YEMEN

2018 Programme Support Rationale

Strategic period 2019-2023

The Programme Support Rationale (PSR) presents the rationale and objectives for the programming of Gavi support for the upcoming period, and - together with the online vaccine application(s) mentioned below - replaces the previous application forms used to request new support.

- The PSR is developed approximately once every five years based on and in alignment with the national health and immunisation strategic plan(s) and budgets.
- It incorporates the Joint Appraisal in the year of its review.
- **Stock levels and requests for vaccine renewals or product switches need to be reported on the Gavi Country Portal between late March and 15 May.**
- All required reporting has to be submitted on the country portal, as per the reporting guidelines.
- The PSR builds on robust analysis of country data and evidence of progress made (or persistent challenges) on the coverage and equity situation.
- In parallel to the PSR, the Gavi budgeting and planning template and Gavi grant performance framework (GPF) are completed to complement the objectives presented in the PSR. This should be reflected in the country's own operational budget and workplan.
- The Coordination Forum (ICC, HSCC or equivalent body) is required to endorse the PSR prior to final submission to Gavi.
- Signatures of both the Minister of Health and Minister of Finance or their delegated authority are required to endorse the final PSR before submission to Gavi.
- The PSR will be reviewed by members of the independent review committee (IRC) who will make a recommendation to Gavi on the full portfolio of support for the duration of the PSR, including any current support that needs to be renewed.
- Following the independent review there will be a period for countries to respond to any 'issues to be addressed' ahead of final Gavi approval and disbursement.

- **It is recommended that this process be initiated 15-18 months prior to expected grant disbursement.**
- **Vaccine applications are developed via Gavi's online country portal and submitted for review and approval 15 to 18 months before the planned vaccine launch or campaign.**
- On an annual basis the budget will be reviewed and updated to take into account implementation progress and any new information from the joint appraisal.

Visit Gavi's website (http://www.gavi.org/support/process/apply/) for available programmatic and process guidance to support the development of the PSR and vaccine applications. For a **list of mandatory documents** to be submitted together with this PSR, please refer to Annex 1 of the Application guidelines.

Part A: Overview of portfolio of support

All grey boxes to be pre-filled by the Gavi Secretariat
All white boxes to be filled by Country

1. Vaccines: Projected country co-financing and Gavi support requested for current and new Gavi-funded vaccines

1.1. Co-financing for current Gavi-funded vaccines

Programme and type of support		Estimated projections[1]				
		(Year 1) 2019	(Year 2) 2020	(Year 3) 2021	(Year 4) 2022	(Year 5) 2023
Pentavalent	Country co-financing (US$)	519,500	442,951	451,615	458,268	464,728
	Gavi support (US$)	2,684,500	2,128,892	2,170,531	2,202,507	2,233,552
PCV	Country co-financing (US$)	1,117,000	1,153,331	1,175,889	1,193,212	1,210,031
	Gavi support (US$)	6,461,000	5,933,548	6,049,603	6,138,726	6,225,254
Rotavirus routine	Country co-financing (US$)	494,500	565,589	576,481	584,839	592,949
	Gavi support (US$)	2,680,000	2,920,174	2,976,408	3,019,560	3,061,434
IPV	Country co-financing (US$)	0	0	0	0	0
	Gavi support (US$)	2,007,733	2,386,313	2,434,512	2,004,536	2,033,756
MR follow up SIA	Country co-financing (US$)	0	0	0	51,218	0
	Gavi support (US$)	0	0	0	2,788,449	0
a) Total Country co-financing for current vaccines (US$)		**2,131,000**	**2,161,872**	**2,203,985**	**2,287,538**	**2,267,708**
b) Total Gavi support for current vaccines (US$)		**13,833,233**	**13,368,927**	**13,631,054**	**16,153,778**	**13,553,996**
c) Total cost of current vaccines (a+b) (US$)		**15,964,233**	**15,530,799**	**15,835,039**	**18,441,316**	**15,821,704**

[1] *These estimates provide visibility to the total funding needs that a country should plan to complement the Gavi financing. These estimates are projections and may differ from actual commitments, which are calculated year-by-year and reflected in Gavi decision letters. The source of these estimates are the latest input received from country, with adjustments performed by the Gavi Secretariat (eg price updates, supply constraints, etc.)*

1.2. Vaccine presentation and implementation dates: Country to complete all columns for each new vaccine introduction and campaign planned over the duration of the PSR and for which the country seeks support.

Programme and type of support	Preferred presentation[2]	Target submission date of request	Desired date for vaccines to arrive	Planned launch date	Support requested until[3]
[Type of support 1] (eg Measles second dose routine)	See detailed product profiles	Month year	Month year	Month year	Year
[Type of support 2] (eg Meningitis A preventive mass vaccination campaign)	See detailed product profiles	Month year	Month year	Month year	Year

1.3. New vaccine support to be requested: For types of vaccine support and guidelines, please refer to http://www.gavi.org/support/process/apply/vaccine/)

Programme and type of support	Year	Year 1	Year 2	Year 3	Year 4	Year 5
	Population in the target age cohort (#)	1,087,873	1,122,780	1,158,901	1,195,901	1,233,901
	Target population to be vaccinated (first or only dose) (#)					
	Target population for last dose (#)					
	Estimated wastage rates[4]					
	Country co-financing (US$)	$	$	$	$	$
	Gavi support (US$)					

[2] *For vaccine presentations, please refer to the detailed product profiles available here: https://www.gavi.org/about/market-shaping/detailed-product-profiles/*

[3] *For routine vaccine introduction, support is usually requested until the end of the country's valid cMYP, as per the guidelines and may be extended in the future. If you wish to request Gavi support for a shorter time period than the end of your cMYP you may do so. For campaigns the "support requested until" field will normally be the same or one calendar year from the launch date, but can be extended for a phased campaign.*

[4] *For indicative wastage rates for preferred presentations (%), please refer to the detailed product profiles available here: https://www.gavi.org/about/market-shaping/detailed-product-profiles/*

	Population in the target age cohort (#)	3,211,797	3,308,794	3,511,663	3,661,663	3,861,663
	Target population to be vaccinated (first or only dose) (#)					
	Target population for last dose (#)					
	Estimated wastage rates					
	Country co-financing (US$)	$	$	$	$	$
	Gavi support (US$)					
d) Total Country co-financing for new vaccines requested (US$)		$	$	$	$	$
e) Total Gavi support for new vaccines requested (US$)						
f) Total cost of new vaccines requested (a+b) (US$)						

1.4. Total cost and co-financing summary for vaccine support

a) Total Country co-financing for current and new vaccines requested (a+d) (US$)	**2,131,000**	**2,161,872**	**2,203,985**	**2,287,538**	**2,267,708**
b) Total Gavi support for current and new vaccines requested (b+e) (US$)	**13,833,233**	**13,368,927**	**13,631,054**	**16,153,778**	**13,553,996**
c) Total cost of current and new vaccines requested (g+h) (US$)	**15,964,233**	**15,530,799**	**15,835,039**	**18,441,316**	**15,821,704**

1.5 Request for vaccine presentation switches[5] for current support (if applicable)[6]: Please note that this requires further documentation containing cold chain capacity, stock levels of the current product, and a costed activity plan (to be submitted via the Country Portal, here: http://www.gavi.org/support/process/country-portal/ in the Supporting Documents section).

Current presentation	Desired new presentation	Desired switch month and year	Rationale for the switch in presentation including any anticipated impact on coverage and equity	Do you request a product switch grant in the vaccine renewal request on the country portal?
PCV-13 (1 dose vial)	…PCV-13 (4 dose vial	1st Jan 2018 but now it will be from 1st nov 2018	Recommendation from WHO and to reduce the wastage	Yes (TBC)
Rota	…Rota with revised VVM and Shelf life changes	…	Changes in the presentation to better monitoring of VVM	Yes

[5] *Gavi aims to meet country's preferences on vaccine presentation to the extent possible. When there is not enough supply of a desired product to meet country demand, Gavi will consider the rationale for the switch in order to prioritise supply between countries.*

[6] *For a detailed description of the vaccine product profiles, please see here: https://www.gavi.org/about/market-shaping/detailed-product-profiles/*

2. Financial support requested

2.1. Country health and immunisation data and national health planning and budgeting cycle Country to complete table below

Country health and immunisation data - All figures in US$	**2017**	**2018**
Total government expenditures (past year)	$ 825,748,000	Not applicable
Total government health expenditures (past year)	$28,340,000	Not applicable
Immunisation budget (past & current year)	$34,000	**$**

2.2. National health planning and budgeting cycle, and national planning cycle for immunisation

National cycles	**From**	**To**
Years of National Health Plan	2010	2025
Years of immunisation strategy (e.g. cMYP)	2016	2020
Start and end dates of fiscal period	31-12-2017	31-12-2018

2.3. Currently active Gavi financial support (only grants already approved but not yet closed) Entire table prefilled by Gavi Sec (PO)

Type of support	Amount committed	Amount approved	Amount disbursed	Year(s) of support
HSS 2	$17,639,234	$17,639,234	$17,048,876	2014-2018
MR SIA Ops costs	$2,977,987	$2,977,987	$2,977,987	2018

2.4. New financial support requested: Country to complete table below. For all types of vaccine support and guidelines, please refer to: http://www.gavi.org/support/process/apply/

Target start and date for financial support:	**Month & year** Prefilled by Gavi Sec (PO)					
Please note the **country's total HSS ceiling** for the coming 5 years[7]: (US$ ceiling amount)	**Indicative estimates**					
	Year 1 (2019)	**Year 2 (2020)**	**Year 3 (2021)**	**Year 4 (2022)**	**Year 5 (2023)**	**Total**
Health Systems Strengthening support (HSS)						
Objective 1: **Improve equitable access to quality immunization services to increase coverage**	2,504,547	2,834,181	3,446,825	2,547,599	2,604,181	13,937,334
Objective 2: **Ensure efficient and effective supply and cold chain to secure the availability of quality vaccines for reaching all eligible population**	1,690,539	2,067,421	1,293,316	998,937	891,749	6,941,962
Objective 3: **Increase demand for EPI services through**	245,000	270,000	295,000	320,000	350,000	1,480,000

[7] *If circumstances warrant, and the source of the CCEOP country joi(3nt-investment is Gavi HSS, this amount should be deducted from the HSS ceiling.*

Social mobilization and community engagement						
Objective 4: **Improve data and surveillance systems to ensure effective monitoring and evaluation to inform decisions**	1,000,065	313,620	302,105	299,620	252,620	2,168,030
Objective 5: **Improve EPI Management, Governance and Coordination to ensure effective and efficient delivery of Immunization services**	225,067	158,467	158,467	158,467	158,467	858,935
6 Supporting the Immunization Management Unit to improve coordination and resource utilization for ensuring effective and efficient use of EPI resources	191,900	191,900	191,900	191,900	191,900	959,500
Total HSS (US$)	5,857,118	5,835,589	5,687,613	4,516,523	4,448,917	26,345,761
Note: The cost doesn't include PSC for WHO (7%) and UNICEF (8%) that will be reflected once agreed/finalized between partners as currently these are tentative.						
Cold Chain Equipment Optimisation Platform (CCEOP)						
CCEOP Gavi joint investment[8]						

[8] *CCEOP Gavi joint investment = 50% or 80% of the total amount for CCEOP, depending on the Gavi transition phase*

CCEOP country joint investment[9]							
• National funds							
• Gavi HSS (with this amount clearly budgeted for within the HSS ceiling to avoid double counting)			3,303,128	2,625,350	3,336,448	2,310,900	11,575878
• Other partners (UNICEF)			825,782	656,350	834,112	577,725	2,893,969
Total CCEOP[10] (US$)			4,128,910	3,281,752	4,170,560	2,888,625	14,469,847
New vaccine support (vaccine introduction grants, or operational support for campaigns, or switch grants) (as per type of support requested in table 1.2)							
	Live births[11]	**1,087,873**	**1,122,780**	**1,158,901**	**1,195,901**	**1,233,901**	
	Gavi Support (US$)[12]						
	Live births[13]	**3,211,797**	**3,308,794**	**3,511,663**	**3,661,663**	**3,861,663**	
	Gavi Support (US$)[14]						
	Population in the target age cohort[15]	#	#	#	#	#	
	Gavi Support (US$)[16]						
Total Gavi support: VIGs, OPS, switches (estimate)							

[9] *CCEOP country joint investment = 20% or 50% of the total amount for CCEOP, depending on the Gavi transition phase*

[10] *Total CCEOP = CCEOP country joint investment + CCEOP Gavi joint investment*

[11] *VIGs are calculated based on live births*

[12] *Please refer to what you have calculated in the Budgeting and Planning template and ensure consistency*

[13] *VIGs are calculated based on live births*

[14] *Please refer to what you have calculated in the Budgeting and Planning template and ensure consistency*

[15] *Operational cost is calculated based on population in the target age cohort*

[16] *Please refer to what you have calculated in the Budgeting and Planning template and ensure consistency*

Total HSIS support requested (US$)	**$7,842,881**	**$10,361,625**	**$8,812,516**	**$8,430,607**	**$7,163,211**	**$42,610,840**

2.5. Data verification option for calculating HSS/Performance Based Funding (PBF) payments

Country to indicate one data verification mechanism among the proposed ones (please mark with an "X" in the relevant box. Please note that the selected option will be utilized for the whole duration of the HSS grant.

Use of country admin data		**Use of WHO/UNICEF estimates**	**x**	**Use of surveys**	**…**

Part B: Country immunization system analysis & past performance rreview

Part B replaces the Joint Appraisal for this year and reviews the performance of the immunisation system, including a thorough analysis of immunisation coverage and equity and any constraints to improving sustainable and equitable coverage. It should focus on the evolution/trends observed over the past two to three years and particularly on changes since the last Joint Appraisal took place.

Information in this section will substantially draw from the recommended analysis on coverage and equity and other relevant programme aspects which can be found in the **Joint Appraisal analysis Guidance** (http://www.gavi.org/support/process/apply/report-renew/).

This section also describes the progress in grant implementation and improvements in the immunisation system. By complementing the data as reported via the country portal (e.g. the updated grant performance framework, financial reports, data quality assessment etc.), this section explains over and under achievement of goals and targets, associated implementation challenges and key lessons from the past reporting period.

→ ***This section is the basis for the identification of objectives, to be defined in Section D on future programming***

3. Coverage & equity situation

Describe national and sub-national evidence on the coverage and equity of immunisation in the country and constraints to improvement. In tables 3.1 and 3.2, identify trends in coverage and equity, across geographical areas, economic status, populations and communities, including urban slums, remote rural settings and conflict settings (consider population groups under-served by health systems, such as slum dwellers, nomads, ethnic or religious minorities, refugees, internally displaced populations or other mobile and migrant groups). Relevant information includes: overview of districts/communities which have the lowest coverage rates, the highest number of under-vaccinated children, disease burden: number and incidence of vaccine preventable diseases (VPD) cases as reported in surveillance systems in regions/ districts, etc.

Among data sources available, consider administrative data, coverage surveys, DHS/MICS, equity analyses, Knowledge-Attitude-Practice surveys, and patterns of diseases like measles. Please clearly reference the source(s) of the data used in this section.

→ ***This section is key to determine the target geographies and/or population groups for prioritising interventions***
→ ***Provide any relevant trend analysis or additional evidence available.***
→ ***Please also refer to the Guidance on gender related barriers to immunisation*** (https://www.gavi.org/support/process/apply/additional-guidance/#gender)

Situational analysis

- The Republic of Yemen: a country profile

Located on the southwestern end of the Arabian Peninsula between Oman and Saudi Arabia, the Republic of Yemen is the second largest country in the region, occupying 527,970km2 with an estimated 30,616,105 inhabitants. Yemen is divided into 23 governorates and one municipality. The governorates are divided into 333 districts. Yemen has been the poorest country of the region ranking168 out of 188 countries (2016 UNDP Human Development Index). The country's topography is varied with coastal plains adjacent to hills and mountains' elevations ranging from a few hundred meters to 3 760 m above sea level. The country is predominantly rural with more than 70% of the population living in the countryside scattered over about 140,000 villages and small settlements all over the territory. Most of the people are located away from the coastal areas in some of the most hard-to reach terrain in the region, which prevents them from accessing basic services such as health.

- A conflict-affected context hits by a worrisome humanitarian crisis

Since 2015, the country is affected by a fully-fledged humanitarian crisis with high levels of malnutrition and risk of disease outbreaks. Instability and violence led to more than 16,000 civilian casualties reported (OHCHA 2018) and caused significant damage to key infrastructure such as hospitals and schools. Besides, an important number of people in need (more than 1.2 million) are located in the most inaccessible areas of Yemen, and particularly in hard-to-reach areas which constrains the delivery of the humanitarian support. The country also faces movements of 2 million internally displaced populations (76% are women and children) and returnees who lost the majority of the properties and suffer from limited access to livelihoods (OCHA 2018).

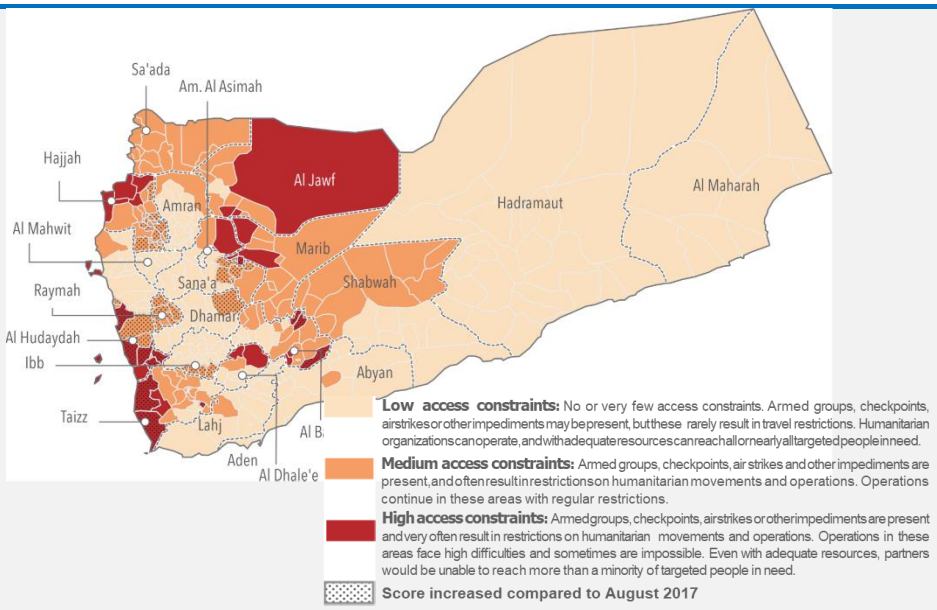


Fig1: Humanitarian access severity-Feb 2018: District access severity as perceived by humanitarian actors (UNICEF, 2018).

The World Health Organization (WHO) Country Office in Yemen generated the vulnerability matrix using the available data on four specific components (hazards, the impact of these hazards on the exposed populations, health system capacities, morbidity of selected communicable diseases considering key clusters' indicators, as well as social determinants and health outcomes) at district level. The vulnerability matrix has been used to identify districts with higher vulnerabilities and the main drivers of such local vulnerabilities, in order to prioritize both geographical areas, and health and non-health interventions. Between the beginning and the end of 2017, the number of districts in the high and very high categories of vulnerability increased (from 85 to 125) and the number of people living in the 125 districts with very high or high vulnerabilities increased by 21.3%. Overall, 11.4 million people live in 39 extremely and 86 highly vulnerable districts which equals to one third of the total population. Such important deterioration of the situation challenges the humanitarian response to cover larger geographical areas and higher number of beneficiaries (WHO, 2017).

Vulnerability level	February 2017		November 2017	
	# Districts	# Population 2017	# Districts	# Population 2017
Very high (6)	20	1 298 332	39	3 690 847
High (5,4)	65	6 786 667	86	7 665 071
Moderate (3,2)	175	16 353 990	158	14 749 459
Low (1,0)	73	3 958 196	50	2 266 552
Total	333	28 397 185	333	28 371 929

Table 1: Trends of the vulnerability matrix between February and November 2017

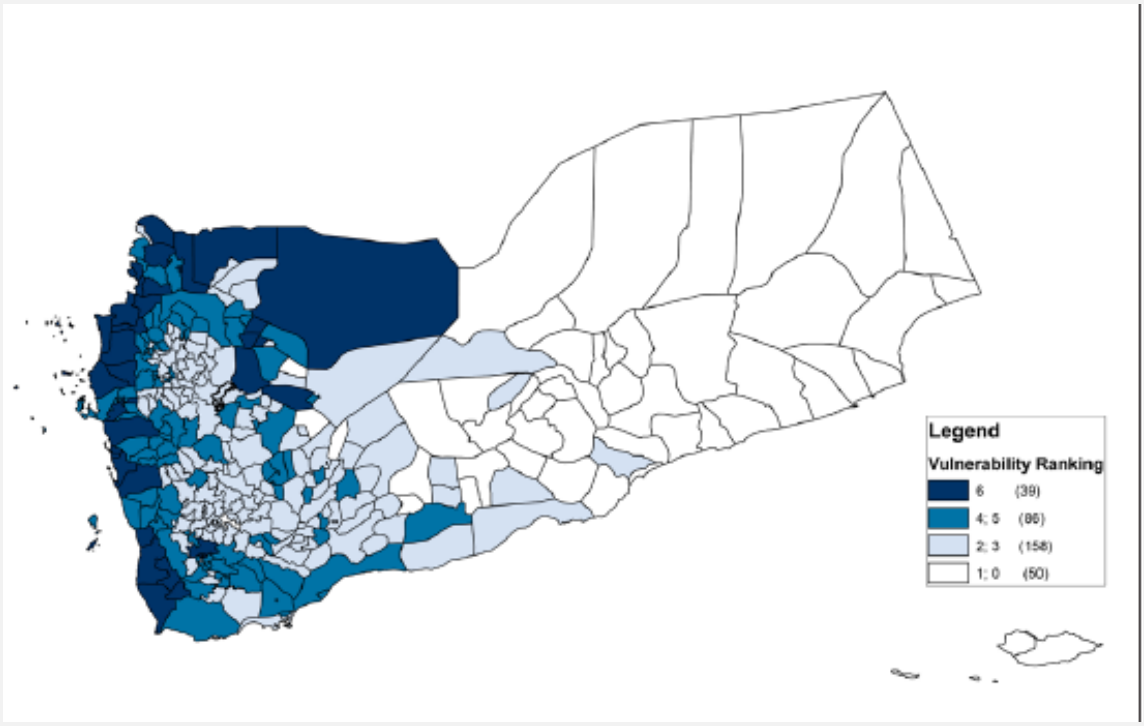


Fig 2: Yemen district vulnerability ranking as of November 2017 (WHO, 2017)

- <u>The declining health system is a barrier to accessing basic health services</u>

In Yemen, access to health services has always been challenging, however the current conflict situation had led to a gradual collapse of the Yemen health system especially in rural areas, home for the majority of the population.

→ *Only 50% of health facilities in Yemen are fully functioning* (WHO 2017). According to the 2018 HeRAMS[17] data collected in 3548 health facilities in 14 governorates, 10% of the HF are partially or fully damaged and 13% are closed. Moreover, 62% of cold-chain equipment are obsolete and the majority of EPI centers within the health facilities (90%) receive little or have no access to electricity less than 8 hours of electricity per day while 10% of the HFs have reliable access to grid electricity for more than 8hrs/day.

[17] A tool developed by the Global Health Cluster to assess and monitor the functionality of health facilities as well as health services and resources availability in humanitarian emergencies

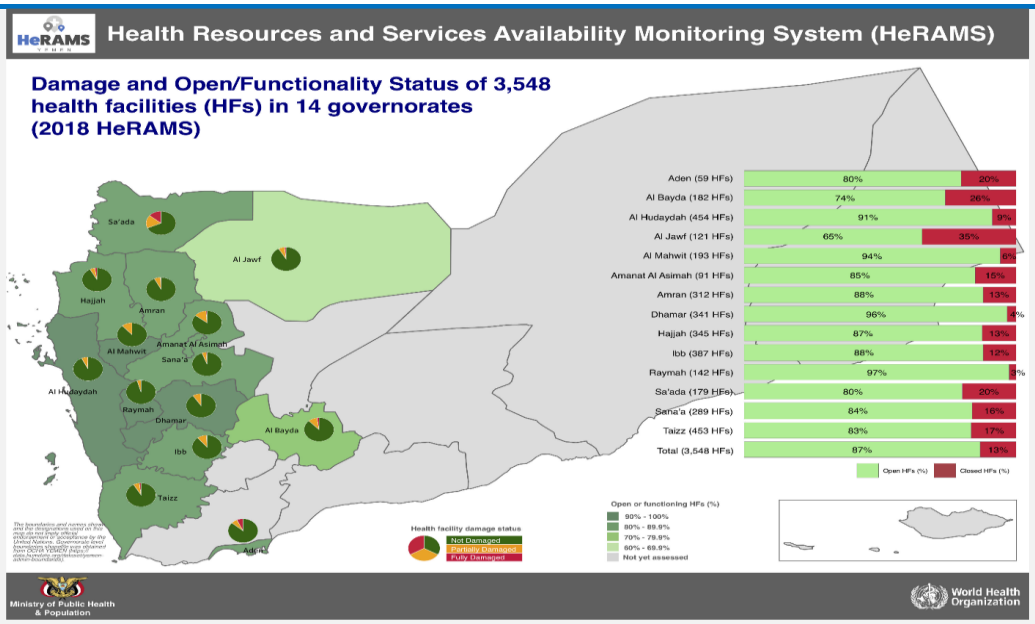


Fig 3: Health facilities status in 14 governorates in Yemen (WHO)

The collapsing situation of the Primary Health Care system (PHC) in the large parts of the country due to closed and non- functional health facilities is mainly the consequence of the lack of staff, furniture and equipment, security and damaged infrastructure as well as lack of financial resources (HeRAMS, 2018). Besides, import restrictions on medicines and supplies, lack of basic health care services and commodities, constrain the full operation of the health facilities.

→ *Critical shortages of medical specialists and health staff* is the result of a quite significant number of health workers who left their health facilities because of lack of salary to look for other means of income. Lack of salary payment continued to be a key demotivating factor for government employed health workers in Yemen. With the inflation rates in Yemen, health workers continued to flee away from the health facilities for alternative income to support themselves and their families. The quality of care is impacted by the lack of motivation of the health workforce who are operating in harsh circumstances. Moreover, the capacity of the GHOs and DHOs is deteriorating as a result of higher turnover of skilled staff. In addition, new professionals with less experience are being recruited. Hence, there is decreasing implementation capacity (UNICEF, 2017).

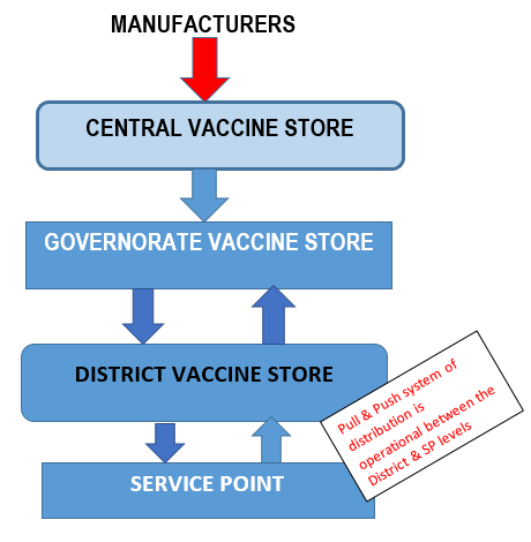
→ *The banking/liquidity crisis* continues to affect programme implementation as partners experience challenges in paying larger amounts of cash to implementing partners which do not have bank accounts to avoid associated risks. In addition, some of the partners have already been identified as high risk because of either weak financial management systems or previous negative experiences.

→ *The lack of functional PHC centres hampers immunisation coverage and equity*, as well as surveillance interventions resulting in outbreaks of cholera, diphtheria and measles and the re-emergence of other vaccine preventable diseases (WHO Health cluster, 2018). This situation constrains access to health care services for 14 million Yemenis including 8 million children, and this is even worse in unreachable areas in Aden, Taiz, Sa'ada, Abyan, Lahj, Al-Dhale, Marib, Amran, Sana'a, Al Baida, Al-Jawf, Hajja and Hodeida governorates where conflicts are particularly active.

- <u>Cold-chain and supply chain situation</u>

In Yemen, the supply chain structure is organized into four levels of storage and health facilities and is managed by the MOPH&P, National EPI team and the development partners. It consists of the central cold store, 23 cold stores at governorate level, and 333 districts stores and over 3,676 HFs service points.

- *National (PR):* Besides the existence of a national storage of the vaccines and accessories, this primary (PR) level is also responsible for policy formulation, development of guidelines and coordination of the iSCM in the country.
- *Sub national (23-Governorates)*: This level coordinates and plays a liaison role between the central and lowest distribution levels. At this level, inventories are held, managed and released when needed.



- *Lowest Distribution (333-Districts)*: This level is responsible for the immunization supply chain products management, distribution, transportation, organization and supervision of immunization activities at the HFs in their respective localities.
- *Service Points (3676 Health facilities)*: This is the administrative levels where quality immunization services are delivered to all eligible populations.

The current system presents huge challenges in terms of storage, preservation and transportation of vaccines, as well as frequency and workload at the service-point level. Vaccine preservation poses many problems in the storage stores and health facilities where the availability of electricity is threatened or totally absent. Because of this, absorption refrigerators (Sibir- combined gas & electricity) and battery powered solar

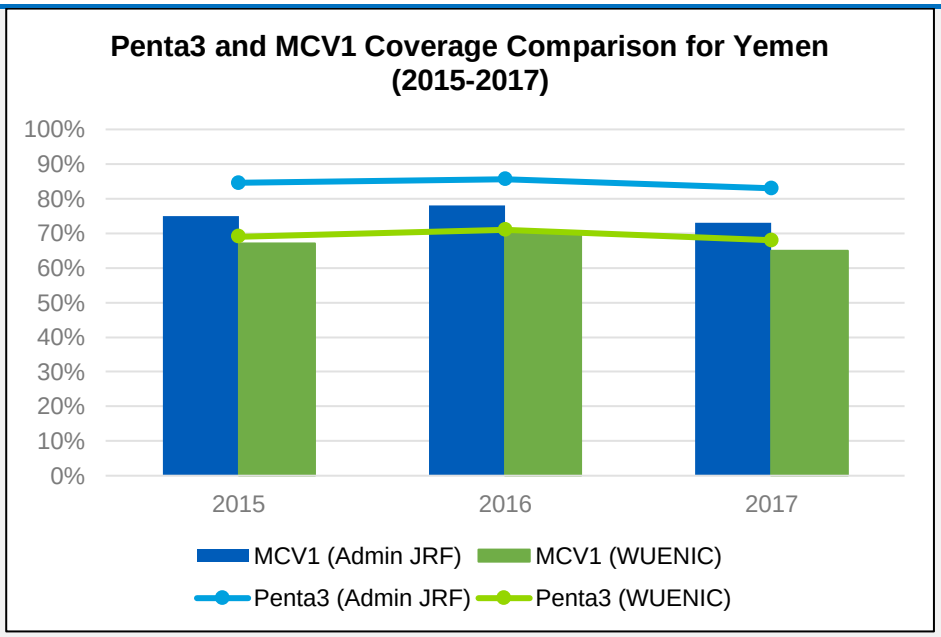
refrigerators are serving as alternative for vaccine storage in most of the HFs.

Before the crisis in 2015, Yemen was able to produce sufficient gas to power all the public and private sectors but, since the onset of the crisis, falling oil revenues has hindered the government's ability to provide basic health services. The gas output is steadily declining which hampers the continuous use, maintenance and sustainability of absorption refrigerators in the country. Moreover, gas devices are associated with many disadvantages, including the following: high operational cost; less effective cooling via absorption compared to compression used in electric devices; difficult maintenance of a vaccine-conservation temperature between 2°C and 8°C in refrigerators; irregular supply of propane gas to the districts and health facilities which leads to frequent gas shortages; lack of frequent maintenance operations needed to guarantee that the gas devices work properly; environmental issues related to the use of gas devices.

In February / March 2017 Yemen, the physical inventory of cold chain equipment (CCE) was conducted and data reveal that around 52% of the refrigerators are gas-powered. The EPI, with the support of its partners, purchased propane gas to make sure these gas refrigerators operate. It should also be noted that the frequent breakdowns of these gas refrigerators endanger the vaccines stored. Moreover, due to the lack of dedicated refrigeration firm, qualified technicians and maintenance mechanism in place, proper inventory of spare parts, efficient logistics as well as qualified human resources in managing the whole system, device maintenance remains an issue.

Overview of immunisation coverage and equity in Yemen

The last two years, the trends of immunisation coverage (IC) for Penta 3 and MCV1 as reported in the JRF were below 90%. Penta 3 coverage varied between 86% (2016) and 83% (2017) while MCV coverage reached 78% in 2016 and finally declined at 73% in 2017.

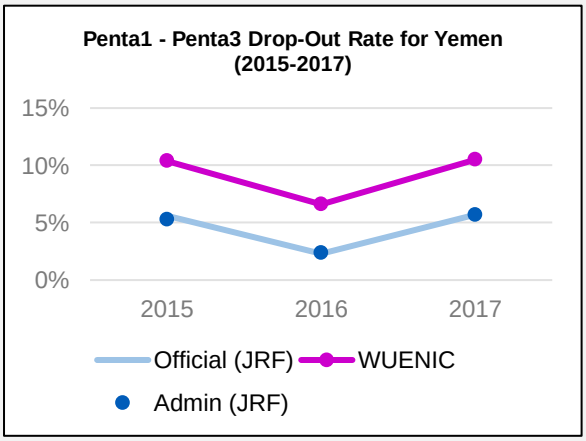


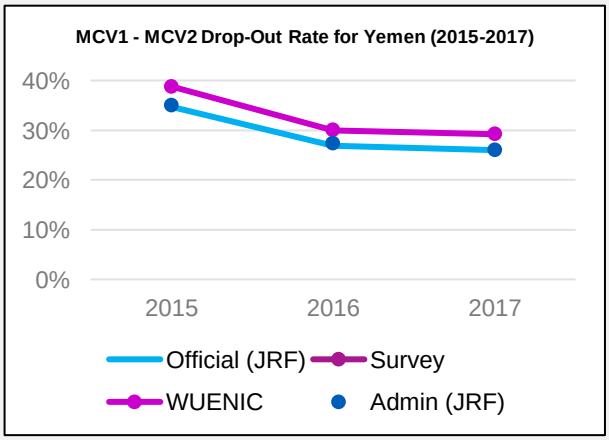
Graph 1: Penta 3 and MCV1 Coverage Comparison for Yemen (2015-2017)

The gap between JRF reported coverage is important. For example, the difference was of 16 point of percentage for Penta 3 in 2015 and 15 point in 2017, while for MCV1, it was of 10 point in 2015 and 8 in 2017.

	2015		2017	
	JRF	WUENIC	JRF	WUENIC
Penta 3	85%	69%	83%	68%
MCV1	75%	65%	73%	65%

Table 2: JRF and WUENIC Coverage comparison for Penta 3-MCV1 Yemen (2015 and 2017)



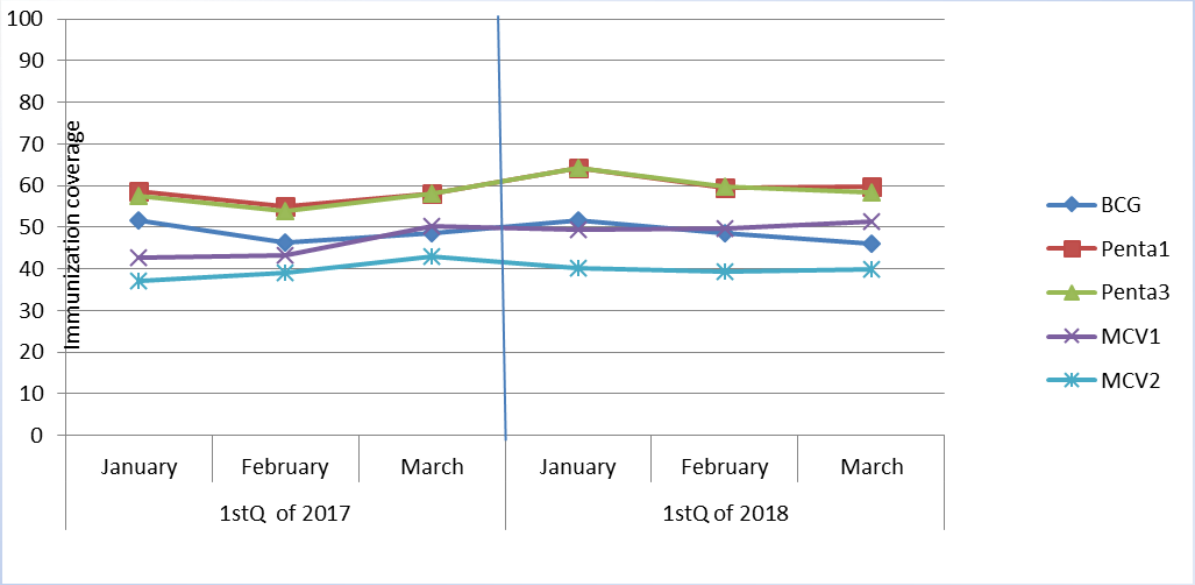


Graph 2 and 3: Penta 3 and MCV2 drop out comparison for Yemen (2015-2017)

In 2017, the drop-out rate for Penta3 is approximatively at the same level as the one in 2015 when the security situation deteriorated despite a decrease in 2016. Particularly high MCV2 drop-out rate 29% in 2016-17 is decreasing since 2015 with a slight change between 2016 and 2017. While the difference between administrative data and WUENIC estimates of drop-

out rate for Penta is important (6% vs 11% in 2017), the gap is lesser for MCV drop-out rate (26% vs 29%).

Recent administrative data available for Q1 2018 reveal that the national immunization coverage was less than 70% for most antigens which is a similar situation compared to the equivalent period of 2017, which indicates that the situation has relatively improved (Graph 4).



Graph 4: Monthly national immunization coverage in Q1 2017-2018

As per Yemen National Health & Demographic Health Survey 2013, Children in urban areas are more likely than rural children to be fully vaccinated (59 percent compared with 37 percent) and to have received the three doses of pneumococcal vaccine (52 percent compared with 33 percent). Mothers' educational status is highly correlated with the child being fully vaccinated. For example, 34 percent of children of mothers with no education are fully vaccinated compared with 69 percent of children of mothers with higher education. Children in the highest wealth quintile are more likely to be fully vaccinated than those in the lowest (62 percent and 24 percent, respectively). By governorate, the proportion of children fully vaccinated is highest in Aden Governorate (64 percent) and lowest in Sa'ada Governorate (13 percent).

Recent war that started in March 2015 forced the people to leave their houses and move to other places. Approx. more than 3.0 million of the people are now on move and are living as IDPs. Being IDPs they are living with their relatives in other districts/governorates, living in schools or other public health facilities, tents, those who can afford are living in rented houses etc. Most of the IDPs have no access to quality health services including vaccination. Field visits revealed that most of the IDPs areas have not visited by teams since long. Other high risk groups i-e Somalian population, Bedouins, Refugees are also deprived of basic services. Due to population movement challenge regarding access to EPI increased both in routine and Supplementary Immunization activities (SIAs).

After the crisis situation in order to address the inequities and to ensure access to EPI services the strategies to address inequities are; Integrated outreach activities to reach populations in tier two and three with no or limited access to health facilities, Mobile services delivery providing integrated health & nutrition services to IDPs and extremely remote populations, Demand creation and community engagement to reach two types of communities; (i) those with access to health facilities but lacking awareness of importance of vaccination and / or of availability of services and (ii) communities with resistance to or active refusal of vaccination services and Further local level mapping and inequity analysis to identify local pockets of unvaccinated children due to various causes such as IDP undetected, mehamasheens or any other ethnic/ tribal group not receiving services, villages not included in micro-plans for integrated outreach etc.

- <u>Integrated outreach activities conducted in hard to reach communities</u>

In a context where 76% of the population live in rural areas and has difficult access to basic health services, fixed facilities cover only 50-55% of population, 55% of the health facilities non-functional, integrated outreach rounds were initiated in 2005 and conducted to deliver routine essential health and nutrition services package such as maternal and child health as well as basic health interventions[18] closer to the population living in hard-to reach and security compromised areas. IORs include all routine vaccines used by the EPI programme and are usually conducted in all targeted districts of Yemen as an effective strategy to reach eligible and defaulter children in high risk population.

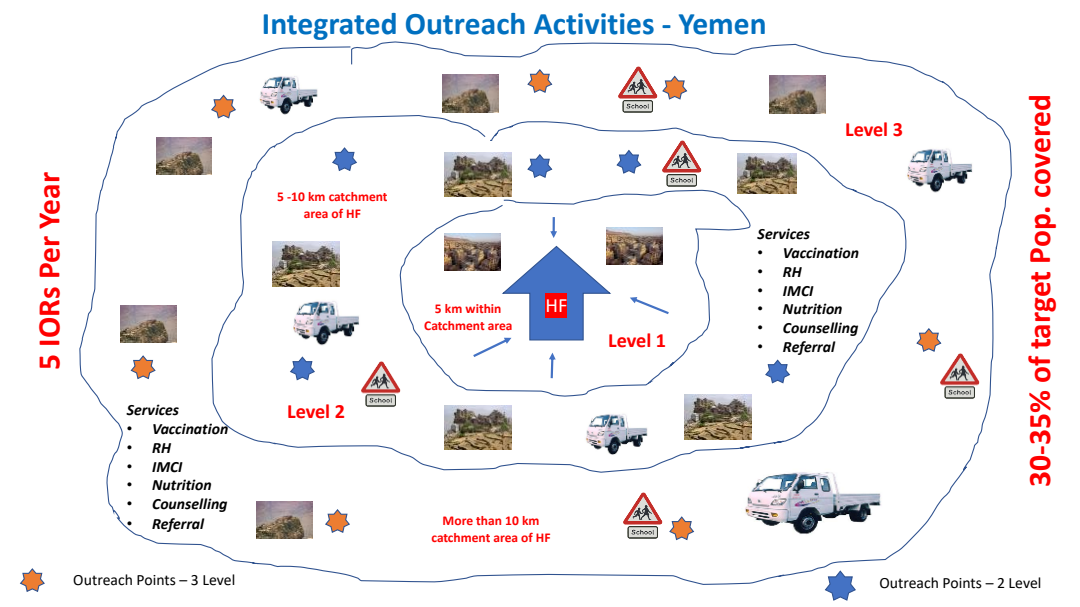


Fig 4: Areas targeted by integrated outreach activities

[18] *children vaccination (PL & WCBA); Treatment of common childhood illnesses (IMCI), Ante/Postnatal care and family planning (RH): Screening for malnutrition, deworming, micronutrient supplementation (Nutrition), Referral services; Counselling services.*

Integrated outreach activities consisted into 4 rounds (6 days/ round) per year but, with the conflictual situation in Yemen, the reliance on IOR has been even more critical. With Gavi support, the number of rounds has been increased to 5 per year in 2015 by re-programming HSS2 resources and later through support from other partners such as the World Bank.

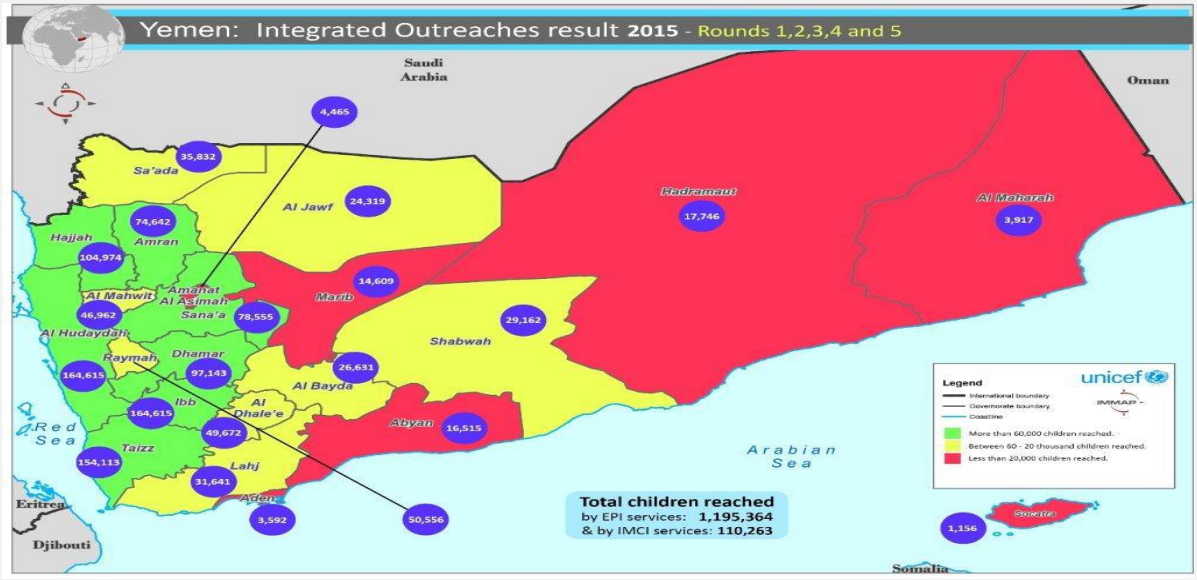


Fig 5: Integrated outreach activities in 2015

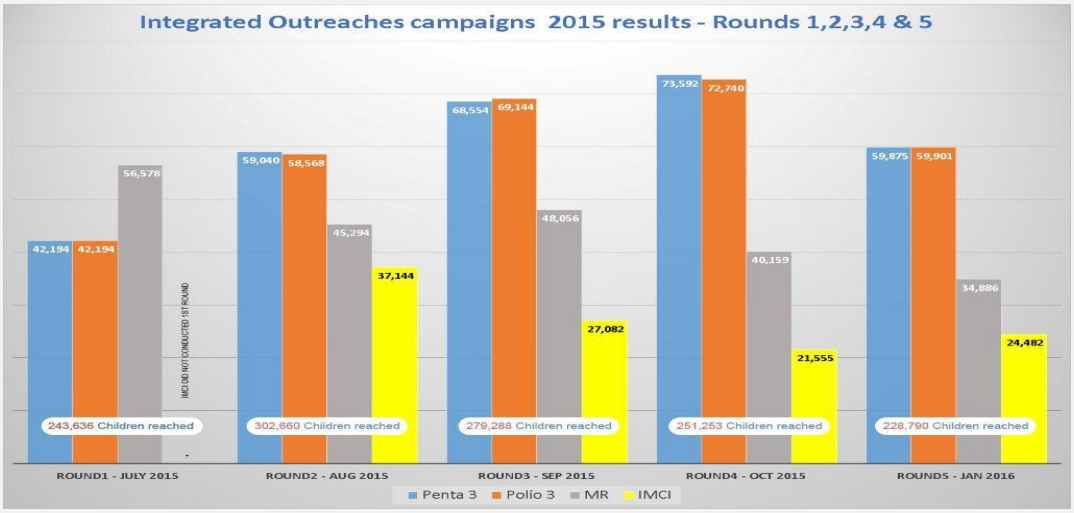
→ *Regular Integrated Outreach through the WB support:* IO services were provided in catchment areas of 1700 targeted health facilities. Teams from HF conduct regular one visit per week to provide services including immunization, RH, Nutrition, IMCI, etc. in tier 1 & specific areas in tier 2. As of December 2017, 312 integrated outreach sessions (IOs) were conducted in 90 districts of five governorates benefiting 322,718 people, including 119,932 children under the age of one year and 45,992 WCBA benefitted from immunization. In addition, UNICEF supported the deployment of 50 mobile teams providing 336 rounds of health and nutrition services across 10 governorates in Yemen. This was very important to reach people in tier 3 villages and IDPs where there is no other alternative source of health care. Through these mobile teams, a total of 65,990 children with severe acute malnutrition were identified and admitted to the Community based management of acute malnutrition programme.

→ *IOR through regular visits:* In order to address the non-functionality of EPI centers in health facilities, human resources and other supplies including furniture, cold chain and other necessary supplies were provided. Moreover, new temporary EPI centers/points were opened in tier 3 areas with at least 3000 inhabitants involving CHWs/CHVs. This strategy led to 42 closed centers made functional and 75 new centers opened, reducing the population in level 3 by 22%.

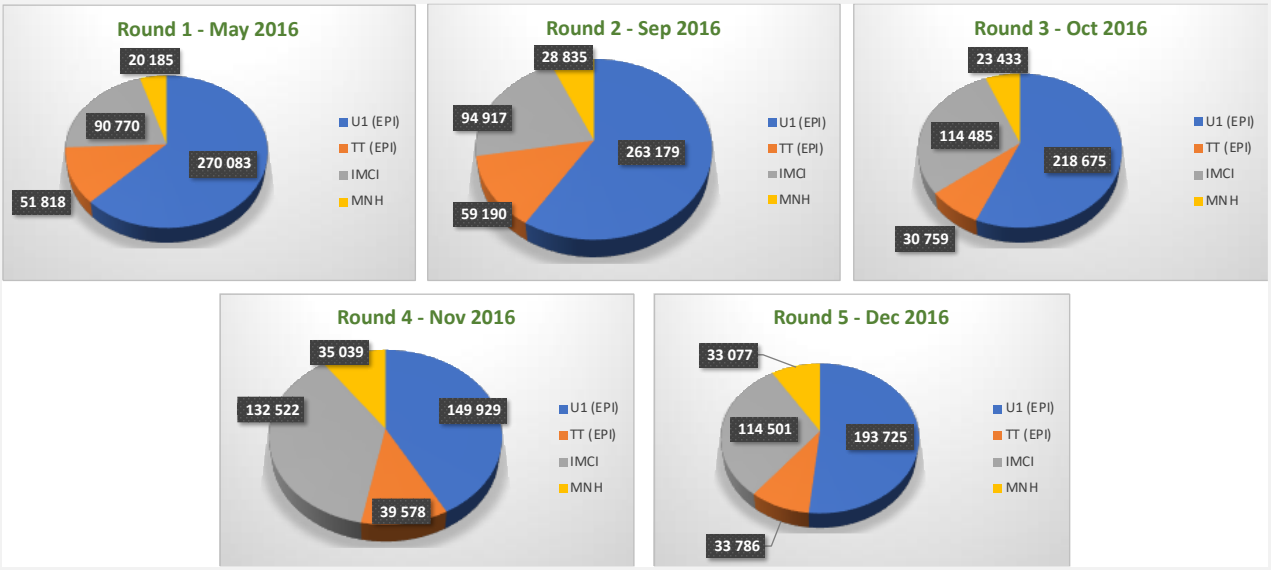
No of Districts	Existing EPI center	New EPI Centers	Total		Level 1 Pop	Level 2 Pop	Level 3 Pop
16	256	117*	373	Existing	26%	20%	54%
				New	32%	35%	33%
Target Pop	1,287,980	< 1 year	40,069	< 5 year	23,5082	CBAs	257,596

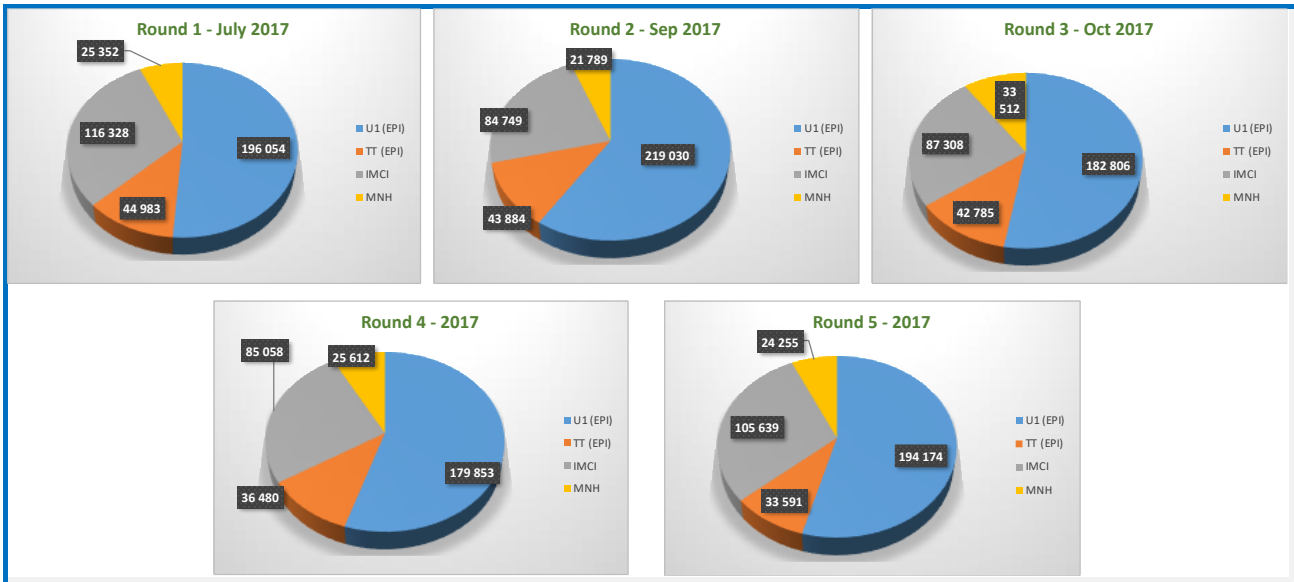
Table 3: New Micro plans for regular outreach in Sana'a Governorate

The following graphs display the results obtained through the IOR conducted between 2015 and 2018.



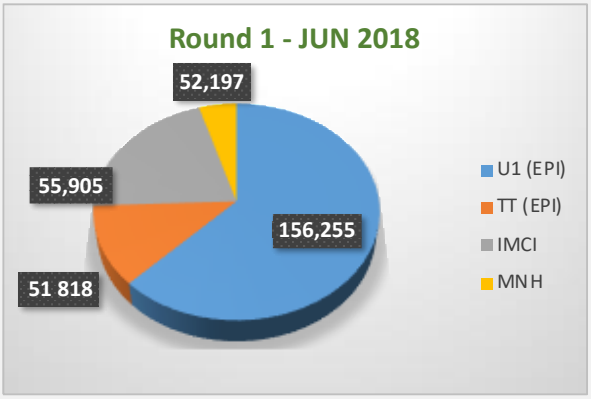
Graph 5: Number of children reached through IOR in 2015





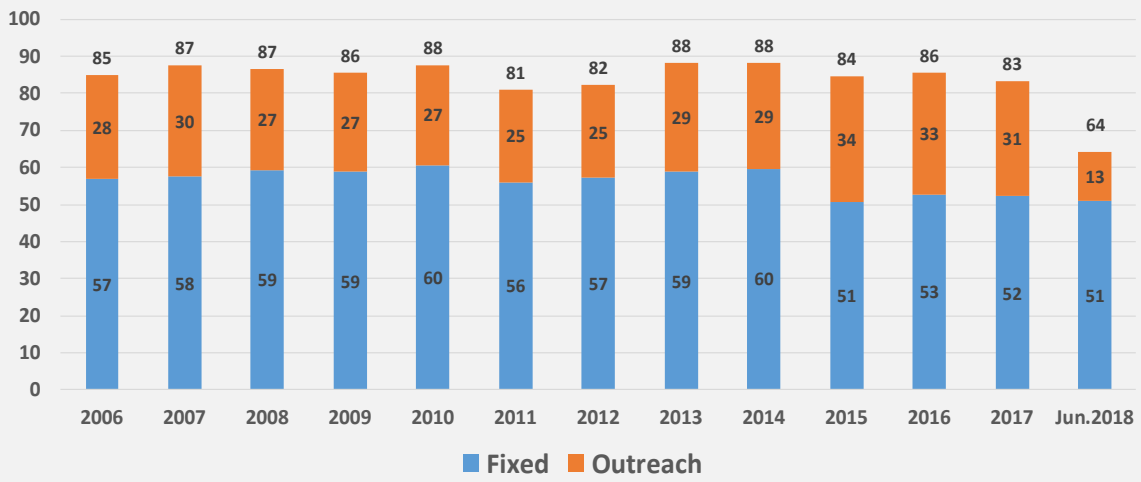
Graph 6 et 7: Integrated outreach activities conducted in 2016 and 2017

In 2017, 5 IOR were conducted reaching 971,917 children (more than 952 114 surviving children targeted in 2017, JRF) while in 2018, only 1 out of 5 originally planned was done in June reaching 156,255 children. It is important to note that there was a long gap between December 2017 outreach and the June 2018 activity which might have potentially contributed to the overall coverage decline in the country.



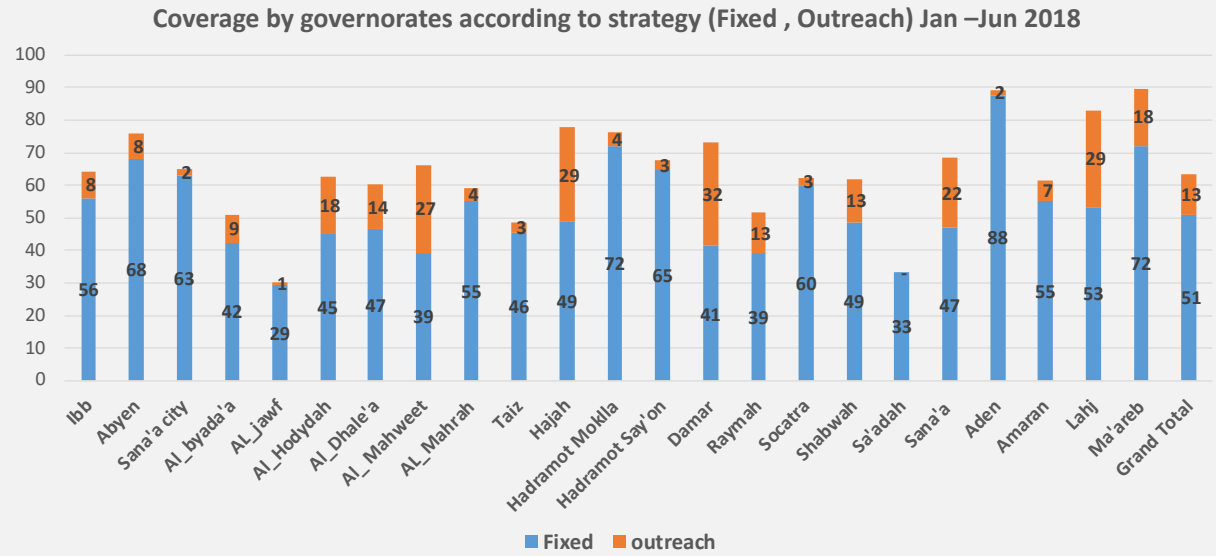
Graph 8: Integrated outreach activities conducted in 2018

Data on outreach activities show that they account for around 34% of the achieved coverage at national level.



Graph 9: Routine coverage with OPV3/Penta 3 (fixed vs. outreach – 2006-2018)

There are variations between governorates regarding the additional coverage achieved through IOR activities. Between January and June 2018, outreach activities were more effective in governorates such as Al Hodydah, Al Dhalea, Al Mahweet, Hajah, Damar, Sana'a, Lahj, Ma'areb reaching an additional coverage ranging from 18% to 29% while in Al Jawf, Al Mahrah, Taiz, Hadramat, Socatra and Sa'adah, the outreach coverage was inferior to 5%. These areas generally with the lowest immunization coverage, are also particularly difficult to access due to security issues not allowing for outreach.



Graph 10: Coverage by governorates fixed vs. outreach in 2018

While IOR are key to reach the unreached and achieve sustainable Coverage and Equity by contributing to:

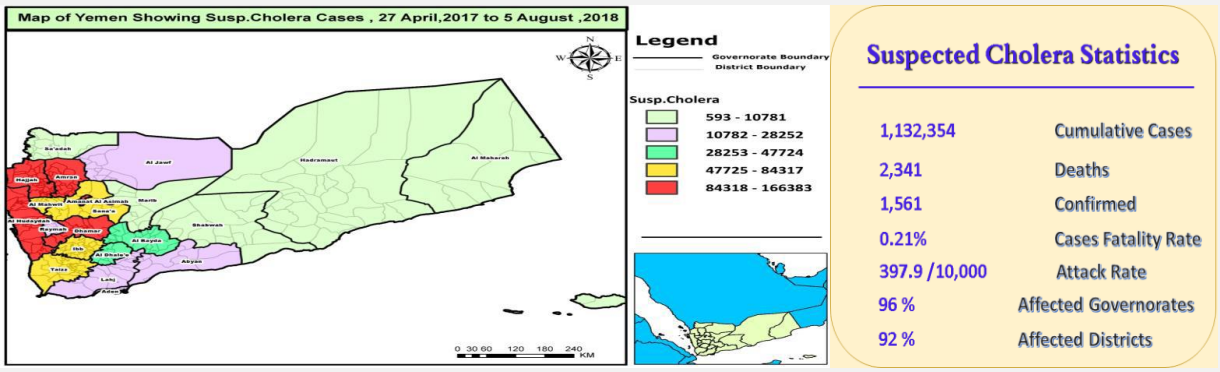
- the increase acceptance for vaccination services,
- improvement of parent's care seeking behaviour,
- alleviation the cost of seeking health care services as they constitute an opportunity to deliver messages at community level and improve parents-health worker relationship,

- conflict mitigation and improvement of confidence on decision-makers, many challenges remain.
-

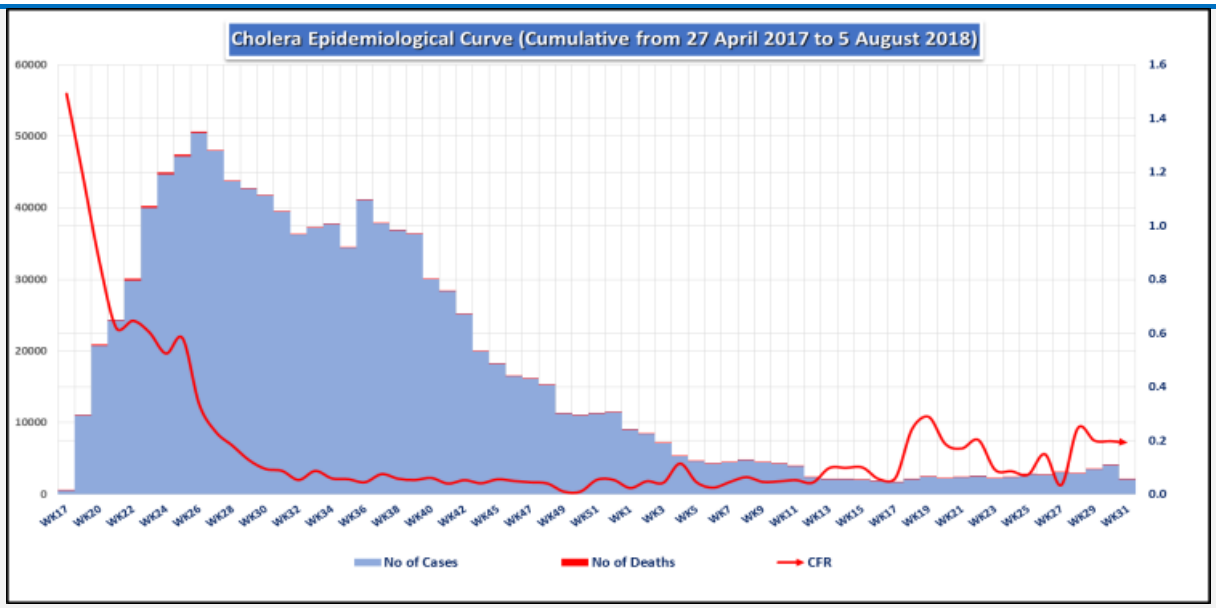
First, rounds are not conducted in a periodic manner particularly due to challenges related to funds transfer and provision of supplies. Besides, highly centralized decision making has not facilitated agreements on the dates for conducting the integrated outreach sessions, has delayed the kick-off dates for the first round which ultimately has affected the subsequent rounds. Second, data collected from the field on the different integrated interventions are not reliable which is not in favour of a rigorous use of evidence for subsequent planning and monitoring of activities implemented. Third, it is challenging to easily integrate communication activities within integrated outreach plans. Finally, coordination issues at Governorate level remains difficult to address. MoPH&P and some GHOs are not in favour of the implementation of integrated mobile teams by NGOs which adds to the limitation of implementation capacity. In reality, such situation resulted in establishing vertical CHWs and CHVs rather than the ideal integrated care, which has caused delays in developing the national CHWs strategy. Some of the fundamental issues (selection criteria, scope of work…) in the national CHWs strategy are still under discussion. This will cause further delays in the implementation of the strategy.

- <u>Overview of surveillance data and related campaigns conducted in Yemen</u>

→ Cholera and diphtheria outbreaks are worsening the health situation in Yemen since 2016. As of August 2018, 2405, deaths were associated with ***cholera,*** considered the worst outbreak worldwide, and 1,132,354 suspected cumulative cases were recorded affecting 92% of the districts. Noting that 50% of the suspected cases and 32% of death cases are children under 15 and 25% children under 5 as per the UN DATA.



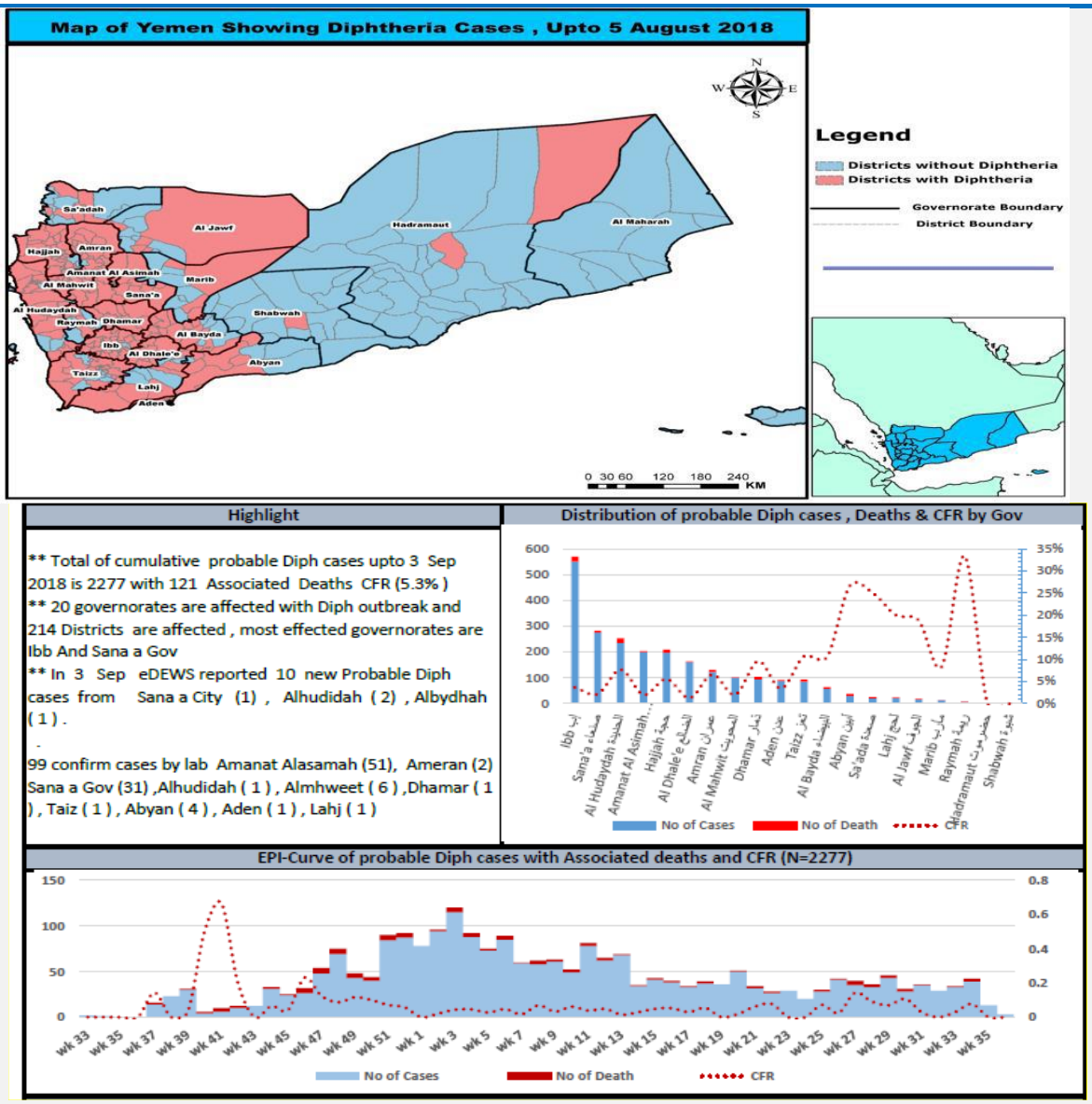
Graph 11: Cholera suspected cases 2017-2018 (eIDWs 2018)



Graph 12: Cholera epidemiological curve 2017-2018

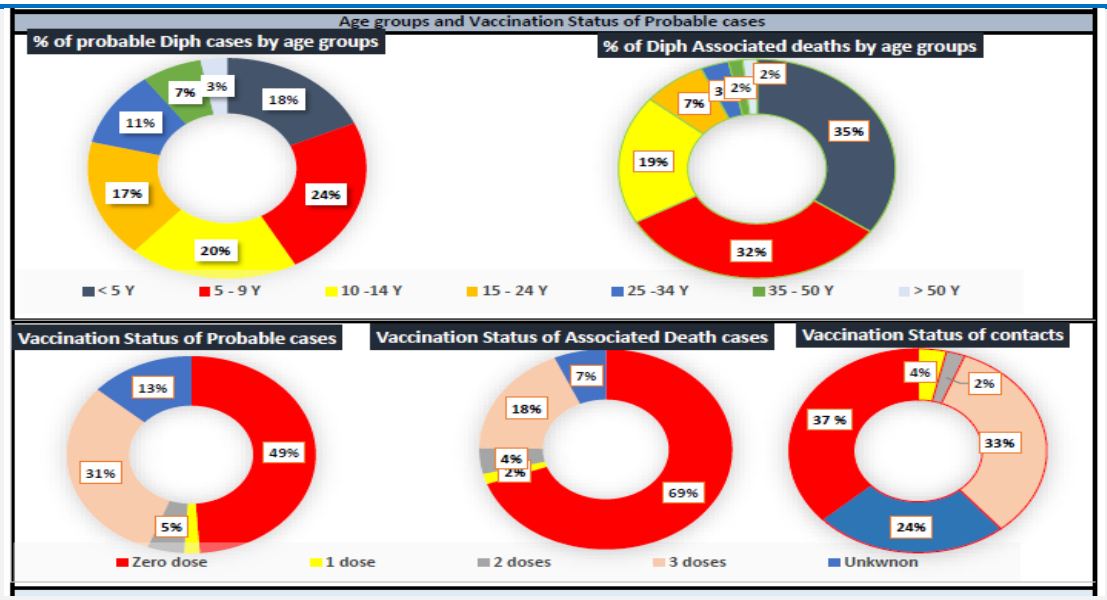
WHO has supported the establishment or renewal of 47 diarrhoea treatment centres (DTCs) and 278 oral rehydration therapy corners (ORCs) in 77 districts and 16 governorates. This is part of broader efforts among partners to scale up access to treatment. As of July 2017, the cholera partnership has succeeded in setting up a total of 187 diarrhoea treatment centres and 834 oral rehydration therapy corners in 20 governorates. Training was also provided to 310 health workers employed by non-governmental organizations and the local health authorities on cholera case management and infection control. This includes 60 health workers from southern governorates trained in Aden. All 310 health workers are now able to train others. WHO is leading the redesign of National Emergency Operations Centres (EOCs) in Aden and Sana'a to harness the full capacity of United Nations agencies, partners and local authorities to provide greater operational support for the cholera response.

→ ***The diphtheria outbreak*** led to 2277 cumulative cases as of September 2018, with121 Associated Deaths CFR (5.3%), affecting particularly children between 5 and 9 years old across 20 governorates and 214 districts.



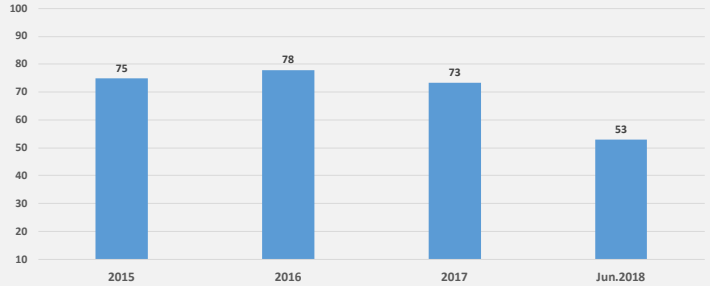
Graph 13: Diphtheria outbreak report as of Sept, 3, 2018

Data also revealed that diphtheria probable cases (49%) and death-associated cases (69%) are more prominent between 0 dose population while 37% of the children with 0 dose status contracted the disease through contacts.



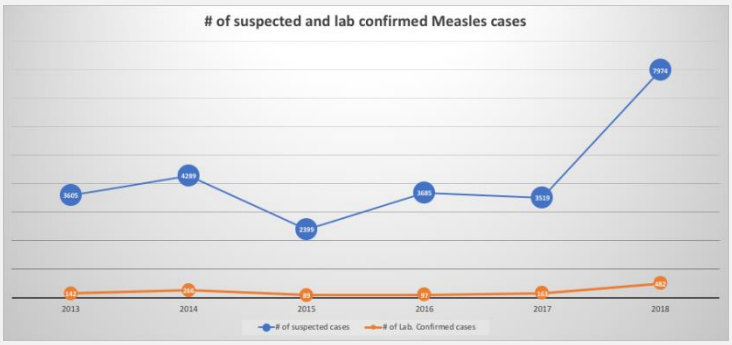
Graph 14: Diphtheria probable cases per age groups and vaccination status

→ The epidemiological situation of ***Measles*** is critical in the country and cases numbers remain high since 2015 as presented on the below chart. In June 2018, 53 cases were identified with a probable increase in cases numbers by the end of the year.



Graph 15: MR coverage (2015 to June 2018)

Moreover, the number of suspected cases and lab confirmed measles cases that decreased between 2014 and 2015, (respectively 2399 and 89) have been increasing since then. In 2018, up to June, 7974 suspected cases have been reported and 482 labs cases have been confirmed.



Graph 16: Number of suspected and lab confirmed Measles cases (2013-2018)

To control the outbreak and further spread of the disease, various response and preventive campaigns have been conducted since 2014, but the situation

remains critical. The MOPH&P and EPI decided to implement nationwide follow-up campaign in November 2018 targeting up to 13, 032, 803 children from 6 months - 15 years to address the current ongoing outbreaks which will contribute in reducing associated morbidity and mortality resulting from Measles cases. This will contribute to strengthening of the routine immunization in the country.

Year	Type of campaign	Dates	Target age group	Target	Achievement	% coverage	Comments
2014	National campaign	Nov-14	9m-15Y	12,210,081	11,368,968	93	
2015	Mop up in 64 districts	Aug-15	6m-15y	1,863,160	1,590,462	85	
2016	Mop up in 62 districts	Jan-16	6m-15y	2,630,358	2,421,243	92	
2017	Response campaign in 24 districts	Mar & May 2017	6m-15y	667,716	372,385	56	Low Coverage due to Security Situation in Saada and high target age group in Al-Mahra
2018	Response campaign in 26 districts	Mar-18	6m-10y	642,066	559,172	87	
2018	Response campaign in 23 districts	May 2018	6m-15 yrs	440,573	290,854	66	Due to security situation in Al-Baida, Amaran and Hajjah

Table 4: Campaigns implemented between 2014 and 2018

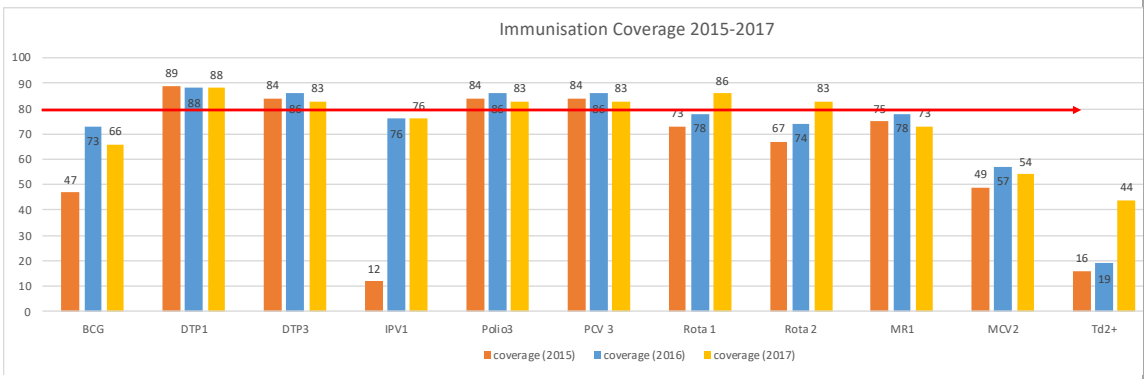
Overall, the outbreak or spread of diseases in Yemen is exponential, which is worsen by the conflict and the huge displacement of populations internally. Therefore, based on the epidemiological data, the following supplementary immunization activities were conducted in 2018:

- Two cholera campaigns implemented in May and Aug. 2018, reaching 662.040 (65%)
- Two Diphtheria campaigns conducted in March and May 2018, reaching more than 1.9 million children under 15 years old
- Two Measles campaigns reaching 558.641 (72.2%)
- One Integrated Outreach Round benefiting 156 255 children
- One Polio campaign reaching 3.409.218 (86%)

3.1. At the national level: (Include data source & year for each)

Coverage:

DTP3, MCV2, etc.



Graph 17: Administrative coverage (JRF) by antigen from 2015 to 2017

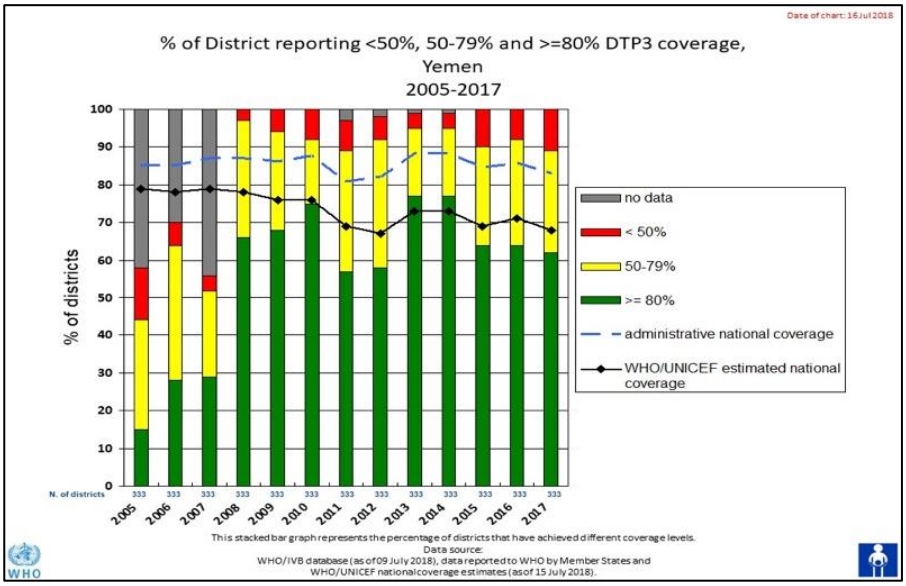
<table>
<tr><td></td><td>From 2015 to 2017, according to JRF data, immunisation coverage for BCG, IPV1, Rota2 (except 2017), MR1, MCV2, Td2+ were below 80% while DTP1, DTP3, Polio3 achieved or surpassed 80% of coverage. MCV2 coverage remains critical with an average of 53% over the 2015-2017 period. However, data show an important increase of the IPV1 coverage from 12% in 2015 to 76% in 2017. There was also progress made for Rota 1 and 2 coverages over the period while BCG, DTP3, Polio3 PCV3, MR1, MCV2 coverages decreased. In 2015 in particular, the BCG coverage was very low due to a global shortage of vaccine (cMYP 2018-2022).</td></tr>
<tr><td>Coverage: Absolute numbers of un- or under-immunised children</td><td>According to the 2017 JRF data:
The total number of un-immunized children against Penta 3 was 163, 838. 818,672 children under 1 received Penta 3 against 982,510 targeted.
The total number of children who remain unimmunized against MR1 was 262, 301. 720,209 children U1 received MR1 against 982,510 targeted.</td></tr>
<tr><td>Equity:
Wealth (e.g. high/low quintiles)
Education (e.g. un/educated)
Gender
Urban-rural
Cultural, other systematically marginalised groups or communities e.g. from ethnic religious minorities, children</td><td>While data derived from Yemen Demographic Health Survey (2013) is not recent, it shows inequities in access to immunisation services even prior to the crisis.
DTP3 coverage was higher for children whose mothers are highly educated (93%) compared to those whose mothers are uneducated (51%). Measles coverage for children of uneducated mothers was 58% while the vaccination in higher educated mother was 85%.
<table>
<tr><th>Stratifier</th><th>Stratifier - Detailed</th><th>Penta3</th><th>MCV (1)</th></tr>
<tr><td>National</td><td>National Coverage</td><td>59.6</td><td>63.3</td></tr>
<tr><td rowspan="2">Sex</td><td>Male</td><td>59.7</td><td>63.5</td></tr>
<tr><td>Female</td><td>59.6</td><td>63.2</td></tr>
<tr><td rowspan="2">Wealth</td><td>WQ1</td><td>42.4</td><td>51.8</td></tr>
<tr><td>WQ5</td><td>83.7</td><td>77.1</td></tr>
<tr><td rowspan="2">Residence</td><td>Urban</td><td>76.5</td><td>74.4</td></tr>
<tr><td>Rural</td><td>53.6</td><td>59.4</td></tr>
<tr><td rowspan="2">Education</td><td>No educ. Caretaker</td><td>50.8</td><td>57.7</td></tr>
<tr><td>Educated Caretaker*</td><td>93.0</td><td>84.5</td></tr>
</table>
Table 5: Equity-based immunisation indicators (Yemen DHS, 2013)
There is 40% point of difference between highest and lowest socio- economic quintiles while measles coverage in lowest quintile was 52% compared to 77% in highest quintile.</td></tr>
</table>

of female caretakers with low socioeconomic status, etc.	▪ Coverage in rural areas is less than in urban areas. Penta 3 coverage for example is 77% in urban areas compared to 54% in rural areas.

3.2. At the sub-national level identify the target areas and groups of low coverage and equity: (Include data source & year for each)

→ ***Identified target groups to be used in subsequent sections for tailored interventions***

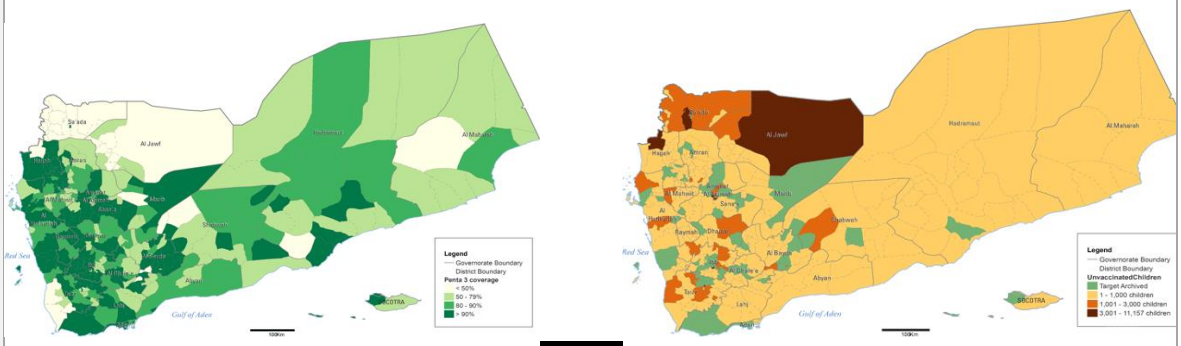
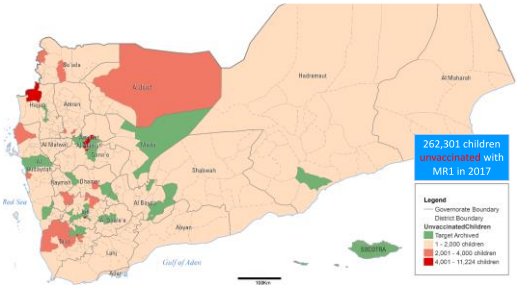
Coverage by geographies/population group: DTP3, MCV2, etc.	▪ **<u>Penta 3 coverage by districts in 2017</u>**



Graph 18: Reported Penta coverage by district from 2005 to 2017

The distribution of districts by Penta3 coverage is similar in 2015 and 2016. However, from 2016 to 2017, the number of districts achieving antigens coverage > 80% decreased while number of districts with a coverage < 50% increased.

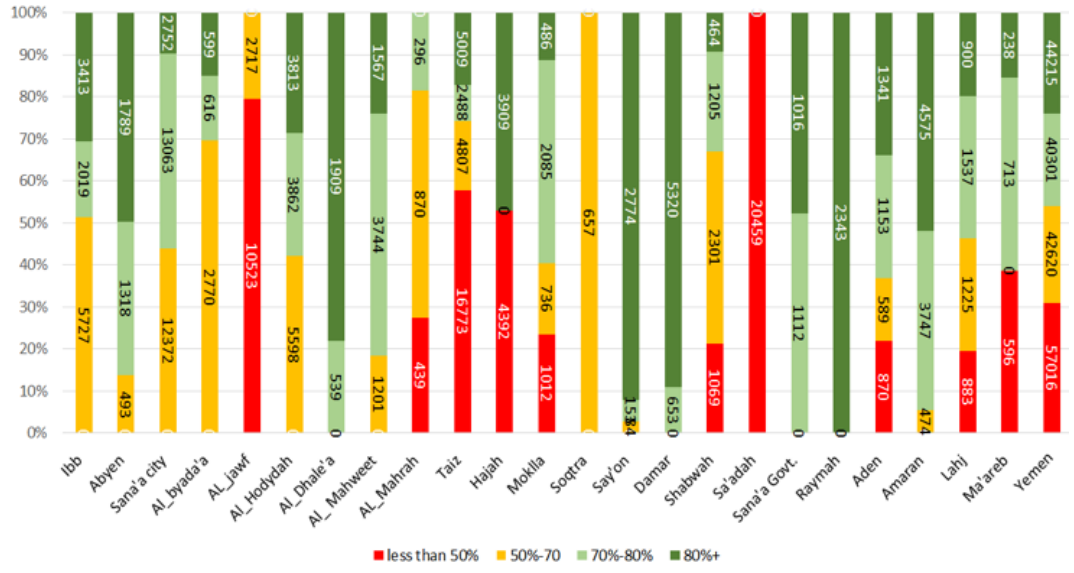
- Out of Yemen 333 districts, 130 (39%) are reporting above 90% of Penta 3 coverage
- The number of districts with Penta 3 coverage of > 80% decreased from 214 (64%) in 2016 to 198 (62%) in 2017 while the number of districts achieving less than 50% coverage increased from 28 in 2016 to 38 in 2017.
- The number of districts with CMV1 coverage of > 80% decreased from 157 (47%) in 2016 to 125 (38%) in 2017 while

	the number of districts achieving less than 50% coverage increased from 37 in 2016 to 48 in 2017.
Coverage by geographies/ population group: Absolute numbers of un- or under-immunised children	In 2017, JRF data reveal that 818, 672 children were vaccinated with Penta 3 while 163 838 were not, which represents 17% of the target children. The same year, 262, 301 children did not receive their first MR dose (Graph 20).  Graph 18/19: Penta 3 coverage and distribution of unvaccinated children in 2017  Graph 20: Distribution of unvaccinated children with MR1 in 2017

Gov	less than 50%	50%-70	70%-80%	80%+
Ibb	0	5727	2019	3413
Abyen	0	493	1318	1789
Sana'a city	0	12372	13063	2752
Al_byada'a	0	2770	616	599
AL_jawf	10523	2717	0	0
Al_Hodydah	0	5598	3862	3813
Al_Dhale'a	0	0	539	1909
Al_ Mahweet	0	1201	3744	1567
AL_Mahrah	439	870	296	0
Taiz	16773	4807	2488	5009
Hajah	4392	0	0	3909
Moklla	1012	736	2085	486
Soqtra	0	657	0	0
Say'on	0	84	153	2774
Damar	0	0	653	5320
Shabwah	1069	2301	1205	464
Sa'adah	20459	0	0	0
Sana'a Govt.	0	0	1112	1016
Raymah	0	0	0	2343
Aden	870	589	1153	1341
Amaran	0	474	3747	4575
Lahj	883	1225	1537	900
Ma'areb	596	0	713	238
Yemen	**57016**	**42620**	**40301**	**44215**

Table 6: Number of unvaccinated children par governorates

An important number of unvaccinated children (57,016), which represents 31% of the total number of unvaccinated children, were particularly concentrated in districts with a coverage below 50% in 10 governorates: Al Jawf, Al Mahrah, Taiz, Hajah, Moklla, Shabwah, Sa'adah, Aden, Lahj, Ma'areb (Table 6). Even in governorates with coverage variating between 50% and higher, there are 127,136 unvaccinated children (Fig 21 below). Those governorates with low coverage are also situated in hard to reach and security compromised areas.



Graph 21: Number of un-immunised children with Penta 3 by governorates 2017

Equity by geographies/ population group:

- Wealth (e.g. high/low quintiles)
- Education (e.g. un/educated)
- Gender
- Urban-rural
- Cultural, other systematically marginalised groups or communities e.g. from ethnic religious minorities, children of female caretakers with low socioeconomic status, etc.

An evidenced-based equity analysis was conducted by the country team in September 2018 to identify priority districts triangulating indicators (including the HeRAMS and the Vulnerability Matrix indicators) related to number of unvaccinated children, coverage, drop-out, accessibility, functionality of HF, percentage of IDPs and returnees, diseases outbreaks, etc. Overall, 18 criteria have been selected (see table below).

1.Districts w/ highest number of un-immunized children	7. Proportion of the pop living in second & third tier	13. Health Workers density
2.District w/ less than 50% coverage (looking at trends)	8. % of IDPs /Returnees present /total Population, by district, Sep17	14. Measles coverage in U1 by routine EPI and outreach rounds (Jan - Dec 2017)
3.District w/ Penta 3 coverage between 50%-70% in 2017	9. % of district population that left / total population, Sep17	15. Under 1 yr Penta3 coverage due to the 5 outreach EPI rounds (Jan - Dec 2017)
4.Polio risk assessment result	10.Totally damaged HFs	16. Diphtheria incidence
5.Drop-out rate above 10%	11.Partially damaged HFs	17. Measles incidence
6.District w/ more inaccessible areas	12.Proportion of the pop living in second & third tier	18. Polio campaign's coverage in U5, Aug18

Table 7: Criteria applied to identify priority districts

Based on those criteria, a scoring methodology with a thresholds/ ranking within each criterion was applied differentiating the highest priority (scored 5) to the lowest priority (scored 1). This analysis led to the identification of 66 districts with the more pressing needs for immunisation services scoring 5 and 4 with a total of 101, 075 unvaccinated children, representing 55% of the total number of unvaccinated children. The list of priority districts is available in the Annex of this document.

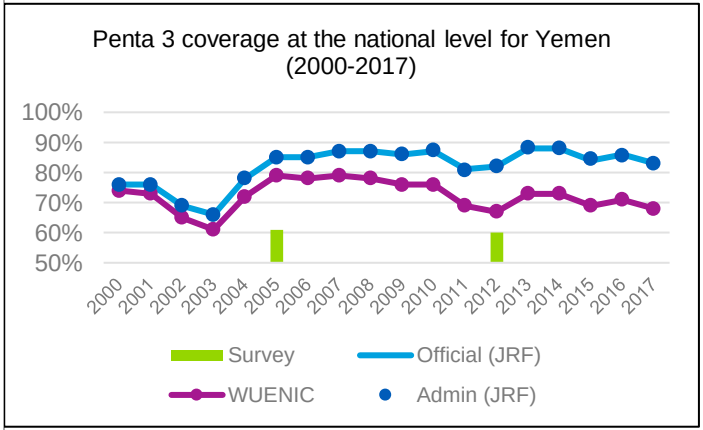
Score	# Districts	Total population	Under 1 children	Unvaccinated children
1	69	4,506,407	141,932	13,445
2	158	13,875,965	459,837	51,395
3	40	4,073,857	145,932	18,237
4	7	413,203	15,353	1,313
5	59	5,502,496	219,456	99,762
Grand Total	333	28,371,929	982,510	184,153

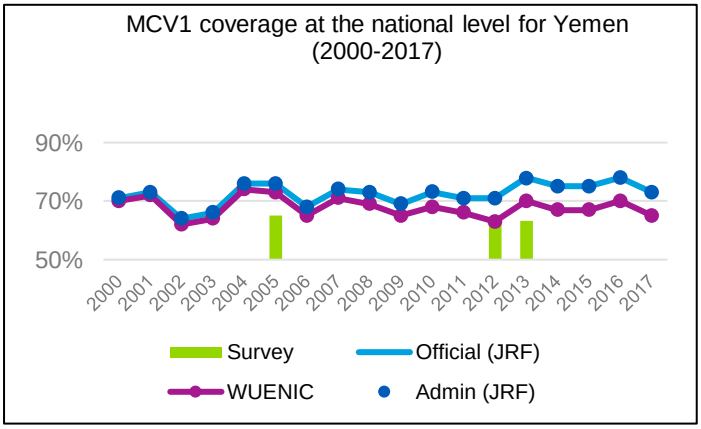
Table 8: Distribution of districts per level of priority

Noting that the total number of unvaccinated children as of September 2018 was estimated at 184 153 children while it was 163 838 as of 2017 (JRF data).

To further elaborate on sections 3.1. and 3.2 above, **countries are strongly encouraged to include heat maps or similar to show immunisation coverage trends over time**, and to reference the source of data, which may be added here. Examples of such analysis are available in the Joint Appraisal Analysis Guidance (available here: http://www.gavi.org/support/process/apply/report-renew/)

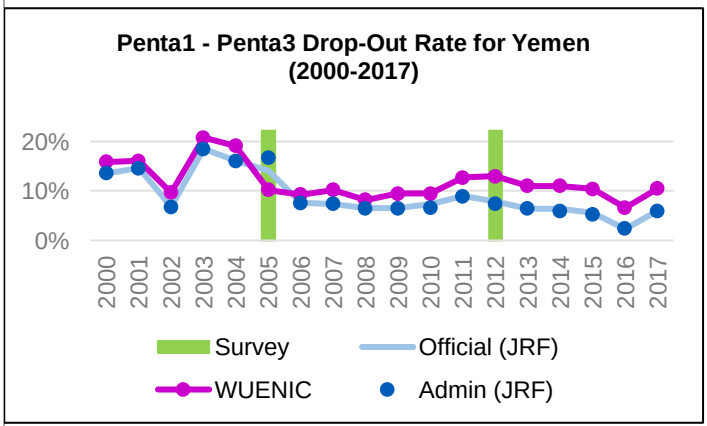
Since 2003, trends in coverage for Penta 3 and MCV1 were irregular. However, since 2015 with the conflictual affecting the country, coverages are decreasing.

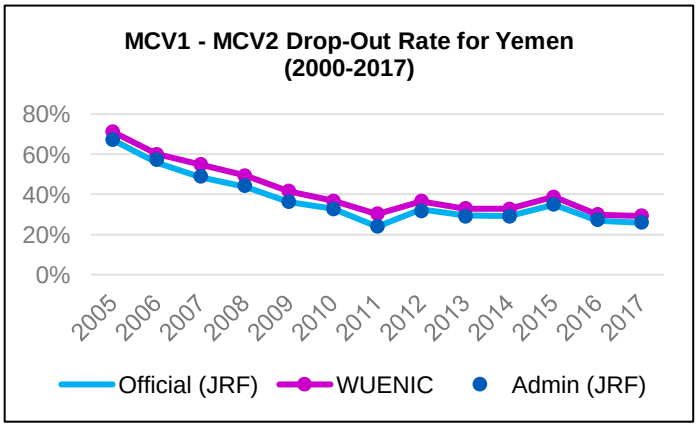




Graph 22/23: Trends in Penta and MCV 1 coverage in Yemen

The Penta 1- Penta 3 dropout rate which was 2 % (7% according to the WUENIC) in 2016, increased to 6% in 2017 according to both JRF and WUENIC data (equivalent to 2015 value). The MCV1-MCV2 dropout rate decreased from 35% in 2015 to 26% in 2017.





3.3. Key drivers of sustainable coverage and equity at the national level

Please highlight the key health system and programmatic drivers of the levels of coverage and equity from the section above. To the extent possible, please list the barriers below by order of priorities with regards to coverage and equity bottlenecks, prioritising and ranking the 3-5 biggest issues. If any of these will not be supported by Gavi, indicate why and who will support it. Provide evidence and lessons learned from previous activities.

→ ***This prioritisation is to be reflected in Part D on objectives of requested Gavi support***

To ensure the sustainability and improving the effectiveness of EPI specifically in the current unstable context and within the available resources, following key drivers should be targeted at national level. Gavi will support these components by complementing the existing World Bank's investment through EHNP.

1. **Strengthening the integration of primary health care model** by expanding service delivery at fixed health facilities, building health workforce capacity and improving access to quality immunisation services through provision of operational costs, EPI incentives such as perdiem for conducting integrated outreach activities to increase coverage and equity.

2. **Addressing health facilities functionality in a conflictual context:** the negative effects of external/internal conflict affect health infrastructure leaving 15 Million Yemenis without health care, noting that up to 55% of Health facilities are not functional or partially functional according to HERAMs data. Even these health facilities lack operational resources to operate. Some areas are particularly unreachable due to the conflict leading to internal displacement in several governorates (more than 3.4 million reported). The MOPH&P estimates that the conflict account for more than 8 billion USD financial loss related to the health in the country.

3. **Addressing human resources issues** that constitute an important barrier to service delivery particularly in such an unstable context. Shortage of the health care staff to deliver primary & curative health interventions, staff displacement and lack of motivation, salary and incentive for the health care providers are major issues challenging coverage and equity in delivering effective EPI. To restore service delivery at primary health care level, operational cost per-diem for conducting weekly community outreach sessions and provision of supplies and medicines are provided through the World Bank Emergency Health and Nutrition Programme.

4. **Improving EPI management, governance and coordination**: The EPI program and team face important coordination challenges from the central level to the districts/governorates, as well as inconsistencies with the country strategic orientations which undermines decision-making processes required to improve routine EPI under the umbrella of the MOPH&P as stated by the new national EPI strategies developed in 2017.

5. **Improving cold-chain storage capacity** through the installation of cold rooms at central and governorate levels, maintenance of cold chain equipment, and training of cold-chain technicians as well ensuring timely

distribution by facilitating procedures, temperature monitoring and logistics to support the implementation of effective and secured immunization activities in the country.

6. **Improving data and surveillance system**: Challenges related to collection, reporting and analysis of quality data from field level to the central level and partners especially in integrated manner need to be addressed to ensure effective action-oriented monitoring and evaluation to increase coverage and equity.

3.4. Key drivers of sustainable coverage and equity at the sub-national level

Please highlight the key health system and programmatic drivers of the levels of coverage and equity from the section above. To the extent possible, please list the barriers below by order of priorities with regards to coverage and equity bottlenecks, prioritising and ranking the 3-5 biggest issues. If any of these will not be supported by Gavi, indicate why and who will support this.

→ ***This prioritisation is to be reflected in Part D on objectives of requested Gavi support***

1. **Strengthening the integration of primary health care model** by expanding service delivery at fixed health facilities, building health workforce capacity and improving access to quality immunisation services through provision of operational costs, perdiem to increase coverage and equity in the priority districts cumulating multiple vulnerabilities and non-functionality issues. Moreover, to further strengthen the immunization supply chain – and its impact on enhancing the coverage and equity, rehabilitation and expansion plans to improve the cold chain will be supported through the CCEOP. This is critical in restoring service delivery especially immunisation services at the primary health care level.

2. **Improving access to quality immunisation services** through provision of operational costs, perdiem needed for conducting integrated outreach activities, supporting mobile teams and temporary posts in hard-to-reach and security compromised areas in levels 2 and 3.

3. **Ensuring community-based services through social mobilization and community engagement.** Leveraging media and involving community leaders, trainings community health volunteers (CHVs) and workers (CHWs) to promote immunization and support demand creation strategies within hard-to-reach communities using most efficient C4D strategies.

4. National programme management

4.1. Immunisation financing

- **Availability of national health financing framework and medium-term and annual immunisation operational plans and budgets,** whether they are integrated into the wider national health plan/budget, and their relationship and consistency with microplanning processes
- **Allocation of sufficient resources in national health budgets for the immunisation programme/services,** including for Gavi and non-Gavi vaccines, (integrated) operational and service delivery costs. Discuss the extent to which the national health strategy incorporates these costs and any steps being taken to increase domestic resources for immunisation. If any co-financing defaults occurred in the last three years, describe any mitigation measures that have been implemented to avoid future defaults.
- **Timely disbursement and execution of resources:** the extent to which funds for immunisation-related activities (including vaccines and non-vaccine costs) are made available and executed in a timely fashion at all levels (e.g., national, province, district).
- **Adequate reporting** on immunisation financing and timely availability of reliable financing information to improve decision making.

- **Availability of national health financing framework**

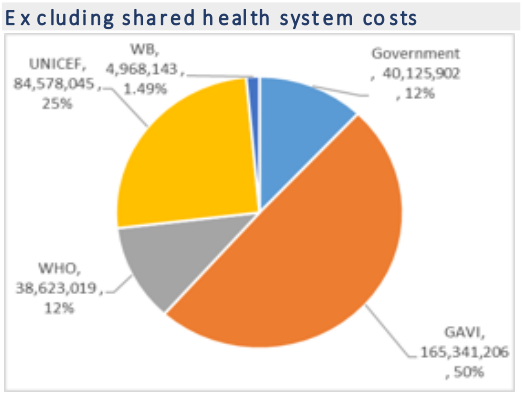
Before the conflict, Yemen has not only met its obligations on time and co-financed pentavalent voluntarily from 2008-2011, before this became mandatory, demonstrating its commitment to immunisation. Since Yemen started co-financing in 2008 it has co-financed US$ 16 million for pentavalent, rotavirus, and pneumococcal vaccines. In addition, because the country has paid co-financing levels above the minimum requirement of the policy in 2012, 2013, and 2014, it has paid approximately US$ 3.8 million more than was required of a country in the preparatory transition phase. However, this situation has changed since 2015 as detailed below.

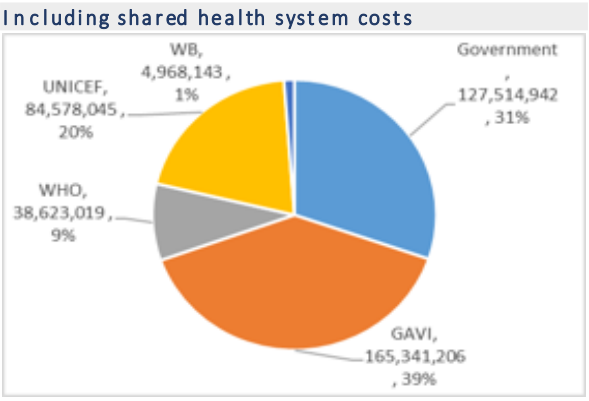
- **Allocation of sufficient resources**

Since 2015, due to the prevailing economic and political crisis which has inhibited its ability to co-finance Gavi-supported vaccines, the Government of Yemen (GOY) has become increasingly unable to meet the financial requirements of the EPI including co-financing for which it has submitted a waiver to Gavi. Currently all non-Gavi vaccines are provided by UNICEF which in the past had been funded by the Government. It is planned that UNICEF will meet co-financing obligations on behalf of the Government of Yemen through the WB supported project.

From July 2016 the GOY, considering its financial position, efforts have been done to address the salary component of health staff. However, salaries have

not been consistently paid since last 2 years for many MOPH&P positions. This has led to further difficulties in the delivery of health services. GAVI is the major source of financing of Yemen National EPI program contributing total 165.3 million US$ which constitute 49.56% of total funding when shared health system costs are excluded and 39.27% when shared health system costs are included. GOY (31%) UNICEF (20%) WHO (9%) WB (1%)[19] .





The future financing (with secured and probable funds) structure

	2016	2017	2018	2019	2020	Total
Secured funding	**US $**	**US $**	**US $**	**US $**	**US $**	**US $**
Government	-	-	2,520,000	-	-	**2,520,000**
Sub-national government	-	-	-	-	-	**-**
Gov. co-financing of Gavi vaccine	-	-	-	-	-	**-**
GAVI	26,763,146	26,675,178	27,495,826	28,284,446	-	**109,218,595**
WHO	3,077,523	7,892,012	-	-	-	**10,969,535**
UNICEF	14,117,872	7,193,360	-	3,066,080	6,220,171	**30,597,483**
WB through WHO	1,383,631	-	-	-	-	**1,383,631**
WB through UNICEF	1,938,538	738,685	-	-	-	**2,677,223**
WHO HSS	1,358,183	1,534,879	1,016,380	-	-	**3,909,442**
UNICEF HSS	1,310,555	1,185,478	303,807	-	-	**2,799,840**
UNICEF NVS	3,544,176	2,480,060	2,944,884	3,494,860	4,161,889	**16,625,868**
Subtotal secure funding	**53,493,625**	**47,699,652**	**34,280,896**	**34,845,386**	**10,382,059**	**180,701,618**
Probable funding	**US $**	**US $**	**US $**	**US $**	**US $**	**US $**
Government	26,227,521	24,967,263	23,054,066	26,206,202	24,539,890	**124,994,942**
Sub-national government	-	-	-	-	-	**-**
Gov. co-financing of Gavi vaccine	-	-	-	-	-	**-**
GAVI	-	-	20,386,891	-	29,026,438	**49,413,328**
WHO	6,749,757	1,981,317	11,441,580	4,202,913	3,277,919	**27,653,484**
UNICEF	4,981,759	1,318,077	12,681,684	11,294,969	7,078,205	**37,354,694**
WB through UNICEF	-	877,606	-	29,683	-	**907,289**
Subtotal probable funding	**37,959,037**	**29,144,262**	**67,564,221**	**41,733,766**	**63,922,452**	**240,323,738**
Total (secured and probable funding)	**US $**	**US $**	**US $**	**US $**	**US $**	**US $**
Government	26,227,521	24,967,263	25,574,066	26,206,202	24,539,890	**127,514,942**
GAVI	26,763,146	26,675,178	47,882,716	28,284,446	29,026,438	**158,631,923**
WHO	9,827,280	9,873,328	11,441,580	4,202,913	3,277,919	**38,623,019**
UNICEF	19,099,631	8,511,437	12,681,684	14,361,049	13,298,376	**67,952,177**
WB through WHO	1,383,631	-	-	-	-	**1,383,631**
WB through UNICEF	1,938,538	1,616,291	-	29,683	-	**3,584,512**
WHO HSS	1,358,183	1,534,879	1,016,380	-	-	**3,909,442**
UNICEF HSS	1,310,555	1,185,478	303,807	-	-	**2,799,840**
UNICEF NVS	3,544,176	2,480,060	2,944,884	3,494,860	4,161,889	**16,625,868**
Total funding	**91,452,662**	**76,843,914**	**101,845,117**	**76,579,152**	**74,304,511**	**421,025,355**

[19] *Source: draft cMYP 2016-2020/costing and financing scenario*

Priority need

4.2.1 Programme management: leadership and management capacity of the EPI team, functionality of the Coordination Forum (ICC, HSCC or equivalent body) and the national immunisation technical advisory group (NITAG or equivalent):

- **Challenges** related to structure, staffing and capabilities of the national/ regional EPI team (including implementation of annual operational plan for immunisation)
- **Engagement of different stakeholders** (including WHO, UNICEF, CSOs, donors) in the immunisation system
- **Effective functioning of the relevant Coordination Forum: To what extent does it meet Gavi requirements? If it does not, what are the steps needed to address these gaps?**

  (To be eligible for new Gavi vaccine or financial support, countries need to demonstrate a basic functionality of their coordination forum. Requirements are further described at http://www.gavi.org/support/process/apply/additional-guidance/ *under the heading 'Leadership, management and coordination')*

  Where a NITAG does not exist, Gavi recommends that countries include plans to establish one and briefly describe such plans here.

- Challenges **related to structure, staffing and capabilities of the national/ regional EPI team (including implementation of annual operational plan for immunisation)**

→ Within the unfavourable environment for policy dialogues in Yemen, national EPI team experiences challenges in negotiating with authorities in both Sana'a and Aden. With UNICEF & WHO support, continuous advocacy processes are conducted with the government and other parties at various levels to urgently address the issue of lack of health staff, delayed salary payments to health workers and tackle demotivation and turnovers. Under the World Bank EHNP, some of these issues have been solved through the provision of operational costs and national standardized per-diem to health workers for conducting outreach sessions in tier one and 2 areas of health facilities, which is already motivating the health workers who have not received their salaries for over a year.

→ While microplanning for EPI activities have been conducted in many governorates to set their annual targets in terms of the number of children to be reached through immunization; and identify their needs for the EPI programme for 2017 and 2018, challenges remain in integrating other activities such as communication activities within micro plans.

→ Moreover, deteriorated capacity of implementing partners (GHOs, DHOs) remain an important challenge. While the role of CSO and other donors/development partners in strengthening the PHC model and delivering EPI services is recognized, political sensitivity, insufficient communication and coordination between various government agencies and CSOs constrains the effective implementation of activities. The weak enforcement of certain laws and regulations, and the absence of a standard code of conduct for CSOs add to this bottleneck.

→ Besides, EPI team faces delay in deploying CHWs due to pending policy issues. Partners have been supporting the MoPH&P to establish a unit within the MoPH&P to lead on finalizing and moving forward the implementation of the national CHWs strategy. The MoPH&P has formed a national level steering committee to ensure adequate engagement of stakeholders and quality oversight of the strategy development. The MoPH&P has now piloted the training of CHWs in four districts and funds from the EHNP will be used to scale up the CHWs programme.

→ Finally, active conflict in some pockets of the country affecting access for programme delivery is hampering the situation in Yemen. UNICEF is using local implementing partners for programme implementation and monitoring of the programme (ex: The third-party monitoring agency for monitoring of activities). Partners continued advocating for access to programme delivery and monitoring.

→ The existing political tensions within the different line ministries of the government delay decision making on key programme issues. Partners are advocating for having regular coordination meetings at all levels in the presence of all stakeholders to ensure maintaining neutrality and hastering decision-making processes.

- Engagement of different stakeholders **(including WHO, UNICEF, CSOs, donors) in the immunisation system**

→ MOPH&P leads the vaccination activities in close collaboration and coordination with the Health Cluster partners such as the regional and country offices of WHO and UNICEF as well as the World Bank that support the EHNP. WHO, Health Cluster partners and other health sector actors (which include international organizations (INGOs), national nongovernmental organizations (NNGOs), affected communities, specialized agencies, academic and training institutes, and UN agencies) are delivering health services to the people of Yemen despite the critical security situation, logistical difficulties and the collapsing health system. WHO is working with UNICEF and partners to conduct integrated outreach activities in remote areas of the country. WHO is coordinating the humanitarian response to health issues with Yemen's Ministry of Health and 20 partner humanitarian organizations in Yemen, including the International Committee of the Red Cross (ICRC) and Médecins Sans Frontières (MSF). UNICEF is identifying specific capacity gaps and planning to conduct gap filling trainings and supporting as much as possible the implementation of activities through international and local NGOs.

- Effective functioning of the relevant Coordination Forum

→ Despite the conflictual situation in Yemen that constrains an effective coordination and implementation of the EPI programme in the country, the EPI team is relatively well structured, functional with trained technical staff in charge of the implementation of immunisation activities including the introduction of new vaccines into routine EPI in the last few years. However, as mentioned earlier, the lack of salary, demotivation and attrition of staff remain challenging. Various coordination forums for vaccination services are provided with clear terms of reference but functionality needs to be strengthened. The coordination forum is composed of the Health System Strengthening Coordination Committee (HSSCC), the National EPI Task force The Task Force that assumes the leadership of the joint efforts to control this outbreak and focus on providing technical support to the affected districts, and the NITAG with representatives from MOPH&P, UNICEF, WHO, academia, as well as relevant government departments. These forums are working closely with Gavi in-country partners and regular meetings are organized to address EPI strategic and operational challenges (mainly the ongoing war and conflict, timely payment of salary to EPI

staff and implementation of the planned activities). There is also a National EPI task force meeting at least once a month and when needed ad hoc meeting are set up. Similarly, the NITAG meeting are conducted quarterly and when needed whereas HSSCC meets once every 6 months. There is HSS unit in MoPH&P who is coordinating with relevant sectors in MoPH&P regarding planning and utilization of funds provided under HSS. Focal point for coordination and financial matters is identified by MoPH&P who is responsible for coordination. They are HSS unit is also responsible to plan and implement through HSSCC. HSS unit is supported through objective 6; *Support to IMU.*

4.2.2 Vaccine management: Priority areas for improvement to manage risks to vaccine stocks, e.g. based upon recent audits or assessments

- **Volatile context**: The current volatile context in Yemen requires that extra-measures are taken to ensure re clearance and distributions of vaccines throughout the country. Extensive efforts all partners and the active role of the MoPH&P are encouraging in doing so but such risks remain and should be regularly assessed. Moreover, the main vaccine stores are in the North of the country where most vaccine deliveries are made. It is critical that in the changing scenario developing enhanced storage facilities in the South is also considered.

- **Obsolescence of cold-chain equipment:** According to Yemen CCE database 62% are currently obsolete and more than 50% do not comply with Gavi CCEOP eligible devices.

- **Non-availability of fuel**: Most of the cold chain currently in use (refrigerators) operate with kerosene. Due to non-availability and high escalation of fuel prices extensive support is being provided by UNICEF with Gavi resources. UNICEF has been providing operational cost support, gas in 1,308 EPI centres in first phase and in 2nd phase of CCEOP operational cost support and gas to 700 EPI centers.

- **Uncovered operational costs**: Staff involved in vaccine management experience late salary payments and Government is unable to provide funding for operational costs since 2014. Vaccines supply from central stores to Governorates and districts incurs substantial transport cost which is currently being borne by UNICEF through Gavi funds. This situation leads to the increase in operational and overall service delivery.

As way forward, these p**riority areas for improvement** to manage risks to vaccine stocks have been identified:

1. **Strengthening EPI capacities in vaccine management and opening strategic positions**. In addition to the training on vaccine management, the

following **positions** are being proposed to be covered by the HSS2 last tranche Gavi support at central and governorate levels:

- General vaccine and cold chain manager - officer
- Store keeper
- Assistant store keeping
- Vaccine store and supply manager
- Store accountant
- Cold chain maintenance technicians

2. **Incentivize EPI staff**: It was also decided that UNICEF & WHO will coordinate with MoPH&P to make list of the EPI staff who working at the central, Governorate/district level and who are eligible to be given incentives to compensate for lack of government salaries, in order to maintain the staff in critical positions. However, these incentives will be given only in current scenario to compensate them as the staff has not been receiving the salaries. Once the security/economic situation became normalize then these incentives will not be given to EPI staff anymore.

3. **Identify a focal point to act as a coordinator between central level and governorates:** Currently GAVI supported staff is working through UNICEF support in GHO offices of Sa'ada, Taiz, Aden, Sana and Hodeiada. To strengthen the coordination between central level and the staff working in the Governorates it was decided to identify a focal point at central level who will coordinate with GAVI supported staff at Governorate level.

4.2.3 Financial Management: Priority areas to address financial management gaps

Due to Yemen FER status, funds are mainly channelled through WHO and UNICEF who play the role of technical assistance partners supported through Gavi.

4.2. Polio transition planning (if applicable)

If transitioning out of immunisation programme support from other major sources, such as the Global Polio Eradication Initiative, briefly describe the transition plan. If none exists, describe plans to develop one and other preparatory actions.

There is no transition plan yet available for Yemen as the country is still considered as a "risk country." Polio eradication initiative (PEI) activities related to vaccination campaign, capacity building and Acute Flaccid Paralysis (AFP) surveillance will continue for the next few years and will be fully supported by donors in country. However, there is a need to conduct proactive planning so as to ensure that activities and human resources are either concluded in an

adequate way, or those deemed necessary to continue, transitioned to sustainable long-term financing and management. A significant portion of polio-funded staff time is allocated to supporting a wider range of health initiatives, such as measles elimination, surveillance for vaccine preventable diseases, disease outbreak response, cholera, diphtheria, distribution of Vitamin A supplements etc. This reflects a strong reliance on polio-funded staff in working towards broader immunization and public health targets. Accordingly, the complexity and urgency of the task ahead demands close coordination by multiple partners from within the health and development sectors, with strong planning and engagement to ultimately ensure that services are not negatively affected

5. Past performance of Gavi support, implementation challenges and lessons

Briefly comment on the performance of the vaccine support and health systems and immunisation strengthening support (HSS, Ops, VIGs, CCEOP, transition grants) received from Gavi

5.1. Programmatic performance of Gavi grants, in terms of:

- Achievements against agreed targets
- Overall implementation progress, lessons learned and best practices
- Progress and achievements specifically obtained with Gavi's HSS and CCEOP support
- Usage and results achieved with performance-based funding (PBF)
- If applicable, implementation progress of transition plan, implementation bottlenecks and corrective actions

- **Summary of Gavi support to Yemen**

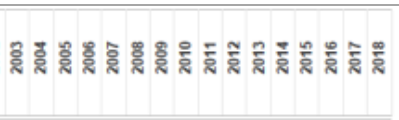
Gavi's ongoing HSS support to Yemen represents US$ 17 million over 5 years. Current funding ends in December 2018 and are channelled through UNICEF and WHO due to the country Fragility, Emergency and Refugees (FER) status. Those partners are also in charge of the HSS2 grant implementation.

HSS2 objectives focus on improving access through integrated outreach; surveillance; community engagement and are declined as follows:

1. Enhancing equitable access to immunization and integrated PHC services
2. Improving the integrated health information including surveillance, monitoring and evaluation system and research
3. Community empowerment and civil society participation in provision of immunization and essential health services including and not limited to community

However, to adapt to the evolving situation in the country (FER status), Yemen benefits from certain flexibilities such as emergency reprogramming and various changes on an annual basis largely focused on supporting more Integrated Outreach activities and additional support for diphtheria campaigns.

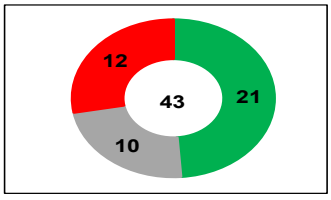
Type of support	Approvals 2001-2022 (US$) (22 Aug 2018)	Commitments 2001-2022 (US$) (22 Aug 2018)	Disbursements 2000-2018 (US$) (22 Aug 2018)	% Disbursed (22 Aug 2018)
Health system strengthening (HSS 1)	$6,335,000	$6,335,000	$6,335,000	100%
Health system strengthening (HSS 2)	$17,639,234	$17,639,234	$14,279,312	81%
Immunisation services support (ISS)	$5,049,500	$5,049,500	$5,049,500	100%
Injection Safety Devices (NVS)	$949,344	$949,344	$1,208,393	127%
Injection safety support (INS)	$1,194,757	$1,194,757	$1,194,757	100%
IPV (NVS)	$5,321,103	$5,321,103	$3,918,778	74%
Measles-Rubella (NVS)	$8,313,136	$8,313,136	$8,313,136	100%
MR - Operational costs (OPC)	$7,533,500	$7,533,500	$7,533,500	100%
Penta (NVS)	$73,476,337	$73,476,337	$77,029,817	105%
Penta - campaign (NVS)	$1,849,000	$1,849,000	$1,491,141	81%
Pneumo (NVS)	$96,818,128	$96,818,128	$92,079,559	95%
Rotavirus (NVS)	$22,640,778	$22,640,778	$21,384,320	94%
Td - campaign (NVS)	$1,339,000	$1,339,000	$801,300	60%
Vaccine Introduction Grant (VIG)	$2,109,000	$2,109,000	$2,109,000	100%
Total	**$250,567,817**	**$250,567,817**	**$242,727,513**	



- **Achievements against agreed targets**

Overall Achievement

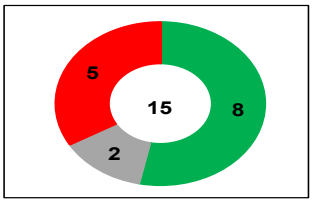
Total GPF indicators either met the target or were within 10% of meeting their target



Indicators met target (within 10%)
Indicators did not meet target (within 10%
Indicators w/o targets or actuals

HSS Progress

HSS tailored indicators that met target fully or were within 10% of meeting their target



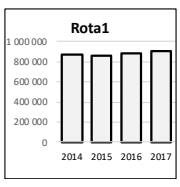
Indicators met target (within 10%)
Indicators did not meet target (within 10%)
Indicators w/o targets or actuals

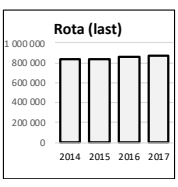
Reporting Completeness

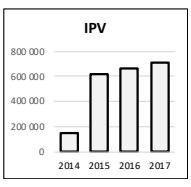
% of country-reported indicators for 2017 reported through GPF:

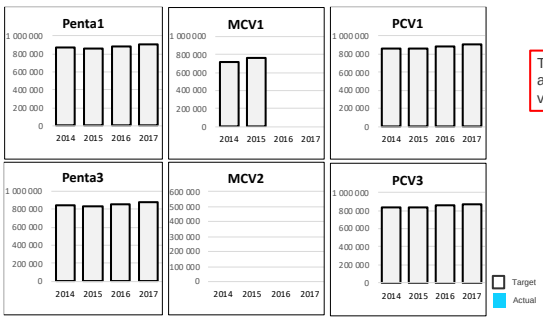
100%

a. *Vaccine grants (#vaccinated)*



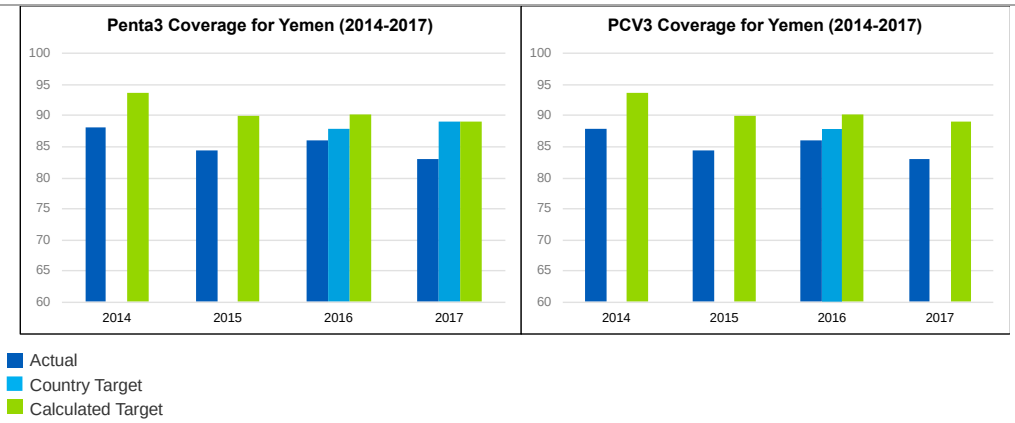






Targets are almost achieved for most vaccines

b. *Vaccine grants coverage*



Targets have not been achieved in terms of coverage estimates.

- **Overall implementation progress, lessons learned and best practices**

Three strategic objectives have been identified for GAVI-RSS2 granted for 2 years from 2015-2017. Overall, most planned activities have been completed with the contribution of other donors, particularly the World Bank through the EHNP and despite the grant reprogramming decision that delayed the implementation plan. However, the main challenges constraining the smooth implementation of the activities are related to the changes in the number of functional and non-functional health facilities, the delays in microplanning, requests from authorities and disbursements to implementing partners. Moreover, the critical need for operational costs and incentives such as perdiems does not motivate health workers to undertake the delivery of immunisation services in a timely and quality manner. Besides, as their number is constantly changing, the performance based funding strategy to motivate, GHOs, DHOs, private providers, SCOs to improve service provision and EPI coverage is not functioning at its best. A table summarising the key activities conducted under each objective, the implementation progress, challenges encountered as well as lessons learned is attached in the *Annex* of the document.

In 2017, a joint appraisal exercise with stakeholders was conducted in Beirut and the following actions were recommended to increase coverage and equity:

1. Identify and target pockets areas (hard to reach and security compromised areas) with high number of unvaccinated children to increase immunization coverage and equity
2. Address huge human resource issues including lack of technical knowledge and capacities, low motivation, staff not receiving their salaries and insufficient staffing
3. Address the rumours regarding vaccination and build trust as well as increase community's acceptance for vaccination

4. Strengthen the cold chain equipment and vaccine management system
5. Provide technical assistance to MoPH&P for development of HSS application and to ensure coordination at the MoPH&P for all Gavi grant management (planning officer)

Taking into consideration the recommendations expressed during the 2017 JA, this proposal is addressing them by 1) identifying and targeting pockets areas with high number of unvaccinated children to increase immunization coverage and equity through the equity analysis incorporating HeRAMS and vulnerability matrix indicators to select priority districts with the more pressing needs; 2) Complementing the EHNP through the provision of incentives, particularly perdiems to ensure the implementation of IOR, mobile teams and temporary posts; 3) Planning for social mobilisation and community engagement activities in priority districts to ; 4) Ensuring supply and cold chain leveraging the CCEOP needs into the HSS3 proposal; and 5) Improving EPI management, governance and coordination.

5.2. Financial management performance, in terms of:

- Financial absorption and utilisation rates
- Compliance with financial reporting and progress in addressing audit requirements
- Major issues arising from review engagements (e.g. Gavi cash programme audits, Gavi programme capacity assessments, annual external/internal audits, etc.) and the implementation status of any recommendations
- Financial management systems, including any modifications from previous arrangements

YEMEN - TOTAL COMMITMENTS - Inception to March 31, 2017

						Cash Balance		
	Recipient	Commited	Approved	Disbursed	Status	Cut off date	Source of Info	Amount US$
HSS1	MOPHP	6,335,000	6,335,000	6,335,000		31/12/2016	Financial statement	92,159
HSS2	HSS2	17,639,234						
	WHO		4,664,203	3,333,123		31/12/2016	Financial statement	591,728
	UNICEF		5,415,109	3,386,835		16/03/2017	email	7,675
	MOPHP		4,200,000	4,200,000		31/12/2016	Financial statement	223,803
INS		1,194,757	1,194,757	1,194,757	Closed			
ISS		5,049,500	5,049,500	5,049,500		31/12/2016	Financial statement	473,054
MR - Operational cos	MOPHP	7,533,500	7,533,500	7,533,500		31/12/2016	Financial statement	223,737
VIG Measles-Rubella	MOPHP	767,500	767,500	767,500				
VIG Penta	MOPHP	200,000	200,000	200,000	Closed			
VIG Pneumo	MOPHP	257,000	257,000	257,000	Closed			
VIG Rota	MOPHP	270,500	270,500	270,500	Closed			
VIG IPV	MOPHP	614,000	614,000	614,000		31/12/2016	Financial statement	132,158
		39,860,991	**36,501,069**	**33,141,715**				**1,744,314**

Funds available with MOPHP	1,144,911
Funds available with WHO	591,728
Funds available with UNICEF	7,675

Compliance:

- Financial statements have been received from WHO and MoPH&P as of Dec 2016. UNICEF has provided the cash balances and financial

report will be provided by HQ offices in June 2017 as stated in the Grant Agreement
- MoPH&P bank statements to support the cash balance reported are expected to be provided by 26 May.
- Audit for 2016 is currently ongoing and the report will be available at the end of June 2017.
- MoPH&P is to submit a detailed proposal to use remaining funds with them to procure essential medicines.

Absorption:

- UNICEF funds for programme year 2015-2016 have been almost fully utilized. 2017 Funds have been disbursed in May 2017.
- 2018 workplan and budget is to be submitted by 1st of June.
- WHO has requested a no-cost extension for the utilization of the programme year 2015 funds disbursed in July 2016 until Dec 2017 Funds for 2016 funds have been disbursed in Feb 2017. Delays in the processing and clearance of grant agreement have delay the disbursement of funds.

Part C: Planning for future Gavi support[20]

6. Planning for future support: coordination, transparency and coherence

6.1. Alignment

How does Gavi support align with the country's national health and immunisation strategies including multi-year plans (e.g. cMYP)?

- Explicitly address how Gavi support will complement, both financially and programmatically, the achievement of objectives set out in the most recent strategic multi-year plan (cMYP).
- Given the immunisation strategies proposed in this PSR, explain and show how these will contribute to the national health strategy or if there are gaps, describe what needs to be done to address these.
- Describe the extent to which Gavi's support proposed in this PSR (in areas such as data, supply chain, etc.) will be implemented through national routine systems and processes or explain the steps that are being taken to achieve integration.

→ ***Include information on the Gavi budgeting & planning template to capture the gap analysis for requested Gavi support***

In order to develop a new 5-year portfolio support request to Gavi, Yemen started the country engagement process in July 2017. A workshop was held in Beirut (Lebanon) the 10-14 September 2018, builds upon the outputs of meetings conducted in July 2017 in Beirut, Sana'a (February 2018) and Aden (March 2018). The workshop aimed at progressing the Programme Support Rationale (PSR) for the Health System Strengthening 3 (HSS3) proposal for Yemen, future MR campaign support and CCEOP application. Participation included the Yemen national representatives (Minister of Public Health and Population, and Deputy Ministers and technical health staff from Sana'a and Aden) and technical partners UNICEF, WHO from Country and Regional level and Gavi Secretariat. All stakeholders agreed on the modalities of the HSS3 interventions through an evidence-based process conducted in a participatory manner. All stakeholders' inputs were integrated to increase the programme's potential to contribute to improving immunisation coverage and equity in Yemen, reaching missed and under-immunised children.

[20] *The duration of Gavi funding should be discussed in consultation with the Gavi Secretariat to align to the extent possible to a country's strategic period. For Measles Rubella the high-level plan with coherent and integrated measles and rubella disease control activities is expected to cover the next5 years, regardless of the duration of the national strategy.*

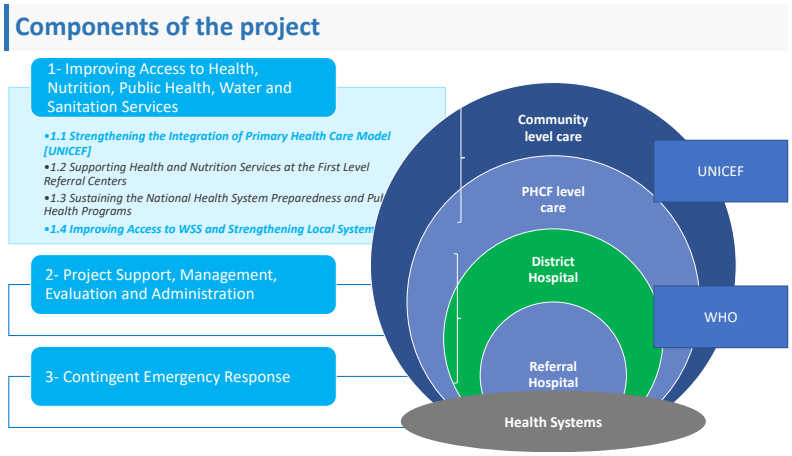
The proposal was developed in accordance to the EPI Comprehensive Multi Year Plan (cMYP 2016 – 2020 including costing and financial sections), and using relevant documents analysing the immunisation situation in the country (2013 DHS report, KAP survey report 2015, JRF, Joint appraisal reports, etc.). Besides, taking into consideration data analysis conducted to develop the CCEOP proposal, the current HSS3 component of the PSR aims to complement the CCCEOP needs by providing additional support in terms of increasing central cold-chain storage capacity, timely distribution, maintenance and training as well as temperature monitoring.

6.2. Complementarity, coherence and technical soundness

What steps were taken to ensure complementarity, coherence and technical soundness of Gavi's support across government and stakeholders?

- What role was played by the national coordination forum (ICC, HSCC or equivalent) and the national immunisation technical advisory group (NITAG) in the development of the PSR?

- With the goal of providing access to basic health and essential nutrition services for populations affected by conflict in Yemen, and preserving the operational capacity of the health system to deliver services, the World Bank's arm for the world's poorest countries - the International Development Agency (IDA) - is financing a joint action to be implemented by UNICEF and WHO: Emergency Health and Nutrition Project (EHNP), building on the results and experience of previous partnerships between The World Bank, UNICEF and WHO. Starting in January 2013, the programme total budget of US$207.5 million aims to 1- Improving Access to Health, Nutrition, Public Health, Water and Sanitation Services especially through *Strengthening the Integration of Primary Health Care (PHC) Model;* 2: Project Support, Management, Evaluation and Administration and component and 3: Contingent Emergency Response.



- As Gavi's investments in HSS are now directed toward 'strategic focus areas that are most likely to yield sustainable improvements in coverage and equity. Therefore, Gavi investment for the current proposal aims to leverage existing World Bank support and complement ongoing strategies implemented in the country. Under the component *1-Strengthening the Integration of Primary Health Care (PHC) Model*, UNICEF supported health and nutrition service delivery at the fixed health facilities, through integrated outreach sessions, mobile health teams and community-based service providers, with the objective to improve on coverage and equity.

- The current HSS3 proposal will target priority districts, identify gaps in providing operational cost to keep facility open, covering perdiems to health workers to ensure immunization services through integrated outreach sessions, mobile teams and temporary health posts, health workforce capacity building, community-based services, supporting development and roll-out of Integrated Supportive Supervision protocols at Governorate, District, and Health Facility levels. Moreover, community sensitization will be complemented through social mobilisation and community engagement activities. Finally, Gavi investment will align with monitoring and programme management as deployed under the World Bank programme.

- Ministry of Health is leading the vaccination activities with close collaboration and coordination of WHO, UNICEF and other relevant stakeholders participating in the Health Cluster as well as CSOs involved in the provision of immunization services. Despite the current difficult situation and attrition of health workers in Yemen (due to lack of timely payment of salary to EPI staff) and delays in implementation of the planned activities, EPI system is relatively functioning well with a clear structure and trained technical staff to carry out the activities. The Ministry has a strong team of EPI who are working in close collaboration and coordination with the immunization teams of WHO and UNICEF, which facilitate the introduction of new vaccines into routine EPI in the last few years. Various coordination forums for vaccination services have functional bodies with clear terms of reference such as the Health System Strengthening Coordination Committee (HSSCC), National EPI Task force and NITAG. These forums have representation of Health Ministry, UNICEF, WHO, academia, and planning as well relevant government departments. These forums are working closely with in-country Gavi partners. National EPI task force meets at least once a month and also when required. Similarly, the NITAG meeting are conducted quarterly and need based whereas HSSCC meets once every 6 months as well as upon need base.

Part D: Objectives of requested Gavi support

Section D details the new vaccine support and health system strengthening support requested for the upcoming 3-5 years, including strategic considerations and prioritized activities. Operational details are presented in the Gavi budgeting and planning template and performance measurement is presented in an updated **grant performance framework**.

If you plan to request new vaccine support (routine introductions and/or campaigns**) in the upcoming 3-5 years,** please fill in section 7 below.

I**f you plan vaccine routine introductions and/or campaigns in the next 18 months,** in addition, please fill in the relevant vaccine specific request, on the Country Portal, here: http://www.gavi.org/support/process/country-portal/

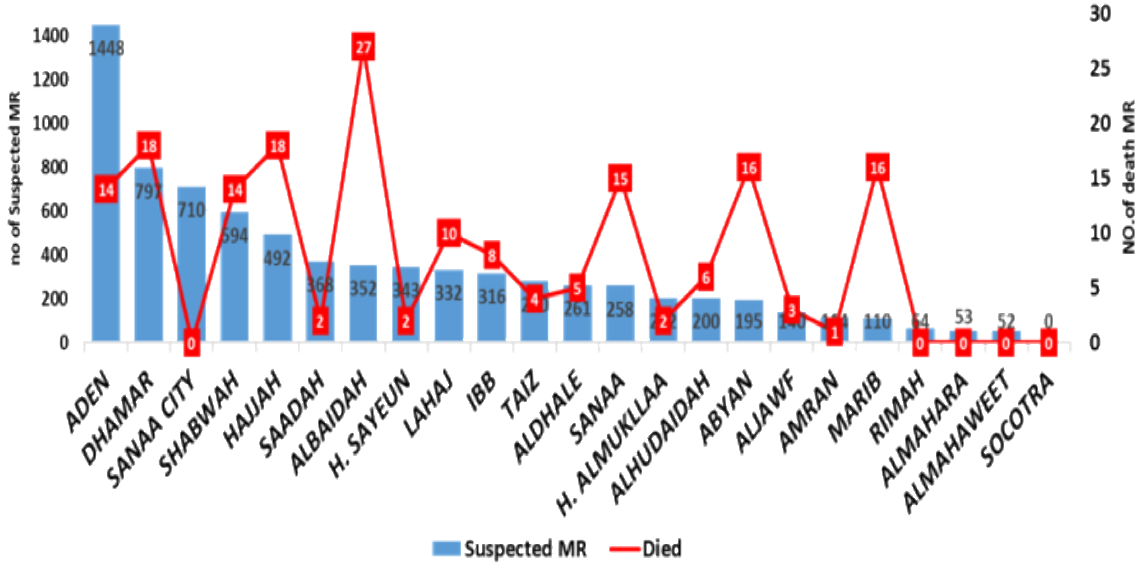
7. Strategic considerations supporting the requests for new vaccines (routine or campaigns)

This section presents information on future vaccine routine introductions and/or campaigns under consideration for Gavi support (including support for which the country may not be eligible yet). This does not represent a commitment from the country to introduce the vaccines listed below. High level information critical to advance planning and preparation should be outlined here.

Approximately 15-18 months ahead of the actual introduction in the routine programme or the campaign, the country will be required to fill in the relevant vaccine specific request, on the Country Portal to obtain Gavi approval. This vaccine-specific request to be submitted will include: evidence to confirm eligibility, operational plan, budget, and essential information to support grant implementation (e.g. procurement and co-financing terms, target population data).

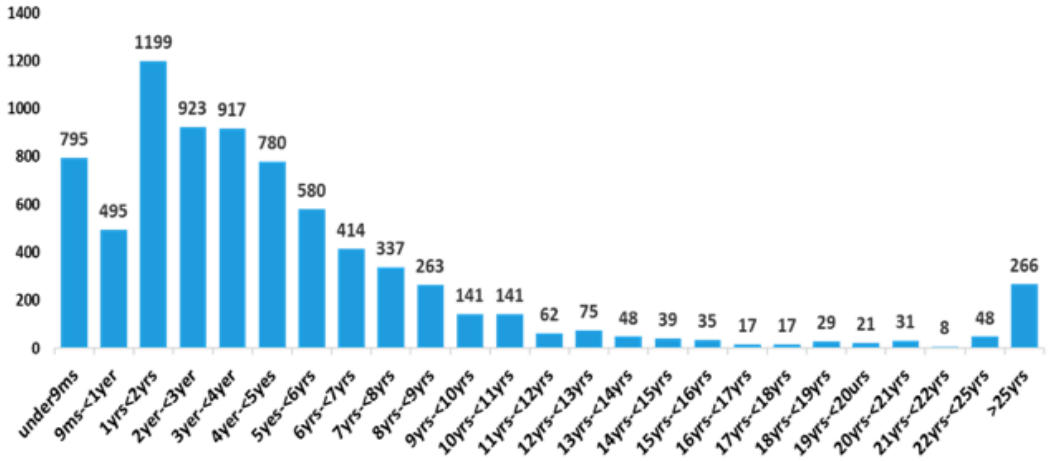
7.1. Rationale

Describe the rationale for requesting each of the new vaccine supports, including the burden of disease. If already included in detail in the Introduction Plan or Plan of Action, please cite the sections only.
The country is facing an increasing number of reported cases and deaths from almost all Governorates due to measles and throughout all age groups.



Suspected MR cases by governorates, Jan –September 2018
 # suspected MR cases = (7,974), NO of Death = (182)

Measles cases were distributed in almost all governorates and measles outbreaks were declared in 6 governorates (Shabwa, Aden, H. Sayeun, Amran, Saadah and Al -Maharah) resulting in 182 deaths due to measles from January to September 2018 in the country.



Distribution MR cases by age groups, Jan to September 2018
Suspected MR = (7,974)

Acknowledging the current status of outbreaks and morbidity and mortality due to Measles cases, MoPH&P decided to do nationwide follow-up campaign targeting children from 6 months - 15 years of age. Justifications for targeting the age group of 6 months to 15 years for the follow up campaign can be summarized as follows:

- The vaccination profile of Measles from January to September 2018 showed that 80% of suspected cases were not vaccinated, 6% received one dose while 13% received two doses.
- There is a high prevalence of malnutrition among infants.
- The relatively low routine MR coverage (73%) in 2017, and recent introduction of the vaccine in 2014 increased the epidemiological risk by shifting age of Rubella infection to a higher age group.
- 3.3 million people are IDPs and the majority moved from security compromised areas to populated areas and living in host communities increasing the risk of outbreak (High epidemiological risk)
- Continued instability of security situation, widespread and non-fixed armed confrontation lines, which further compromises access to health services.

Currently, demands and commitment from both authorities have been secured to conduct the campaign, including campaign in Sa'ada where no IORs conducted in last 2 years and last 2 NIDs have not been conducted. The country is expecting to implement another MR campaign in 2021. UNICEF and WHO have committed to pre-financed the MR campaign if immediate operational funds are not available from GAVI.

- The country started planning for the campaign since last year, following the steps highlighted in WHO readiness assessment tool. The MR campaign will target 13,032,803 children from 6 mths-15 yrs. WHO will support the operational cost and UNICEF vaccines & SM activities of campaign for 7,956,846 children from 5-15yrs. Gavi will support operational, vaccine and SM cost of MR campaign for the remaining 5,075,957 children from 6 mths-5 yrs. Overall, 14,336,084 MR doses are required for the MR campaign.
- Planning meetings will be organized at central and governorate level and social mobilization and communication plan will be developed for awareness-raising activities. All stakeholders will be involved before and during the campaign to increase the acceptance and coverage during campaign.
- Micro plans will be developed for the operational activities. In security compromised areas, meetings will be held with influential groups to ensure access to inaccessible and semi inaccessible areas. The campaign will be conducted for 6 days through outreach points. The campaign activities will be supervised and monitored at each level and will be evaluated after the round. Through this campaign, major gaps regarding Measles coverage will be filled especially in high-risk districts/governorates. There is an urgency to conduct SIA by Nov 2018 to reduce the risk of coverage decline due to the current deteriorating security situation in the country.

7.2. Financial Sustainability

Discuss the financing-related implications of the new vaccine support requested, particularly how the government intends to fund the additional co-financing obligations.

- Total target for the MR campaign is 13,032,803 children from 6mths-15 yrs.
- WHO will support the operational cost and UNICEF Vaccines & SM activities of campaign for (7,956,846) children from 5-15yrs
- GAVI will support operational, Vaccine and SM cost of MR campaign for (5,075,957) children from 6mths-5 yrs.
- Nationwide MR campaign will be conducted in which 13.00 Million children from 6mths-15 yrs will be vaccinated.
- After the nationwide campaign regular risk assessment will be conducted to identify the high-risk districts and mop-up/response campaigns will be conducted accordingly. UNICEF, WHO and other partners will provide technical and financial support.
- Yemen is planning to conduct next nationwide campaign after 3-4 years

7.3. Programmatic challenges

Summarise programmatic challenges that need to be addressed to successfully implement the requested vaccine support, and describe plans for addressing those. These may include plans to address the barriers identified in the coverage and equity situation analysis section, and include vaccine supply chain, demand generation/ community mobilisation, data quality/ availability/ use and leadership, management and coordination, etc.

The following challenges have been identified:

- Limited time available to undertake the preparedness activities, but in-country partners considered themselves ready to conduct the SIA by November due to the urgency and the epidemiological risk associated.
- The WHO readiness tool was not applied in totality, but the required activities have been adequately planned.
- While it is unlikely to reach 95% coverage, the previous experience shows that in-country capacity is available move forward with the campaign e.g. National Immunization Day (NID) campaigns, MR response campaigns, OCV campaigns, etc
- All MR vaccines requested by UNICEF for the MR campaign will be procured by the end of October 2018.
- There is an urgency to use the MR vaccines before the arrival in MMM of the 3.5 M Oral Cholera Vaccines (OCV) doses also in the pipeline.

7.4. Improving coverage and equity of routine immunisation

Explain how the proposed vaccine support will be used to improve the coverage and equity of routine immunisation, by detailing how the proposed activities and budget will contribute to overcoming key barriers.

- The routine immunization is quasi-inexistent due to a majority of non-functional primary health facilities. By complementing the World bank support through the provision of EPI services as well as expanding the support to newly identified health facilities in the priority districts (the most vulnerable) with high number of unvaccinated children coverage and equity will be effectively improved.

- Moreover, more than 3 million people are internally displaced since the beginning of the war in 2015 and the majority have no access to quality health services including vaccination. Moreover, field visits revealed that most of the areas where IDPs live, have not been visited by teams since a long time. Other high-risk groups i-e Somalian population, Bedouins, Refugees are also deprived of basic services. Due to population movement challenge regarding access to EPI services, the following proposed activities will contribute to increasing coverage and equity through both routine and Supplementary Immunization activities (SIAs):
    - Integrated outreach activities to reach populations in tier two and three with no or limited access to health facilities, Mobile services delivery providing integrated health & nutrition services to IDPs and extremely remote populations,
    - Demand creation and community engagement to reach two types of communities; (i) those with access to health facilities but lacking awareness of importance of vaccination and / or of availability of services and (ii) communities with resistance to or active refusal of vaccination services
    - Further local level mapping and inequity analysis to identify local pockets of unvaccinated children due to various causes such as IDP undetected, Mehamasheens or any other ethnic/ tribal group not receiving services, villages not included in micro-plans for integrated outreach etc.

7.5. Synergies

Describe potential synergies across planned introductions or campaigns. If relevant, comment on capacity and appropriate systems to introduce multiple vaccines in a year. Also describe how the country will mitigate any programmatic and financial risks associated with multiple introductions.

After the crisis situation, UNICEF and WHO has been receiving funds from GAVI, the World Bank, KSA, DFID, OFDA for supporting the EPI activities i-e Procurement of vaccines for Routine EPI vaccines and SIAs, operational cost support for EPI centres, Integrated Outreach Rounds and regular outreach activities, Mobile vaccination, procurement of CCEs. There is a focus on ensuring the integration of activities and complementarity of funds from donors

that have been used strategically and effectively to address the gaps faced during implementation of activities. The activities have been planned and implemented by ensuring collaboration and support from multiple donors and in coordination with other stakeholders who are in field.

8. Description of requested support for each new vaccine

More specific planning needs particular to certain vaccine support listed in table 1.2 are described here. Greater details on activities needed to prepare for the vaccine introduction and/or campaign (addressing the programmatic challenges and bottlenecks outlined above) should be reflected in the country's annual EPI work plan.

Exclude here vaccines that already approved by Gavi, even if not yet introduced.

N/A

9. Programmatic description of priority HSS investments from Gavi

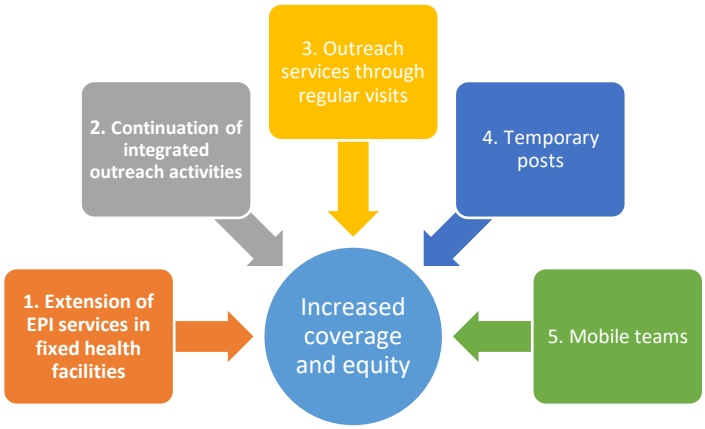
9.1. Objectives and priority activities for Gavi financial support

Given the target geographic and population groups identified and key national and sub-national bottlenecks determined in **Section B**, this section asks you to strategically consider these findings, and develop the **3-5 key objectives and specific activities within these to be supported by Gavi and the rationale for choosing these**. The link between data and evidence and proposed interventions must be clear. **The activities listed here are to be costed in Gavi's budgeting and planning template.**

The activities proposed must contribute to sustainable improvements in coverage and equity. For **Programming Guidance** for targeting interventions in each of Gavi's strategic focus areas (i) leadership, management and coordination, (ii) supply chain, (iii) data (iv) demand promotion, and (v) immunisation financing, please see the Gavi website here:
http://www.gavi.org/support/process/apply/hss/
To apply for CCEOP support, include CCEOP as one of the activities under a supply chain objective. For countries in the accelerated transition stage, dedicate one objective to those activities specific to appropriate transition planning.

Objective 1: Improve equitable access to quality immunization services to increase coverage	
Timeframe:	2019-2023
Priority geographies/population groups or constraint(s) to coverage and/or equity to be addressed by the objective: → ***List to match those identified in Section B***	→ 66 Priority districts, 16 governorates → Population living in 3 (hard-to-reach and security compromised areas) → IDPs and refugees
Describe the tailored interventions to address this constraint and provide evidence of efficacy of the intervention. Describe the critical national capacities that will be established or strengthened as a result of this investment.	

This objective is aligned with the existing investment of the World Bank through EHNP describe above. It is based on various strategy aiming to improve the provision EPI services in an integrated manner while targeting pockets areas (hard-to-reach and security compromised areas) with high number of unvaccinated children to increase immunization coverage and equity. It directly contributes to increasing vaccination coverage and equity of target children and mothers, providing integrated services as stated in the National health strategy 2010-2025.



1. **The extension of EPI services in fixed health facilities** will be implemented through the operationalization of existing non-functional health facilities through provision of supplies including furniture, cold chain and other necessary supplies to improve the utilization and provision of EPI services

a) Complementary to the World Bank supported-HF

Currently, 1780 Health facilities are supported under the EHNP. Out of the 66 priority districts identified through the equity analysis conducted for the current proposal, 63 districts are covered by the EHNP, which represents 272 health facilities (see table in Annex). Out those 272 facilities, 175 are fully or partially functional. Out of the 272 HF, the majority (266) offers EPI services.

Source of support	# of HF	%
HF supported by the WB situated in the 63 priority districts with functionality status available	272	15%
WB-only HF	1508	85%
Total	**1780**	**100%**

Functionality status	# Health facility	%
Closed	1	0%
conflict area	3	1%

Fully	111	41%
Partially	64	24%
(vide)	93	34%
Total Gavi+ EHNP	**272**	**100%**

Through EHNP, operational costs (water and power bills, cleaning, fuel and gas, stationary, transportation and maintenance are covered). Gavi investments will complement that support for health facilities that are closed, in conflict area, partially functional and those with no data available on their functionality status, which represents **161 facilities.**

b) *Comprehensive expansion in 25 newly identified HF* in the following 3 districts prioritized by Gavi but not receiving the WB support:

- 9 health centers and 1 health unit in Al Hawak (Hodeydah);
- 2 health units and 1 health center in Al Ghayl (Al Jawf) and
- 8 health center and 4 health units in Bani Al Harith (Sana'a city)

2. Continuation of integrated outreach rounds

Integrated outreach rounds (IOR) will be implemented in the 66 priority districts in zone 3 (in districts not receiving the WB support) to better address the needs of the isolated population (far, remote and hard-to-reach areas) until new health facilities are stabilized in targeted areas. Health workers in these facilities will be supported with a nationally standardized per-diem for conducting monthly community outreach in tier 3 covering all sessions according the micro-plan of the catchment areas of the HF. Each of these health workers will conduct the monthly sessions according the micro-plan. The rates that will be applied here will be aligned with the MOPH&P standard rate and WB policy that provides a daily rate of equivalent to $US15 for each health staff participate in the outreach mobile team which consist of 4 health staff providing the monthly outreach activities in zone 3 To ease the payment methods, these rates will be paid on monthly rates following a verification of whether the HW has performed the planned outreach activities in the communities.

3. Outreach services through regular visits

Outreach activities will be conducted every 1-2 month basis with a total of 9 rounds per year by health care providers through regular visits in zone 3 in all targeted priority 66 districts.

4. Temporary posts

In zone 3 with at least 3000 inhabitants, new temporary EPI posts will be opened in priority districts. To better capture the mobility and presence of

IDPs and refugees throughout the country, mapping exercises will be conducted involving relevant stakeholders in reaching IDPs and microplans will be updated accordingly. In this particular case, community health workers as well as volunteers (CHWs/CHVs) will be mobilised and involved. Meetings will be conducted and the intervention model will be shared with key stakeholders at Aden and Sana'a including Ministry staff and representatives from Governorates. The number of the temporary health post will be in average of 3 posts in every district in the 333 districts nationwide

5. Mobile teams

To reach people in tier 3 villages and IDPs where there is no other alternative source of health care, mobile teams will be deployed during one week.

A combination of fixed and outreach sessions is mostly operated in the delivery of immunization services in the country, it has brought about significant improvement in the immunization coverage since 2016. Moreover, more than 72% of the facilities are efficiently implementing both strategies.

Meanwhile, it is important to acknowledge that the provision of the integrated outreach activities is time-limited and conducted in monthly manner which means reaching the population in needs only 12 days a year. Consequently, only 7% of the yearly needs of the services for the communities in the zone 3 are addressed. Yet, experience reveals that by improving the provision in the fixed health facilities targeting the first and second catchment areas (zones 1 and 2) and increasing the frequencies of monthly integrated outreach activities in the third catchment areas (zone 3) from the health facilities with sufficient time will increase coverage.

The proposed intervention targets the general population, the pockets areas with high number of unvaccinated children as well as the most vulnerable including IDPs, refugees. Doing so, the complementarity of activities will contribute to improving coverage and equity nationwide and within communities. Moreover, providing and reaching out the people in all catchment areas of the health facilities including remote areas will increase the willingness to use services and increase the sense of responsibility and knowledge of health facility staff about the population served. As a result, the confidence between them and the population will be strengthened and the promotion of the interventions provided and available in the fixed health facilities, increased.

6. Trainings

Refresher trainings will be provided at all levels (central, governorate and district levels as well as temporary posts) to existing staff in charge of immunisation to ensure quality delivery of services.

7. Coordination with NGOs/INGOs regarding provision of EPI services

As a result of the ongoing crisis, approximately 17% of Health facilities are non-functional with 38% partially functional and 45% fully functional. (*HeRAM 2016 report).* In certain districts there are many challenges for MoPH&P/GHOs regarding provision of health services in general and specifically the EPI services due to funding, HR and other constraints. Hence the different NGOs/INGOs are engaged in provision of EPI services through their own or Govt. infrastructures through fixed site or mobile strategy. Various organizations like IRC, MSF, ADRA, Islamic Relief, YFCA etc are working in targeted health facilities through a coordination mechanism i-e the cold chain equipment and vaccines are provided by EPI and they are providing reports to MoPH&P. The working relation with NGO/INGOs will further be strengthened during the coming time.

List approximately five (5) specific activities to be undertaken to achieve this objective:

→ ***Reflect these activities in the budget & planning template***

1.1. Review and update microplans
1.2. Training staff MLM (central, governorate and district)
1.3. Training staff at district level (vaccinator per HF) including public and private health facilities
1.4. Printing material (registries, cards)
1.5. Conduct OR 1-2 months@9 rounds per year in 66 district
1.6. Update microplans after mapping (for IDPs and refugees)
1.7. Supported integrated supervision (including vehicles)
1.8. EPI program incentives
1.9. Training staff for new & temporary immunization posts at district level

Technical Assistance: List the anticipated TA needs and timelines required to support this objective and plans for securing it (e.g., Gavi HSS, PEF/TCA, other sources?)

Under the PEF TCA WHO and UNICEF is planning to deploy the staff at central level and targeted governorates. The overall purpose of this position is to strengthen the overall management of EPI activities at the central, governorate, district and sub-district level. Technical support at the National and subnational levels for continued strengthening of RI coverage (in coordination with disease specific initiatives e.g. Integrated Outreach rounds/regular outreach activities, Polio, MR, Diphtheria and MNTE and measles). Capacity building of the health workers at facility and community level. Coordination with partners MoPH&P, WHO, GAVI and other CSO. Develop plan and Implement the alternative and innovative ways and means to reach children and women in security compromised and inaccessible areas.

Staff under WHO;

- 1 P4 international staff

- 1 National staff TA (NOC) Sana'a office - 3 National staff TA (NOB) one for Sana'a, Aden & Hodeida - 1 G5 program Assistant & 1 G5 Finance Assistant Staff under UNICEF; - 1 International staff (P3/FT) - 1 National staff (NOB/FT) - 1 National staff based in Aden (NOB/TA) - 3 Governorate Operational Cosultants
Financing: Justify any requests for Gavi to support major recurrent costs (e.g. human resources) regardless of transition stage. → ***Countries in the preparatory and accelerated transition phase are restricted from using Gavi funds for recurrent costs*** *(please refer to the Guidance on supporting countries' HR capacity, available here:* http://www.gavi.org/support/process/apply/additional-guidance/).

How much HSS budget is allocated to this objective: → ***Reflect the details in the budget and planning template***	**Years 1-2**	*5338728 US$*
	Years 3-5	*8598606 US$*

Please also provide details on the key cost drivers, inputs and assumptions required for the main activities of this objective, here:

Objective 2: Ensure efficient and effective supply and cold chain to secure the availability of quality vaccines for reaching all eligible population	
Timeframe:	2019-2023
Priority geographies/population groups or constraint(s) to coverage and/or equity to be addressed by the objective: → ***List to match those identified in Section B***	Central, governorates and health facility levels
Describe the tailored interventions to address this constraint and provide evidence of efficacy of the intervention. Describe the critical	

national capacities that will be established or strengthened as a result of this investment.

Yemen faces important Vaccine supply and cold chain challenges as described above. To better address them, the country conducted an assessment of the cold chain by collecting data from 90% of the Health facilities to identify priority bottlenecks that impede the secure provision and storage of vaccines from the central level to the health facilities at governorate and districts levels. The analysis revealed that overall, 62% of the cold chain equipment is obsolete.

- Based on year of acquisition and life span recommended, 2,941 units acquired between 1992 to 2006 were found obsolete and by 2018, 97 additional units will become obsolete
- 1,698 units acquired between 2008 and 2016 may still be useful, but there was not adequate information on their real functional status
- More than 50% do not comply with WHO PQS norms.
- 15 out of 23 Governorate stores require additional cold chain capacity

The country will submit a Cold Chain Equipment Optimization platform (CCEOP) application to revamp and bridge cold chain gaps at all the levels of the supply chain especially the service delivery points, essential to achieve immunization coverage and equity targets.

Moreover, based on the EVM assessment carried out in 2013, distribution is not effectively ensured at district level while maintenance, MIS and support functions remain challenging at Health facility levels.

CRITERIA	Target %	Score: Average, %		
		Central level	District level	Health facility level
E1: Receiving/Receipt of vaccines	**80%**	62		
E2: Temperature	**80%**	49	**86**	**88**
E3: Storage capacity	**80%**	**100**	**94**	**97**
E4: Buildings, equipment, transportation	**80%**	**83**	**88**	**85**
E5: Maintenance	**80%**	**94**	**83**	**74**
E6: Inventory management	**80%**	**96**	**85**	**83**
E7: Distribution	**80%**	**79**	**56**	**94**
E8: Vaccine management	**80%**	**93**	**82**	**89**
E9: MIS, support functions	**80%**	**98**	**83**	**74**

Apart from the CCEOP needs, and in the current volatile and conflictual context, the country team has to deal with important logistics and managerial bottlenecks particularly related to non-availability and high escalation of fuel prices (the majority of refrigerators currently in use operate with kerosene), lack of training for staff and vehicles to ensure timely distribution at Health facility level. Therefore, to complement the CCEOP investments and UNICEF support for operational costs and gas for 1726 HFs, the country needs an extended support from Gavi-HSS3 to ensure the provision of cold rooms at national level, others cold chain equipment (not included in the CCEOP) at HF level, the improvement of the temperature monitoring system, the strengthening of EPI capacities in vaccine management, repair and maintenance. Training will be provided to 69 supervisors, storekeepers and cold Chain Officers from Governorates, 666 supervisors, storekeepers and cold Chain Officers from Districts and 20 maintenance Engineers.

List approximately five (5) specific activities to be undertaken to achieve this objective:

→ ***Reflect these activities in the budget & planning template***

2.1. Establishing of Aden warehouses
2.2. Procure solar system for central and governorates warehouses
2.3. Procure vaccines carriers and cold boxes
2.4. Procure 2 large refrigerated trucks to transport the vaccine + 2 large trucks to transport dry items
2.5. Monitoring of cold chain and vaccine management activities at central warehouses
2.6. Monitoring the temperature in EPI warehouses in governorates
Establishment of the maintenance and repair workshops at central and governorate level
2.7. Establishment of the maintenance and repair workshops at central and governorate level

Update the GPF to propose indicators to monitor progress toward this objective: These provide a means to assess achievement of intermediate results and activity implementation.

→ ***Reflect these in the Grant Performance Framework***

Technical Assistance: List the anticipated TA needs and timelines required to support this objective and plans for securing it (e.g., Gavi HSS, PEF/TCA, other sources?)

Under the PEF TCA support, the Consultants for Cold chain and vaccine management will be deployed initially in Aden, Sa'ada and Taiz/Ibb. Later on, 2 additional consultants will be deployed in Sana'a and Hodeiada Governorates. The overall purpose of deployment is to assist in effective vaccine management resulting in a system where every individual can benefit from quality delivery of vaccines in the right amount at the right time through efficient logistics, proper vaccine management, and a well-

functioning cold chain system. UNICEF has recently hired a Health Officer (Cold and Vaccine Management) at Country office to supervise and coordinate with these consultants to further strengthen the coordination with Governorate level regarding Cold chain and Vaccine Management.

Moreover, the following support will be needed to:

a) Strengthening cold chain and effective vaccine management information systems as an integral part of existing systems including real time stock management of vaccine and injection materials.
b) New Effective Vaccine Management Assessment (EVMA) and develop improvement plan. EVM assessment is planned for 2019. Consultant will be hired for the conduction of capacity building regarding the EVM.
c) Support implementation of CCEOP component by facilitating procurement, shipment, distribution and installation

Financing: Justify any requests for Gavi to support major recurrent costs (e.g. human resources) regardless of transition stage.
→ ***Countries in the preparatory and accelerated transition phase are restricted from using Gavi funds for recurrent costs*** *(please refer to the please refer to the Guidance on supporting countries' HR capacity, available here:* http://www.gavi.org/support/process/apply/additional-guidance/).

How much HSS budget is allocated to this objective: → ***Reflect the details in the budget and planning template***	**Years 1-2**	*3757960 US$*
	Years 3-5	*3184002 US$*

Please also provide details on the key cost drivers, inputs and assumptions required for the main activities of this objective, here:

Objective 3: Increase demand for EPI services through Social mobilization and community engagement

Timeframe:	2019-2023
Priority geographies/population groups or constraint(s) to coverage and/or equity to be addressed by the objective: → ***List to match those identified in Section B***	National and 66 priority districts

Describe the tailored interventions to address this constraint and provide evidence of efficacy of the intervention. Describe the critical national capacities that will be established or strengthened as a result of this investment.

While both mothers and fathers in Yemen know of the benefits of vaccination and want their children to be vaccinated, there appears to be a gap in information available about number and type of vaccinations a child should receive in the first year. The vast majority of parents who stated that their children have been vaccinated against diseases, approximately half indicated doing so at a heath facility, while 48% of males and 43% of females reported that their child was vaccinated at home by a vaccinator. This is due to poor accessibility to heath facilities in certain governorates. (Yemen KAP survey, 2015). Finally, as presented above, drop-out rates for Penta 3 and MCV1 are increasing since the beginning of the crisis and a certain level of vaccine hesitancy remains.

Based on these facts, this objective aims to improve health education and practice in order to increase demand through social mobilization and community engagement. The lessons learned from past experiences were positive particularly the C4D implementation in 4 governorates was impactful by:

1. Enhancing the motivation of parents to vaccinate their children with all immunization doses and do the follow-ups according to the schedule.
2. Changing their wrong conceptions regarding immunization and a lot of success stories have been reported by parents.
3. Enhancing parents' knowledge and encouraging them to take preventive measures regarding the spreading of the diphtheria epidemic.
4. Increasing the demand for routine immunization services in all districts were direct communication with the health education volunteers was encouraged
5. Succeeding to persuade a lot of immunization refusers and pushing them to vaccinate their children.

Strategies, experiences and increase of community participation during the previous 10 years led to more community-based health activities, interventions provided through community health volunteers (CHVs) and workers (CHWs) in an integrated manner within the framework of community-based health programs and interventions to increased demand for PHC services including EPI services.

CHWs and CHVs operating within communities will benefit from adapted **training and supervision** to improve their abilities to provide health services and information required. CSOs will support the MOPH&P in

selection and contribute to the trainings as well as monitor their regular activities.

Greater efforts are also required to educate parents about the frequency and type of vaccinations needed for their children. Therefore, EPI staff will be **trained in interpersonal communication** in order to inform and provide recalls to parents according to their child vaccination schedule, improve their interaction with the parents and making them feel welcome at the HF during every visit, thereby sending a positive message to others.

Awareness-raising activities such as **IEC materials, mass media and social mobilization activities** using different channels will be conducted to communicate health messages through the national health education centre according to national Communication for Development national strategy.

Community leaders, because of their influential role in the society (religious leaders, teachers, etc.) will benefit from **workshops** and to raise awareness of the benefits of vaccination for children and media professionals will receive all the required materials to spread the word. All these activities will be monitored and evaluated with the support of CSOs and independent assessment of community- based health interventions will be amplified as needed by the MOPH&P.

List approximately five (5) specific activities to be undertaken to achieve this objective:
→ ***Reflect these activities in the budget & planning template***

3.1. Support advocacy and SM activities
3.2. Involvement of mass media at all levels to increase utilization of vaccines
3.3. Printing of IEC material
3.4. Capacity building of health workers at community and facility level
3.5. Development and implementation of communication plans
3.6. Involvement of stakeholders in communication and SM activities

Update the GPF to propose indicators to monitor progress toward this objective: These provide a means to assess achievement of intermediate results and activity implementation.
→ ***Reflect these in the Grant Performance Framework***

Technical Assistance: List the anticipated TA needs and timelines required to support this objective and plans for securing it (e.g., Gavi HSS, PEF/TCA, other sources?)

Under the PEF TCA support, the Consultants for Communization for Development will be deployed in Aden, Sa'ada, Hodeiada, Taiz/Ibb and

Sa'ana. The overall purpose of deployment is to provide technical support and inputs in advocacy, communication and social mobilization for effective planning and implementation of Immunization programmes in governorates and districts of Yemen such as conducting KAP surveys for establishing baselines. UNICEF has recently hired a Health Officer (Health Education and Promotion) at Country office to supervise and coordinate with these consultants to further strengthen the coordination with Governorate level regarding communication and social mobilization activities.
Financing: Justify any requests for Gavi to support major recurrent costs (e.g. human resources) regardless of transition stage. → ***Countries in the preparatory and accelerated transition phase are restricted from using Gavi funds for recurrent costs*** *(please refer to the please refer to the Guidance on supporting countries' HR capacity, available here:* http://www.gavi.org/support/process/apply/additional-guidance/).

How much HSS budget is allocated to this objective: → ***Reflect the details in the budget and planning template***	**Years 1-2**	*515000 US$*
	Years 3-5	*965000 US$*

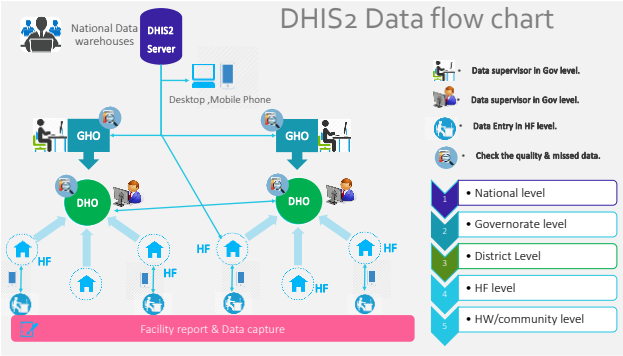
Please also provide details on the key cost drivers, inputs and assumptions required for the main activities of this objective, here:

Objective 4: Improve data and surveillance systems to ensure effective monitoring and evaluation to inform decisions	
Timeframe:	2019-2023
Priority geographies/population groups or constraint(s) to coverage and/or equity to be addressed by the objective: → ***List to match those identified in Section B***	National; all levels from central to HFs
Describe the tailored interventions to address this constraint and provide evidence of efficacy of the intervention. Describe the critical national capacities that will be established or strengthened as a result of this investment.	
The Yemen Health Management Information System (HMIS) performance is weak; the major bottlenecks being associated with an inefficient information sharing system and cross-sharing of data with	

other programs as well as incomplete data. In addition to that, the HMIS depends on a traditional system which relies on manual data collection, sub-optimal analysis and use. Moreover, due to the current situation in the country (coalition war, conflicts, sieges, hesitancy and refusals, etc.) as well as the lack of staff (high turnover of staff) and capacity at all levels (health managers at district and governorate level have less supervisory, managerial and leadership skills and experience) to conduct effective monitoring, collect reliable data, perform quality analysis, effective monitoring and evaluation to be able to take informed decision is not ensured.

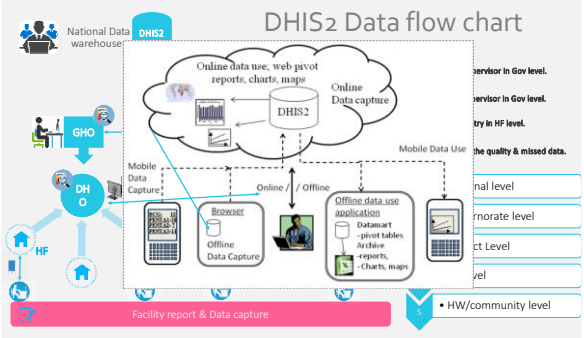
Currently, Integrated Supportive Supervision (ISS) are conducted according to the following process and the DHIS 2 Data flow chart is presented below:

- Checklist developed and rolled out
- Training of the supervision teams on the checklist and skills of the ISS from the deferent level (central, governorate and districts)
- Supervision are conducted from deferent level (central; governorate and district) as per the action plan targeting the selected randomized health facilities in each district according the year plan for the ISS.
- This model of ISS will be implemented and conducted as standards for all supportive supervision.
- Involvement of focal persons from PHC, nutrition, EPI, RH, and Director and technical qualified staff from MOPH&P and there branches in the governorate
- Up to 1,543 facilities supervised through ISS a year.
- Program-specific supervision for CMAM, EPI, IMCI, CBMNC followed by Governorate-level review meetings
- 81% of the PHCFs have received supportive supervision from the DHO/GHO offices
- 67% of supervisors recorded their visits and recommendations



Therefore, strengthening the related health system blocks on documentation of the EPI and integrated PHC activities to better reflect results and impact on morbidity and mortality is critical.

This objective aims to improve the collection of the data in an integrated way by **providing electronic equipment to all governorates**, using new technologies and improving the traditional manual methods to improve the quality of data derived from supportive supervision and vaccine management. To do so, the following **mobile-based data collection system** integrated into the DHIS flow chart will be piloted. To date, the system has been configured and put online in the cloud. The default data entry forms have been integrated. The customization of the form for the local context will be done prior to the piloting. The system will include new features such as tracking of consumables and cold chain, etc.



- Meanwhile, human and financial resources will be improved through **recruitment of dedicated staff** in each Governorate and at national level for data management. Moreover, they will be responsible for conducting optimal data analysis to ensure a stronger surveillance and monitoring system.
- Surveillance officers will benefit from **adequate vehicles to conduct regular field visits** to investigate outbreaks for VPDs epidemics reported. Moreover, lab support (trainings of staff, equipment and reagents) will be provided. Therefore, the increase burden and outbreaks of VPDs and shortage of the lab reagents and equipment and inadequate surveillance system will be addressed.
- To increase staff capacities in managing the systems, perform monitoring and provide adequate analysis to inform decisions, **various and competence-based training** will be conducted for data management focal persons at national and sub-national levels as well as for district and facility level staff. The improvement of the health care providers skills and use of new technologies in an integrated electronic HMIS from the end person to the different levels will result in time and efforts saving, facilitate and accelerate the alarming system.

- **Integrated Supportive Supervisions (ISS)** will be reinforced through regular missions (3 visits per month to districts by national and governorate supervisors as well as from district level to HF) and annual review at national level and quarterly reviews at governorate level will be ensured. Throughout the processes, the country will be encouraged

and support information sharing with key stakeholders to allow timely decision-making.

- **Operational research studies** will be commissioned to address specific and emergent challenges faced by the health system such as surveillance, immunization program and the basic complementary health services package.

- Lab support will include trainings and purchase of equipment and consumables.

    - Trainings will be provided to the Central Public Health lab staff at Sana'a and Hubs to equip them with the latest knowledge and skills in testing of samples related to VPDs included in EPI. In addition to the Lab staff, all the surveillance staff involved in VPDs surveillance at Central, Governorate and district levels will be trained on case definitions, management, sample collection, reporting of VPDs cases. The health care providers both in public and private sectors will receive an orientation to VPDs and their role in supporting VPD Surveillance.
    - Various Lab equipment's including PCR for molecular Lab Diagnostics, high quality microscopes, high quality Bactec Machine, Biosafety cabins for bacteriological sample culture, sample collection tubes for VPDs, all type of blood test tubes, centrifuge tube, immunology tubes, MR sample collection tools, Multifunctional refrigerators, cold chain boxes for sample transportation etc will be purchased.
    - Finally, all the required reagents for VPDs (MR, Rota, and Diphtheria etc), Elisa for Viral Lab diagnostics, and Agar media for bacterial diagnosis, transport media and Broth McConkey will also be purchased.

- **Monitoring and evaluation:** To complement the M&E exercise for routine HIMS, Third-Party Monitoring (TPM) strategy conducted by independent consultants will be leverage to strengthen data collection and analysis processes for decision-making. UNICEF & WHO has an existing partnership with an agency called Prodigy which conducts third party monitoring (TPM) for its programmes. In areas where the security situation allows, UNICEF/WHO (country level and field based) staffs also conduct programmatic field monitoring visits. UNICEF/WHO staffs provide technical oversite and guidance to implementing partners and support quality assurance of programmatic interventions. The following elements describe UNICEF's efforts in putting monitoring systems in place for the World Bank-supported EHNP that will also benefit to the current GAVI's investments:

a) *Alignment of YEHNP interventions with the UNICEF country office HACT Assurance Plan*: based on the results of micro-assessments conducted for each of the UNICEF implementing partners, UNICEF has determined the minimum quality assurance interventions for each partner (number of programmatic visits, financial spot checks and audits). The country office HACT assurance plan describes the number of such interventions and their schedules in the year. UNICEF has integrated its implementing partners for the EHNP within the country office's HACT assurance plan.
b) *Monitoring SOPs:* During the reporting period, the Yemen Country Office (YCO) drafts monitoring SOPs with clear work flow process and different tools to be used by UNICEF staff members while conducting programmatic visits.
c) *Field Monitoring Work Flow Process*: The increased fragmentation of the country due to the escalation of conflict has pushed UNICEF to work with partners in a decentralized manner and conduct assurance activities accordingly. This led to putting in place mechanisms to ensure that the findings of programmatic visits and spot checks are correctly understood and appropriately acted upon by the relevant staff.

List approximately five (5) specific activities to be undertaken to achieve this objective:
→ ***Reflect these activities in the budget & planning template***

4.1. Training of surveillance staff on the collection and analysis of data, case definition, specimen collection
4.2. Conducting operational research
4.3. Strengthening collection, reporting and analysis capacity (computers/laptops to all 23 Governorates)
4.4. Piloting mobile-based data collection system for supportive supervision and vaccine management.
4.5. Field visits to investigate outbreaks for VPDs epidemics reported
4.6. Provision of vehicles to 13 Governorates for facilitating the work of surveillance officers
4.7. Printing and dissemination of recording and reporting tools for surveillance at all levels
4.8. Lab support (Trainings of staff, equipment and reagents)Strengthen of Laboratory Based surveillance
4.9. Hiring dedicated staff for data management Data Collection , Data Entry , Data Analysis and Preparation the Annual Health Statistica Reports For all Governorates
4.10. Meetings to Studying and reviewing HMIS registries , Routine and vertical programs registries
4.11. Training on New HMIS Records for (HMIS staff) at central and governorate levels.

4.12. Develop the new HMIS Printing, distributing the new guideline and forms to the all levels (facility – districts – governorates - MoPHP). 4.13. workshops to update the health information system and .(To approve the updated regulatory framework and data registers, records and forms) for (HMIS staff) at central and governorate levels 4.14. (Strengthening collection , reporting and analysis capacity (computer , printers …ets to MOH , 23 Governorates and districts. 4.15. Workshops to update the health information system and .(To approve the updated regulatory framework and data registers, records and forms) centrally only 4.16. Workshops for HMIS Surveillance staff at central and governorate levels . 4.17. Workshops Monitoring and Evaluation for HIMS - all Governorates
Update the GPF to propose indicators to monitor progress toward this objective: These provide a means to assess achievement of intermediate results and activity implementation. → ***Reflect these in the Grant Performance Framework***
Technical Assistance: List the anticipated TA needs and timelines required to support this objective and plans for securing it (e.g., Gavi HSS, PEF/TCA, other sources?)
UNICEF is planning to hire a data manager for Equity and WHO planning to hire 1 Data manager, 1 Data analyst 3 Data Assistant. Appointment of data staff will help to address the technical gaps in areas of data collection, management, analysis and support overall data quality improvements through capacity building of staff, consultants and third-party personnel involved in data management. The TA will also provide support for the planning and implementation of regular surveys and assessments as per established guidelines. Work will focus on Immunization. - 1 NOB Data manager, - 1 NOA Data Analyst - 3 G5 Data Assistants (Hodeida, Ibb & Aden hubs)
Financing: Justify any requests for Gavi to support major recurrent costs (e.g. human resources) regardless of transition stage. → ***Countries in the preparatory and accelerated transition phase are restricted from using Gavi funds for recurrent costs*** *(please refer to the please refer to the Guidance on supporting countries' HR capacity, available here:* http://www.gavi.org/support/process/apply/additional-guidance/).

How much HSS budget is allocated to this objective:	**Years 1-2**	*1313685 US$*

→ ***Reflect the details in the budget and planning template***	**Years 3-5**	*854345 US$*
Please also provide details on the key cost drivers, inputs and assumptions required for the main activities of this objective, here:		

Objective 5: Improve EPI Management, Governance and Coordination to ensure effective and efficient delivery of Immunization services	
Timeframe:	2019-2023
Priority geographies/population groups or constraint(s) to coverage and/or equity to be addressed by the objective: → ***List to match those identified in Section B***	National; all levels from central to HFs
Describe the tailored interventions to address this constraint and provide evidence of efficacy of the intervention. Describe the critical national capacities that will be established or strengthened as a result of this investment.	
While various coordination forums for vaccination services - Health System Strengthening Coordination Committee (HSSCC), National EPI Task force and NITAG- are currently functional with clear terms of reference, the EPI Management, Governance and Coordination will be strengthened over the next 5 years. The objective is to empower the EPI program and team from the central level to the districts/governorates to take coordinated immediate decisions/steps to improve routine EPI under the umbrella of the MOPH&P and in accordance with the strategic directions and implement efficiently the national EPI new strategies developed in 2017. To do so, bi-annual and quarterly meetings focusing on strategic and operational challenges encountered, will be held and adequate decisions informed by the monitoring and surveillance system information. Besides, a bulletin on EPI performance will be produced on quarterly basis for dissemination to all levels of governance. At district level, different stakeholders involved in the health sector and community members will be informed about EPI through cross-sectoral meeting where facility performance, progress and plan for EPI activities will be analyzed.	
List approximately five (5) specific activities to be undertaken to achieve this objective: → ***Reflect these activities in the budget & planning template***	
5.1. Support bi-annual EPI meeting at central level with Minister, DGs, central EPI supervisors Partners WHO, UNICEF (with participation	

of governorates DG DHO, PHC directorate, EPI teams and Surveillance) 5.2. Support quarterly bulletin on EPI performance on quarterly basis for dissemination to all levels 5.3. Support meetings at governorate level 2 times per year 5.4. Support District Development Committee (DDC) – cross-sectoral meeting to analyze facility performance, progress and plan for EPI activities at district level and ensure that all sectors are informed about EPI
Update the GPF to propose indicators to monitor progress toward this objective: These provide a means to assess achievement of intermediate results and activity implementation. → ***Reflect these in the Grant Performance Framework***
Technical Assistance: List the anticipated TA needs and timelines required to support this objective and plans for securing it (e.g., Gavi HSS, PEF/TCA, other sources?)
No need
Financing: Justify any requests for Gavi to support major recurrent costs (e.g. human resources) regardless of transition stage. → ***Countries in the preparatory and accelerated transition phase are restricted from using Gavi funds for recurrent costs*** *(please refer to the please refer to the Guidance on supporting countries' HR capacity, available here:* http://www.gavi.org/support/process/apply/additional-guidance/).

How much HSS budget is allocated to this objective: → ***Reflect the details in the budget and planning template***	**Years 1-2**	*383534 US$*
	Years 3-5	*475401 US$*

Please also provide details on the key cost drivers, inputs and assumptions required for the main activities of this objective, here:

Objective 6: Supporting the Immunization Management Unit to improve coordination and resource utilization for ensuring effective and efficient use of EPI resources	
Timeframe:	2019-2023
Priority geographies/population groups or constraint(s) to coverage and/or equity to be addressed by the objective:	National; all levels from central to HFs

→ ***List to match those identified in Section B***	

Describe the tailored interventions to address this constraint and provide evidence of efficacy of the intervention. Describe the critical national capacities that will be established or strengthened as a result of this investment.

The Immunization Management unit of PEI will be strengthened to carry out day to day operations effectively, do better coordination of the technical working groups like NITAG and HSSCC etc as well pre auditing of the requests submitted over the next 5 years. The objective is to empower the Immunization Management Unit at central level to coordinate with field staff for improving EPI under the umbrella of the MOPH&P and in accordance with the strategic directions and implement efficiently the national EPI new strategies developed in 2017. Under this the salary of the Management unit staff will be supported in addition to the day to day operational cost and quarterly meetings of HSSC and every 4 months meeting of NITAG for focusing on strategic and operational challenges encountered and to agree on the changes to be made to EPI policy in the light of new developments in the field of immunization.

List approximately five (5) specific activities to be undertaken to achieve this objective:

→ ***Reflect these activities in the budget & planning template***

6.1 Support salary of the staff working in the Immunization Management Unit.
6.2 Support arranging quarterly meetings of HSSCC at central level with Health Minister, other line Ministries, DGs, Central EPI supervisors, WHO, UNICEF and partners.
6.3 Support arranging meetings of NITAG every 4 months at Central level
6.4 Support the day to day expenses of the IMU including supplies, travel, transportation etc.

Update the GPF to propose indicators to monitor progress toward this objective: These provide a means to assess achievement of intermediate results and activity implementation.

→ ***Reflect these in the Grant Performance Framework***

Technical Assistance: List the anticipated TA needs and timelines required to support this objective and plans for securing it (e.g., Gavi HSS, PEF/TCA, other sources?)

No need

Financing: Justify any requests for Gavi to support major recurrent costs (e.g. human resources) regardless of transition stage.

→ ***Countries in the preparatory and accelerated transition phase are restricted from using Gavi funds for recurrent costs*** *(please refer to the please refer to the Guidance on supporting countries' HR capacity, available here:* http://www.gavi.org/support/process/apply/additional-guidance/).		
How much HSS budget is allocated to this objective:	**Years 1-2**	*383800 US$*
→ ***Reflect the details in the budget and planning template***	**Years 3-5**	*575700 US$*
Please also provide details on the key cost drivers, inputs and assumptions required for the main activities of this objective, here:		

Template for Supply Chain (Applicable even if country is not applying for CCEOP):	
Objective:	
Timeframe:	2019-2023
Priority geographies/population groups or constraint(s) to coverage and/or equity to be addressed by the objective: → ***List to match those identified in Section B***	All levels
Describe the tailored intervention to address the particular supply chain constraints and provide evidence of efficacy of the intervention:	
…	
List priority activities for each of the five supply chain fundamentals: *Describe the activities related to supply chain fundamentals – for those planned in years1-2 and those planned in the outer years (3-5).* → ***These activities should be linked to the latest EVM Improvement Plan and be reflected in the operational workplan & budget***	
1. Continuous Improvement	
• ***First two years (Years 1-2)*** • Supportive supervision to the EPI staff at Central, Governorate and district levels on vaccine management to enhance their performance and motivation. • Continue to develop a comprehensive national supply chain management plan, building upon Effective Vaccine Management (EVM) assessments and improvement plans	
• ***Outer years (Years 3-5)*** • Provide warm protective clothing for staff working in cold rooms • Develop SOP which sets out a contingency plan in the event of equipment failure or other emergency • Install adequate voltage regulators and stabilizers for all cold and freezer rooms and refrigeration units. • Allocate & regularly recharge fire extinguisher according to the store specification in line with the recommendation of the national fire authorities	
2. Management/Leadership	
• ***First two years (Years 1-2)*** • In the HSS funding, there are plans to conduct Improvement training on EPI for CCMs in all the 23 governorates and district	

level. The training is planned in phases; it's completed in 4 governorates, ongoing in 8 governorates. This will improve the capacity of supply chain managers many of whom are new to their managerial responsibilities. (See # 6 EVM IP)

- The capacity of cold chain technicians (CCT) will be strengthened through the collaboration efforts with the recruited technical staff for the development of SOPs for preventative and corrective maintenance of CCE and management of spare parts.
- The cold chain technician will have their capacity enhanced in both technical and operational skills as well as managerial skills through HSS. For the implementation the following are planned;
    - Development of annual capacity building plan
    - Update of the training manuals to include training methodology and tools (e.g. competencies self-assessment)
    - Implement the order of Minister regarding giving of incentives to EPI staff (CCT & HWs)
- This training will ensure that the management of the supply system is in line with national policy and standards are also provided for the requisite skills to improve the manager's performance on the country and sub country immunization supply chain systems. (See #6. EVM IP)

- ***Outer years (Years 3-5)***
    - Continuous strengthening of the technical and operational capacity of the maintenance EPI team to ensure sustainability of cold chain equipment maintenance and electrification system.
    - Currently the security situation is unpredictable and MoPHP Govt. of Yemen is unable to pay the vaccine cost *(Traditional and GAVI under co-financing),* similarly they are unable to pay for operational cost of EPI centres and procurement and maintenance and repair of CCEs, if situation continues like this which is more probably to be the case in coming 2-3 years, then the country will depend on partners for the support however if security situation will improve then there are chances for the financial support from MoPHP. However after 1 -2 years the situation will be assessed and if situation is improved then exit strategy will be developed.
    - Inauguration of national logistics working in addition to the existing coordinating group for the country with cleared TORs
    - A monthly monitoring and quarterly supportive supervision of all stores and health facilities is a priority to reinforce the capacities of the staff and ensure equipment efficiency
    - Provide a complete maintenance kit for maintenance engineers in workshops at the level of the centre and the provinces
    - Preparation of supervisors' guide on supervision, evaluation and analysis

- Implementation of a training course for maintenance technicians in sub-workshops in the governorates
- Provide a mobile workshop (car maintenance). (See 2017 annual work plan)

3. Data for Management

- ***First two years (Years 1-2)***
  - Enhance the capacity (knowledge, skills and practice) of healthcare providers and managers of national immunization data. This skill is critical for managers at the country level to ensure that interventions and activities are supported by data. In addition, the activity includes
  - Provision of 107 computers and printers for vaccine stores at 23 governorates and 84 districts

- ***Outer years (Years 3-5)***
  - Introduction of electronic statistics system on the network including the cooling chain
  - Implementation of a self-assessment program for the accuracy of immunization data and quality of performance (DQS) Abyan - Saada - Jouf - Marib - Baidah - Taiz - Lahj - Aden
  - Training of governorate supervisors and statisticians on the electronic system (statistics - cooling series - vaccines)
  - Provision of 30D TMD temperature recorders in all refrigerators and freezers at the intermediate and peripheral stores
  - Provision of continuous temperature monitoring and recorders in all refrigerators and freezers at the CVS
  - Automate the CVS with continuous monitoring device that have alarm system connected to the main operator.
  - Conduct temperature mapping in all cold and freezer rooms to support evidence-based arrangement of vaccines. (See EVM IP)
-

4. Cold Chain Equipment (including maintenance)

- How will the country ensure that aspects of maintaining the cold chain are addressed (e.g. preventive and corrective maintenance, monitoring functionality, technicians, financing for maintenance, spare part procurement etc.)?
- What is the frequency of preventative and corrective maintenance that the country commits to (supported by partners)?
- How will the country monitor the completion of preventive and corrective maintenance?
- Indicate the sources of funding for planned maintenance activities
- How will the country dispose of obsolete and irreparable equipment replaced by new equipment?

- ***First two years (Years 1-2)***

- A combination of Fridge-Tag2, stem and Dial thermometers are in use at all the levels of the supply chain. Manual temperature monitoring chart is in use for daily monitoring of the CCE.
- The country through CCEOP support plans to install the following TMD and remote temperature monitoring (RTM) devices at selected storage and HFs, and will be procured at the initial support phase.
    - (1)TMD_30DTR;Trix 8 model – 420 units (This will be used for the HFs)
    - 2) TMD_30DTR; Fridge-Tag2 model – 889 units (This will be used for the district stores)
    - (3) RTMD_Fridge-tag3 GSM model – 12 units.(This will be installed at the central vaccine store)
- The trained CC technicians will monitor and ensure timely and appropriate action is taken in the event of temperature excursions.
- The units will ensure timely and appropriate action is taken by the technician in the event of temperature excursions.
- The RTMD will enable managers and decision makers to:
- Remotely monitor CC temperature, diagnose and repair certain refrigerator models
- Respond to cold chain failure faster by making informed decision on spare parts quantification and ordering requirements
- Turn on generator manually (if not on AUTO Mode) when mains power fails.

- ***Outer years (Years 3-5)***
    - A combination of Fridge-Tag2, stem and Dial thermometers are in use at all the levels of the supply chain. Manual temperature monitoring chart is in use for daily monitoring of the CCE.
    - The country through CCEOP support plans to install the following TMD and remote temperature monitoring devices at selected storage and HFs;
    - (1)TMD_30DTR_ Tix 8 model – 420 units (2) TMD_30DTR_Fridge-Tag2 model – 889 units; (3) RTMD_Fridge-tag3 GSM model – 12 units.
    - The trained CC technicians will monitor and ensure timely and appropriate action is taken in the event of temperature excursions. With the use of the RTMD, this will enable managers and decision makers to: a) Remotely monitor CC temperature, diagnose and repair certain refrigerator models (b) Respond to cold chain failure faster by making informed decision on spare parts quantification and ordering (c) Turn on generator manually (if not on AUTO Mode) when mains power fails (d) Advice on selection of appropriate and high performance CCE during procurement.

5. System design (all countries should answer) *If the country is applying for CCEOP, also indicate how system design considerations impacted the choice of CCE for which the CCEOP support is requested.*

- ***First two years (Years 1-2)***

Distribution system will greatly be improved through the HSS fund which will support the following activities;

- Engagement of a supply chain technical assistance to support in the improvement of data collection, analysis and system optimization
- Fundamentals must be in place – a manager with expertise, with plan and capacity to monitor and manage the supply chain in order to strengthen the management system centred on training, experience, authority and available resources to manage the supply chain.
- Developing a country-level dashboard of key supply chain indicators and targets to monitor and manage supply chain performance and implementation of improvements in line with the comprehensive plans. (See EVM IP, Annex 6)

- ***Outer years (Years 3-5)***

- Plan and implement the distribution of the uninstalled CCE and some governorate stores to the district stores where there is CCC gaps.
- Procure at least one 20-ton refrigerated truck with temperature monitoring system for the CVS for distribution of vaccines to the lower level

Describe how the sustainability of these activities will be ensured in the future:

There was a decrease in the national immunization coverage in 2016 as well as the districts level with 36% of the districts recorded Penta 3 coverage lesser than 80% and 56% of the districts have Penta 3 coverage lower than 80%. In 2016 35% of the districts have Penta 3 coverage lesser than 80% and 53% of the districts have Penta 3 coverage less than 80% respectively. In other to sustain the milestone achieved in 2016 the approval of the CCEOP support will help improve and boost the performances in the following areas;

- Upgrade of the cold chain and logistics system in line with the suitability for each level
- Provision of efficient services and low maintenance costs
- Improve immunization delivery through a reliable CCE
- Increase routine immunization coverage and equity target
- Improve effective vaccine management and subsequently increase control of vaccine preventable diseases

List indicators to monitor progress toward objective: → ***Reflect these in the Grant Performance Framework*** If requesting CCEOP support, include mandatory indicators (please refer to the programming guidance, here: http://www.gavi.org/support/process/apply/hss/)		
Detail TA needs required to support this activity and clarify how much is not covered by PEF/TCA.		
…		
How much HSS and CCEOP budget is allocated to this objective → ***Insert here same figures as in table 2.4. and also reflect these in the budget and planning template***	**Years 1-2**	*E.g. US$ XX*
	Years 3-5	*E.g. US$ XX*
Please also provide details on the key cost drivers, inputs and assumptions required for the main activities of this objective, here:		

Part E: Signatures – Endorsement of the Programme Support Rationale

Government signature form

The Government of (country) would like to expand the existing partnership with Gavi for the improvement of the immunization programme of the country, and specifically hereby requests Gavi support for the portfolio as outlined in this Programme Support Rationale (PSR):

The Government of (country) commits itself to the continued development of national immunization services on a sustainable basis in accordance with the national health and immunization strategic plans. The Government requests that Gavi and its partners contribute financial and technical assistance to support immunization of children as outlined in this application.

The Government of (country) will fulfill the co-financing commitments set out in this PSR as expressed in doses or the equivalent dollar amount in Part A above.

We, the undersigned, affirm that the objectives and activities in this request are fully aligned with the national health and immunization strategic plans (or equivalent), and that funds for implementing all activities, including domestic funds and any needed vaccine co-financing will be included in the annual budget of the Ministry of Health.

We, the undersigned, further affirm that the requested funding for salaries, salary top-ups/allowances, per diems and incentives does not duplicate funding from other sources (e.g. from other donors).

We, the undersigned, further affirm that the terms and conditions of the Partnership Framework Agreement between Gavi and the Country remain in full effect and shall apply to any and all Gavi support made pursuant to this application.[21]

Minister of Health (or delegated authority)		Minister of Finance (or delegated authority)	
Name		**Name**	
Date		**Date**	
Signature		**Signature**	

[21] *In the event the Country has not yet executed a Partnership Framework Agreement, the terms and conditions of this application shall apply to any and all Gavi support made pursuant to this application.*

ANNEX

1. List of priority districts

Gov	District	Score	Total population	Under 1 children	Unvaccinated children	%HF supported by WB through UNICEF	%Hospitalsupported by WB through WHO
Aden	Al Mualla	5	75 718	1 658	870	33%	0%
	Khur Maksar	5	70 088	1 714	589	17%	0%
Al_byada'a	Al Baida City	5	44 838	2 445	1 074	100%	100%
	Mukayras	5	45 586	2 496	40	19%	100%
Al_Hodydah	Al Hawak	5	221 518	5 380	2 027	0%	50%
	Al Khawkhah	4	44 695	2 715	551	29%	0%
	Alluhayyah	5	165 588	5 780	2 048	7%	0%
AL_jawf	Al Ghayl	5	3 807	607	370	0%	0%
	Al Hamidat	5	26 890	1 089	677	33%	0%
	Al Hazm	5	40 470	1 419	513	75%	100%
	Al Khalaq	5	19 182	778	327	100%	0%
	Al Maslob	5	14 332	552	300	25%	0%
	Al Matammah	5	40 316	1 371	669	17%	0%
	Al Matun	5	28 608	1 067	767	50%	0%
	Az Zahir	5	32 599	1 382	720	13%	0%
	Bi'rat Al Anan	5	85 027	2 726	1 208	32%	100%
	Kharab Al Marashi	5	85 669	1 589	1 033	40%	0%
	Khob Wa Asha'af	5	94 915	5 104	3 786	9%	0%
	Rajuzah	5	106 506	4 148	2 870	57%	0%
AL_Mahrah	Almasilah	5	18 024	601	301	14%	0%
	Man'ar	5	8 909	225	138	22%	0%
Amaran	Harf Sufyan	5	55 533	2 182	492	30%	0%
Hajah	Bakil Al Mir	4	32 071	1 245	119	17%	0%
	Harad	5	15 474	4 863	4 392	0%	0%
	Midi	4	22 404	1 148	65	14%	0%
	Mustaba	4	82 801	2 005	154	31%	0%
Ibb	Al mashan nah	5	142 786	11 009	4 359	31%	0%
Lahj	Al Had	5	74 179	1 566	883	30%	0%
	Al Moflehi	5	53 408	1 691	821	55%	0%
Ma'areb	Majzer	5	18 794	483	136	33%	0%
	Sirwah	5	11 914	830	596	17%	0%
Moklla	Adh Dhlia'ah	5	26 589	755	379	9%	0%
	Hajr	5	37 409	1 001	633	10%	100%
Sa'adah	Adh Dhahir	5	23 249	1 175	977	29%	0%
	Al Hishuah	5	26 858	982	744	38%	0%
	As Safra	5	85 500	2 069	1 523	33%	0%
	Baqim	5	15 439	1 616	1 380	33%	0%
	Ghamir	5	28 294	694	471	50%	0%

	Haydan	5	54 933	2 784	2 062	33%	0%
	Kitaf and Al Buqa	5	44 837	1 644	1 355	30%	100%
	Majz	5	106 486	2 559	1 855	42%	0%
	Munabbih	5	76 550	2 332	1 965	43%	0%
	Qitabir	5	34 512	563	399	29%	0%
	Razih	5	43 746	2 925	1 792	40%	0%
	Sa,adh	4	53 467	2 958	0	50%	100%
	Sahar	5	221 362	4 672	3 571	35%	0%
	Saqayn	5	93 377	2 173	1 783	31%	0%
	Shada	5	4 678	665	582	29%	0%
Sana'a city	As Sabain	5	561 026	27 779	7 296	36%	0%
	At tahrir	5	113 902	7 565	2 494	33%	50%
	Ath'thaorah	5	292 590	7 827	2 892	50%	0%
	Az'zal	5	197 223	6 145	2 068	67%	0%
	Bani Al Harith	5	333 494	17 105	2 752	0%	0%
	Ma'ain	5	489 310	15 340	4 411	30%	33%
	Shu'Aub	5	387 367	10 374	3 576	20%	0%
Sana'a Govt.	Nahm	4	18 772	1 694	424	28%	0%
Shabwah	Ain	5	31 056	1 049	574	10%	0%
	As sa,aid	5	47 089	2 252	693	50%	33%
	Osailan	5	40 783	949	495	27%	0%
Taiz	Al Mukha	5	70 036	3 164	1 752	25%	0%
	Al Mudhaffar	4	158 993	3 588	0	80%	0%
	Al Qahirah	5	116 031	14 735	11 157	60%	33%
	Al Wazi'iyah	5	26 751	1 730	892	31%	0%
	Dhubab	5	23 342	744	593	20%	0%
	Sabir Al Mawadim	5	146 261	6 013	2 259	22%	0%
	Salh	5	101 738	3 319	2 379	20%	0%
Grand Total	**66**		**5 915 700**	**234 809**	**101 075**		

2. List of priority districts covered by EHNP

Gov	Gavi selected District	Under WB program.	EPI services	Functionality status	Score	Total pop	Under 1 children	Unvacci -nated children
Aden	Al Mualla	yes	yes	fully	5	75 718	1 658	870
	Khur Maksar	yes	yes		5	70 088	1 714	589
Al_byada'a	Al Baida City	yes	yes	fully	5	44 838	2 445	1 074
	Mukayras	yes	yes	fully	5	45 586	2 496	40
Al_Hodydah	Al Hawak	no			5	221 518	5 380	2 027
	Al Khawkhah	yes	yes	fully	4	44 695	2 715	551
	Alluhayyah	yes	yes	fully	5	165 588	5 780	2 048
AL_jawf	Al Ghayl	no			5	3 807	607	370
	Al Hamidat	no			5	26 890	1 089	677
	Al Hazm	yes	yes	partially	5	40 470	1 419	513
	Al Khalaq	yes	yes	partially	5	19 182	778	327
	Al Maslob	no			5	14 332	552	300
	Al Matammah	yes	yes	partially	5	40 316	1 371	669
	Al Matun	no			5	28 608	1 067	767
	Az Zahir	yes	yes	fully	5	32 599	1 382	720
	Bi'rat Al Anan	yes	yes	partially	5	85 027	2 726	1 208
	Kharab Al Marashi	yes	na	partially	5	85 669	1 589	1 033
	Khob Wa Asha'af	no			5	94 915	5 104	3 786
	Rajuzah	yes	yes	partially	5	106 506	4 148	2 870
AL_Mahrah	Almasilah	yes	yes	fully	5	18 024	601	301
	Man'ar	no			5	8 909	225	138
Amaran	Harf Sufyan	no			5	55 533	2 182	492
Hajah	Bakil Al Mir	yes	yes	fully	4	32 071	1 245	119
	Harad	yes	yes	fully	5	15 474	4 863	4 392
	Midi	no			4	22 404	1 148	65
	Mustaba	yes	yes	fully	4	82 801	2 005	154
Ibb	Al mashan nah	yes	yes	fully	5	142 786	11 009	4 359
Lahj	Al Had	no			5	74 179	1 566	883
	Al Moflehi	no			5	53 408	1 691	821
Ma'areb	Majzer	no			5	18 794	483	136
	Sirwah	no			5	11 914	830	596
Moklla	Adh Dhlia'ah	yes	yes		5	26 589	755	379

	Hajr	yes	yes		5	37 409	1 001	633
Sa'adah	Adh Dhahir	no			5	23 249	1 175	977
	Al Hishuah	no			5	26 858	982	744
	As Safra	yes	yes	fully	5	85 500	2 069	1 523
	Baqim	no			5	15 439	1 616	1 380
	Ghamir	yes	yes	fully	5	28 294	694	471
	Haydan	no			5	54 933	2 784	2 062
	Kitaf and Al Buqa	yes	yes		5	44 837	1 644	1 355
	Majz	no			5	106 486	2 559	1 855
	Munabbih	yes	yes		5	76 550	2 332	1 965
	Qitabir	yes	yes	partially	5	34 512	563	399
	Razih	no			5	43 746	2 925	1 792
	Sa,adh	yes	yes	partially	4	53 467	2 958	0
	Sahar	yes	yes	partially	5	221 362	4 672	3 571
	Saqayn	no			5	93 377	2 173	1 783
	Shada	no			5	4 678	665	582
Sana'a city	As Sabain	yes	yes	fully	5	561 026	27 779	7 296
	At tahrir	yes	yes	fully	5	113 902	7 565	2 494
	Ath'thaorah	yes	yes	fully	5	292 590	7 827	2 892
	Az'zal	yes	yes	fully	5	197 223	6 145	2 068
	Bani Al Harith	yes	yes	fully	5	333 494	17 105	2 752
	Ma'ain	yes	yes	fully	5	489 310	15 340	4 411
	Shu'Aub	yes	yes	fully	5	387 367	10 374	3 576
Sana'a Govt.	Nahm	yes	yes	fully	4	18 772	1 694	424
Shabwah	Ain	no			5	31 056	1 049	574
	As sa,aid	yes	yes	fully	5	47 089	2 252	693
	Osailan	yes	yes	fully	5	40 783	949	495
Taiz	Al Mukha	no			5	70 036	3 164	1 752
	Al Mudhaffar	yes	yes	fully	4	158 993	3 588	0
	Al Qahirah	yes	yes	fully	5	116 031	14 735	11 157
	Al Wazi'iyah	yes	yes	fully	5	26 751	1 730	892
	Dhubab	no			5	23 342	744	593
	Sabir Al Mawadim	yes	yes	fully	5	146 261	6 013	2 259
	Salh	no			5	101 738	3 319	2 379
Grand Total	**66**					**5 915 700**	**234 809**	**101 075**

3. Overall implementation progress, lessons learned and best practices

Objective 1: Enhancing equitable access to immunization and integrated PHC services		
Achievement status	*Challenges*	*Lessons learned*
Implementing integrated outreach (IO) rounds		
Five Rounds Implemented (with contribution from other donors)	- Releasing of funds in a timely manner by different stakeholders, lack of cash at banks cause deviation of activities implementation from planned schedule - Competing priorities; Cholera, polio, measles mop-up - Securing medicines and commodities on time - Communities and people expectation about receiving diverse health services - Sustainability of a costly IO rounds - Delay in the implementation of IORs	- More advanced planning and efficient system for funds disbursement, e.g. Third-Party disbursement - Ensuring quality of services of IO through better equipped skilled staff - Increasing community demands - Timely implementation of IOR
Securing medicines for IO rounds and medical supplies for IO teams		
Procured (with contribution from other donors)	- Most of the EPI centres not functional due to availability of electricity - More than 80% of cold chain equipment obsolete (Cold chain Assessment 2017) - Unreliable electricity, high cost of gas - Capacity of the maintenance technicians to maintain cold chain equipment - Spare part availability at local market - Issues regarding maintenance and repair	- Most of the EPI centres not functional due to availability of electricity - More than 80% of cold chain equipment obsolete (Cold chain Assessment 2017) - Unreliable electricity, high cost of gas - Capacity of the maintenance technicians to maintain cold chain equipment - Spare part availability at local market - Issues regarding maintenance and repair - Need to strengthen maintenance &repair mechanism.
Printing outreach materials (registers, forms)		

Completed	- Delay in submission of request and specifications	- Timely submission of request and specification for printing
Integrated training for physicians (9 days)		
Completed	- Turnover of trained physicians - Quality of training	- Incentives for physicians - Set up procedures to ensure regularity regarding eligibility for training - Building capacity of more than one physician per facility to ensure availability of at least one trained staff to provide services
Support operational cost of EPI at all levels (communication, fuel, cold chain maintenance)		
Operational support provided to targeted Health facilities/EPI units	- MoPH&P don't have funds to provide operational cost of health facilities - Need to operationalize more EPI units. - Most of EPI centers are non-function	- Need to provide operational cost to ensure the functionalization of EPI centers
Micro-Planning workshops for districts at district level		
	- Difficult to do on regular basis. - Ensuring funds for doing microplanning exercise	- Detail Micro-planning involving health workers at facility level - Micro plans need to be updated on regular basis.
Conducting Mid-Level Management course for districts supervisors in the targeted districts		
MLM training conducted		- Quality of training and training methodology (Competency Based)
Conducting refresher training for EPI health workers in all governorates		
Completed		- Revision of refresher training module due to recent changes in EPI - Quality of training and training methodology (Competency Based)
Furnishing and equipping the EPI meeting hall (completed)		
Integrated supervision from Central to Gov level		
Support provided to EPI staff at central level for monitoring & supervision	- No funds with MoPH&P regarding monitoring and supervision - Adequate support to sustain the activity	- Support provided to EPI staff for monitoring & supervision at field level

Annual / Mid-year EPI meeting for governorates at the central level		
Completed	- In security situation, difficult to bring EPI staff from Governorates - Organizing the activity on time - In security situation, difficult to bring EPI staff from Governorates - Organizing the activity on time. - Priority of partners changed.	- Midyear EPI review meetings organized at Governorate level - Need to organize mid-year and end year review meetings on regular basis
Vaccination of targeted high-risk groups refugees (Somalis, Syrians), marginalized, IDPs, Migrants} through mobile & transient teams in rural and urban areas		
Completed	- More than 3.0 Million became IDPs - Continuous movement	- Regular mapping of targeted group and organizations in areas where targeted group settlement - Effective cooperation with organizations - More vaccination temporary spots
Integrated training for Health Workers (16 days)		
Completed in 2015 & 2016. Not in 2017(Request under process with WHO)		- Quality of training and training methodology (Competency Based)
Performance based funding to motivate, GHOs, DHOs, private providers, SCOs to improve service provision and EPI coverage using innovative initiatives and modalities		
Performance based incentives provided regularly to the staff	- The numbers have been changing regularly	- Need to support HWs involved in EPI
Conducting annual review and planning meeting with GHOs		
Completed	- In security situation, difficult to bring EPI staff from Governorates - Organizing the activity on time.	- Midyear/Annual EPI review meetings need to be organized at Governorate level - Need to organize mid-year and end year review meetings on regular basis -

Training on effective vaccine management for districts staff (supervisor + storekeeper) **Vaccine Software System Management training for district staff** **Training of the central & gov. supervisors for integrated outreach and supervision activities** **Performance based incentives for staff involved in EPI activities at central, governorate and district levels** Completed (supported by other donor funds)		
Objective 2: Improving the integrated health information including surveillance, monitoring and evaluation system and research		
Achievement status	*Challenges*	*Lessons learned*
Procuring 5 vehicles for supervision at governorate level		
2015: 3 vehicles procured & handed over to MoPH&P 2016: 5 vehicles purchased & distributed to 5 Governorates for surveillance coordinators 2017: Request for 5 vehicles for 5 other Governorates in process	- Difficult to track the vehicles. - Utilization for the same purpose for which the vehicles provided	- Transportation support need to be provided to Govt. staff
Training of surveillance focal points at Governorate and District level on data collection, analysis and reporting		
2015 & 2016: completed 2017: conducted (23 Govern. & 333 district Sup and 1,500 HF staff trained for 2 days)	- Trainings of governorate level Supervisors conducted in Sana'a and problem of participants travelling to Sana'a from various governorates	- In 2017 the trainings were conducted at 2 venues Sana'a and Aden
Sensitization meetings for Health workers at HF for VPDs	- Rapid turnover of staff due to ongoing conflict	-
Training of Lab Staff (conducted at 2 venues) in 2016		

Review and update National surveillance guidelines for communicable diseases including EPI diseases conducted in 2016. Surveillance Guidelines and form updated, printed and distributed		
Training of all relevant Surveillance staff on the revised guidelines conducted in 2016		
Objective 3: Community empowerment and civil society participation in provision of immunization and essential health services including and not limited to community		
Holding 26 training sessions of 3 days on the community communication to raise beneficiaries' awareness for the targeted districts.		
Completed	- Lack of capacity of existing CSOs	- Assess CSOs capacity - Building CSOs capacity - Focus on involvement of CSOs
Support Communication and Social mobilization activities in Governorates		
Conducted in 2017	-	- Need for more funds for communication activities
Training of CHVs	- Lack of funds for training of CHVs in EPI - CHVs are under Nutrition programme, more focus on Nutrition	- Need to streamlined the CHVs training in EPI - Ensure that trained CHVs are involved in EPI