based outreach, targeting class-five female students and 10-year-old out-of-school girls in Gazipur district. The school-based model does present financial sustainability challenges, as adequate incentives and transportation costs are necessary to cover overtime for service providers and school expenses. Project implementation, and not feasibility and sustainability, has been the major concern of stakeholders.

Despite launch delays and implementation challenges largely related to limited coordination with the Ministry of Education around scheduling, coverage rates in the first year were high (see Table 2).

TABLE 2: YEAR 1 COVERAGE DATA FOR THE BANGLADESH HPV VACCINE DEMONSTRATION PROJECT (FIRST DOSE AND SECOND DOSE)[2]

	GIRLS VACCINATED (%)		
	Out-of-school girls	School girls	Total
First dose *(April 16-May 16, 2016)*	83%	95%	94%
Second dose *(October 16-November 16, 2016)*	82%	95%	94%

If the HPV vaccination project is implemented with a school-based delivery model during the national rollout for a few years after the demonstration ends, it will be familiar among people and can be incorporated with routine EPI.

—Key Informant Interview 2016

2016 Recommendations

Expanded Programme on Immunization: Allocate proper time for preparatory activities to minimize the workloads of service providers and ensure successful completion of assigned responsibilities without interruption.

Expanded Programme on Immunization: Better coordinate activities, including supporting collaboration between school teachers and education officers at every level of the system.

Government of Bangladesh: Assess programmatic and financial sustainability of HPV vaccine by considering Bangladesh's capacity to co-finance and estimate the project cost post Gavi support.

[2] *Source: Post Introduction Evaluation report of HPV vaccine demonstration project in Gazipur district and administrative data.*

Health System Strengthening

HEALTH SYSTEM STRENGTHENING-1

2008	**HSS-1 grant application approved**
2010	**Funds disbursed**
JANUARY 2013	**Second tranche of funds disbursed**
MARCH 2013	**Reprogramming approved**
DECEMBER 2014	**Grant implementation ended**

The overarching aim of the Health System Strengthening-1 (HSS-1) grant was to ensure that community clinics had the minimum functional capacities and infrastructure to deliver safe and effective services for maternal and child health and immunization. There were numerous implementation challenges, including:

- A two-year delay in disbursing the first tranche of funds, due to the protracted period required to complete the newly introduced Financial Management Assessment. As a result, much of the first tranche of funds went unspent, and the government of Bangladesh reprogrammed these funds for a second wave of health system strengthening activities.
- Limited coordination between the Health Engineering Department and health system strengthening implementers and construction challenges, leading to a delay in infrastructure development activities.
- Delayed recruitment of staff and high key staff turnover.
- Absence of a monitoring and evaluation framework.

HEALTH SYSTEM STRENGTHENING-2

JANUARY 2015	**HSS-2 grant application submitted**
SEPTEMBER 2015	**Application resubmitted**
NOVEMBER 2015	**Bifurcated grant application approved**
JULY 2016	**One year of HSS-2 funding to WHO disbursed**
AUGUST 2016	**One year of HSS-2 funding to UNICEF disbursed**

> *HSS-2 grant implementation by WHO and UNICEF is not country implementation. This [work] is not possible in a sustained manner, as the recruited staff of WHO is not the staff of the government of Bangladesh.*
>
> **—Key Informant Interview 2016**

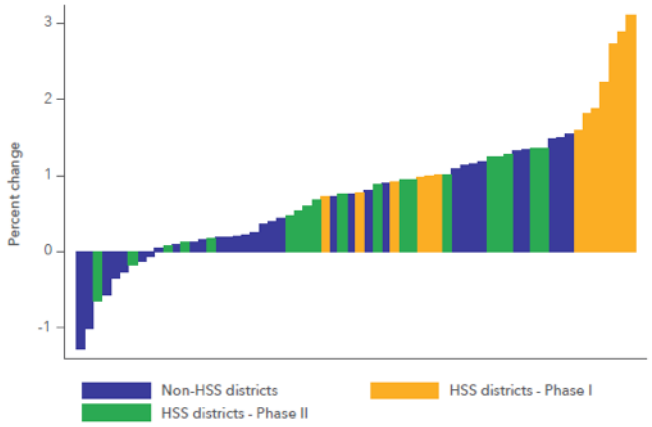
A broad group of stakeholders developed the initial Health System Strengthening-2 (HSS-2) application. The Independent Review Committee asked for a resubmission, citing a short preparation period, inadequate technical assistance, and insufficient alignment with national health plans.

The HSS-2 grant resubmission was approved, with annual HSS-2 grant payments disbursed directly to the World Health Organization (WHO) and United Nations Children's Fund (UNICEF). This funding model has led to challenges, including:

- Two bilateral agreements were created, between Gavi and WHO and Gavi and UNICEF. The government of Bangladesh is not party to these agreements.
- Disbursing funds directly to nongovernmental organizations presents concerns about country ownership and the absence of long-term sustainability.
- The government of Bangladesh believes that HSS-2 grant success depends on the implementing agencies adhering to their official role and being accountable to the country.

Despite the delays and challenges with HSS grant activity implementation, observational data suggest that immunization coverage has improved more rapidly in HSS districts, particularly in HSS-1 districts (see Figure 2).

FIGURE 2: CHANGE IN DIPHTHERIA, TETANUS, PERTUSSIS THIRD DOSE (DTP3)/PENTAVALENT VACCINE THIRD DOSE COVERAGE BY DISTRICT IN BANGLADESH, 2010-2014



2016 Recommendation

Gavi Secretariat: Increase the focus on disbursing funds directly to country governments, rather than technical assistance providers, to ensure country ownership by enhancing the capacity of government staff.

Cross-Stream Analysis

TECHNICAL ASSISTANCE

Technical assistance (TA) was found to be inadequate for building sustained capacity of EPI managers at national and subnational levels. Challenges include:

- Dependency on WHO and UNICEF TA to successfully implement EPI activities.
- No comprehensive training has been arranged for national-level EPI staff since 2013. Later training has been piecemeal on specific issues.
- Due to the general retirement process of skilled workers, along with the presence of newly recruited staff performing activities without proper orientation, the quality of work has declined.
- Training for mid-level managers and human resources strengthening was requested in the original HSS-2 grant proposal, but not included in the resubmitted proposal.

2016 Recommendation

Government of Bangladesh: Identify human resources and management training from Gavi and other partners as a TA priority for 2017. While it is likely to be included in the second HSS-2 grant application, earlier investment will ensure the continuation of a strong network of skilled EPI managers.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