

CAMBODIA
National Immunization Strategy
2021-2025
and beyond up to 2030



National Immunization Program
National Maternal and Child Health Center
Ministry of Health
Phnom Penh, 2022

**KINGDOM OF CAMBODIA
NATION RELIGION KING**



Ministry of Health

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FOREWORD

The National Immunization Program, Ministry of Health, Cambodia was established in 1986 and has been saving the lives of children and pregnant women, as well as protecting entire communities from vaccine preventable diseases over the three decades. Notable success includes maintaining the polio eradication status, maintaining the elimination of maternal and neonatal tetanus, and constant expansion of immunization service to reach to the unreached, by working closely with partners, WHO, UNICEF, and GAVI.

During COVID-19 response, the Cambodia health system worked collaboratively with the whole sector of Government, to suppress infection from SARS-CoV-2 and prevent associated illness and death that has been successful by global comparisons. COVID-19 vaccination is one of the key strategic objectives to protect the vulnerable populations which has been effectively rolled out in the country. COVID-19 pandemic brought initial disruption maintaining the routine immunization system, however, Cambodia has been strengthening it including catch up and outreach activities, ensuring vaccine coverage equity and health system resiliency in the past two years.

The Cambodia National Immunization Strategy 2021-2025 and beyond up to 2030 was developed by the National Immunization Program in alignment with the new strategic guidance by WHO, *Regional Strategic Framework for Vaccine-Preventable Diseases and Immunization in the Western Pacific 2021-2030* and the *Immunization Agenda 2030*, and in line with the *Gavi 5.0 strategy*. The strategy also supports the National Health Strategic Plan 2022-2030 and specifically provides a clear vision for national immunization program, strategies and interventions, monitoring and evaluation framework, towards the outcomes by immunization system as the important component of primary health care. The strategies are made in consideration of COVID-19 vaccination experience beyond childhood immunization as opportunities, to a comprehensive long-term strategy including life course immunization in Cambodia.

The Ministry of Health takes this opportunity to acknowledge WHO for technical and financial support for developing this comprehensive Strategic Plan towards sustainable immunization system in Cambodia.

Phnom Penh, 24 / Jan / 2022

Secretary of State



Prof. Eng Huot

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ACRONYMS

ACSM	Advocacy, Communication and Social Mobilization
ADB	Asian Development Bank
AEFI	Adverse Events Following Immunization
AFP	Acute Flaccid Paralysis
AFR	Acute Fever and Rash
AOP	Annual Operational Plan
BCG	Bacillus Calmette Guerin (TB vaccine)
USCDC	US Centres for Disease Control and Prevention
CHAI	Clinton Health Access Initiative
CMS	Central Medical Store
cMYP	Comprehensive Multi-Year Plan
COVID-19	SARS-CoV-2 Coronavirus Disease
CRS	Congenital Rubella Syndrome
DDF	Department of Drugs and Food
DFAT	Department of Foreign Affairs and Trade, Government of Australia
DQA	Data Quality Assessment
DT/Td	Diphtheria-Tetanus
EPI	Expanded Program on Immunization
EVM	Effective Vaccine Management
FETP	Field Epidemiologist Training Program
Gavi	Gavi, The Vaccine Alliance
GDP	Gross Domestic Product
GPEI	Global Polio Eradication Initiative
HC	Health Centre
HCMC	Health Centre Management Committee
HCW	Health Care Worker
HepB	Hepatitis B Vaccine
HIV	Human Immunodeficiency Virus
HPV	Human Papillomavirus Vaccine
HSS	Health System Strengthening
HSP	Health Strategic Plan
HWDP	Health Workforce Development Plan
IA	Immunization Agenda
ICC	Immunization Inter-agency Coordination Committee
IEC	Information Education Communication
IIP	Immunization in Practice
IPV	Inactivated Polio Vaccine
JE	Japanese Encephalitis
JRF	Joint Reporting Form
KABP	Knowledge Attitude Behaviour Practice
MOEF	Ministry of Economy and Finance
MOH	Ministry of Health
MCH	Mother and Child Health
MICS	Multiple Indicator Coverage Survey
HIS	Health Information System
MLM	Mid-Level Management
MOU	Memorandum of Understanding

MR	Measles and Rubella
NCC	National Certification Committee
NCD	Non-Communicable Disease
NDVP	National Deployment Vaccination Plan (COVID-19)
NSDP	National Strategic Development Plan
NGO	Non-Governmental Organization
NIP	National Immunization Program
NIPH	National Institute of Public Health
NIS	National Immunization Strategy
NITAG	National Immunization Technical Advisory Committee
NMCHC	National Maternal and Child Health Centre
NNT	Neonatal Tetanus
NRA	National Regulatory Authority
NVC	National Verification Committee
NVI	New Vaccine Introduction
OD	Operational District
OOP	Out of Pocket Payment
OPV	Oral Polio Vaccine
PCV	Pneumococcal Conjugate Vaccine
Penta	Pentavalent Vaccine (DTP-HepB-Hib)
PFM	Public Financial Management
PHC	Primary Health Care
PHD	Provincial Health Department
PIE	Post Introduction Evaluation
RMNCH	Reproductive Maternal New-born Child Health
RRL	Regional Reference Laboratory
RV	Rotavirus Vaccine
SDG	Sustainable Development Goals
SIA	Supplementary Immunization Activities
SOP	Standard Operating Procedures
TA	Technical Assistance
TB	Tuberculosis
TOR	Terms of Reference
TT	Tetanus Toxoid
TWGH	Technical Working Group for Health
UCC	Ultra Cold Chain
UHC	Universal Health Coverage
UNFPA	United Nations Population Fund
UNICEF	United Nations International Children's Emergency Fund
VDPV	Vaccine Derived Poliovirus
VHSG	Village Health Service Group
VII	Vaccine Independence Initiative
VPD	Vaccine Preventable Disease
VVM	Vaccine Vial Monitor
WASH	Water, Sanitation and Hygiene
WCBA	Women of Childbearing Age
WB	World Bank
WHO	World Health Organization
WPRSF	Western Pacific Regional Strategic Framework for VPD and Immunization 2021–2030

EXECUTIVE SUMMARY

As the last strategic plan on immunization in Cambodia ended in 2020 (cMYP 2016-2020), the Ministry of Health (MOH) initiated the development of a National Immunization Strategy (NIS) for the period 2021-2025, based on the new strategic guidance recently published by WHO. The NIS development was led by the National Immunization Program (NIP) with the engagement and active participation of all national and provincial stakeholders. The NIS was developed in alignment with national, regional and global strategic documents, mainly the National Strategic Development Plan (NSDP) 2019-2023, the Health Strategic Plan (HSP) 2022-2030, the Western Pacific Regional Strategic Framework for VPD and Immunization 2021-2030 (WPRSF), the Immunization Agenda 2030 and the Gavi 5.0 Strategy.

The NIS development was based on a thorough situation analysis of the immunization program, structured in the following way: a) a desk review of all available immunization and health system documents, b) individual consultations with all stakeholders involved in immunization, and c) findings of the subnational workshops held with all 25 Provincial Health Departments (PHDs). The situation demonstrated that, although the immunization program in Cambodia has made considerable progress in the last decade, there are still many challenges inside each of the immunization system components.

The below proposed priorities and strategies were discussed, elaborated and agreed. Main interventions corresponding to each strategy are enumerated in the core text of this NIS document. It is important to note that while the NIS strategies are outlined within eight immunization system components for ease of reference, the strategies are interconnected and intended to be implemented as part of an overarching vision for the immunization program.

NIS 2021-2025 strategies

Immunization governance and program management

- ❖ Ensuring strategic changes within the Technical Working Group for Health (TWGH) to integrate essential functions of an Immunization Inter-agency Coordination Committee to meet current and future challenges, including COVID-19 vaccination integration into the routine immunization
- ❖ Upgrading the NIP in the context of expanded immunization program and its present roles and responsibilities, and strengthening management and coordination at all levels within the health system structure

Human resources management

- ❖ Securing and properly distributing knowledgeable, skilled and motivated professionals to implement, manage and monitor the immunization program and its performances at all levels
- ❖ Ensuring the expansion of qualified staff to meet future challenges, like COVID-19 vaccination integration into the routine immunization

Vaccine supply, vaccine management, cold chain and logistics

- ❖ Expanding and strengthening immunization supply chain capacities to meet current and future challenges, including COVID-19 vaccination integration into the routine immunization
- ❖ Ensuring the implementation of all recommendations from the 2020 effective vaccine management (EVM) assessment at the different levels

Service delivery and new vaccine introduction

- ❖ Expanding and strengthening the capacity and quality of service delivery to regularly reach unreached, under-immunized and zero-dose children as a platform for stronger primary health care (PHC), considering also the COVID-19 vaccination integration into the routine immunization and the introduction of selected new vaccines
- ❖ Exploring further integration of immunization service delivery with other program activities and services to optimize the use of resources and to ensure synergies; For instance, annual booster dose

for COVID-19 for adults offers a useful platform to screen for underdiagnosed conditions with high prevalence, such as diabetes, hypertension or hepatitis

Immunization coverage and performances monitoring

- ❖ Improving the quality and reliability of all immunization coverage and performance monitoring indicators to optimally plan, implement and manage the immunization program, including COVID-19 vaccination data
- ❖ Strengthening the monitoring and the management of “quality-assured” and validated immunization data, including data analysis, use for program management and decision making, at all levels by all stakeholders

VPD surveillance, eradication/elimination/control initiatives and outbreak response

- ❖ Expanding and strengthening the capacity and quality of the VPD and COVID-19 surveillance and outbreak response to meet current and future challenges, considering the increased scale generated by COVID-19 surveillance and response
- ❖ Strengthening the VPD surveillance, eradication/elimination/control initiatives and outbreak preparedness and response to meet the WHO Western Pacific Region’s standards and targets

Demand generation and communication

- ❖ Expanding and strengthening the demand generation and communication strategy to meet current and future challenges, considering the increased scale generated by COVID-19 vaccination integration into the routine immunization
- ❖ Strengthening the partnership with local authority to better identify and reach hard-to-reach communities, enhancing also their vaccine confidence and acceptance

Immunization program financing

- ❖ Securing sustainable and adequate domestic financing for vaccine supply and immunization operations, including new vaccine introduction and COVID-19 vaccination integration into routine immunization
- ❖ Strengthening immunization costing, budgeting and financing mechanisms within the health financing system and using public financial management (PFM) principles

Immunization in Cambodia at the horizon 2030

Although considered a success-story, the impact of the COVID-19 response on routine activities was substantial, with routine immunization coverage decreasing, high burden on the program, especially considering the current NIP structure, functions and resources. It is therefore important to raise the concern of the capacity of the National Immunization Program, in its current design, to undertake future major challenges, considering no compromise should be made on routine immunization activities.

NIP evolution and essential changes become an even more important question when we considered health emergency response within the last decade pandemic and major outbreaks like H1N1, Ebola, measles and COVID-19, which were tackled by a vaccination response and public health and social measures.

NIP is also not limited now and will not be limited to childhood vaccination. It has high experiences to handle vaccination beyond childhood. As many vaccines are now available for adult including COVID-19 vaccine, NIP has to continue and strengthen to play its role for vaccination throughout the life course. Decision makers of Government has to think and plan to facilitate for vaccination throughout the life course.

Other reason and need to consider essential changes are that NIP won’t be able to remain an isolated vertical program in the future, especially after the transition out of Gavi funds. Optimization of resources will be a major priority for Government. Although the immunization program should be given the highest value as one major program of primary health care (PHC), its further integration into PHC will also be essential.

There is therefore a need for fundamental reflection and prospective for being able to think and conceive essential changes for NIP structure, functions and resources at the horizon 2030. In that regard, those essential changes will need to be studied and answered in a structure way over the coming years, involving all major stakeholders.

In summary, at the horizon 2030 the NIP structure, functions and resources need to be deeply reconsidered, promoting the immunization program at a higher-level inside MOH, PHD and OD, providing reinforced governance, human resources and funds, reinforcing management and coordination mechanisms and scientific advisory body. Basically, NIP should become a new reinforced program, that could be called “NIP+”.

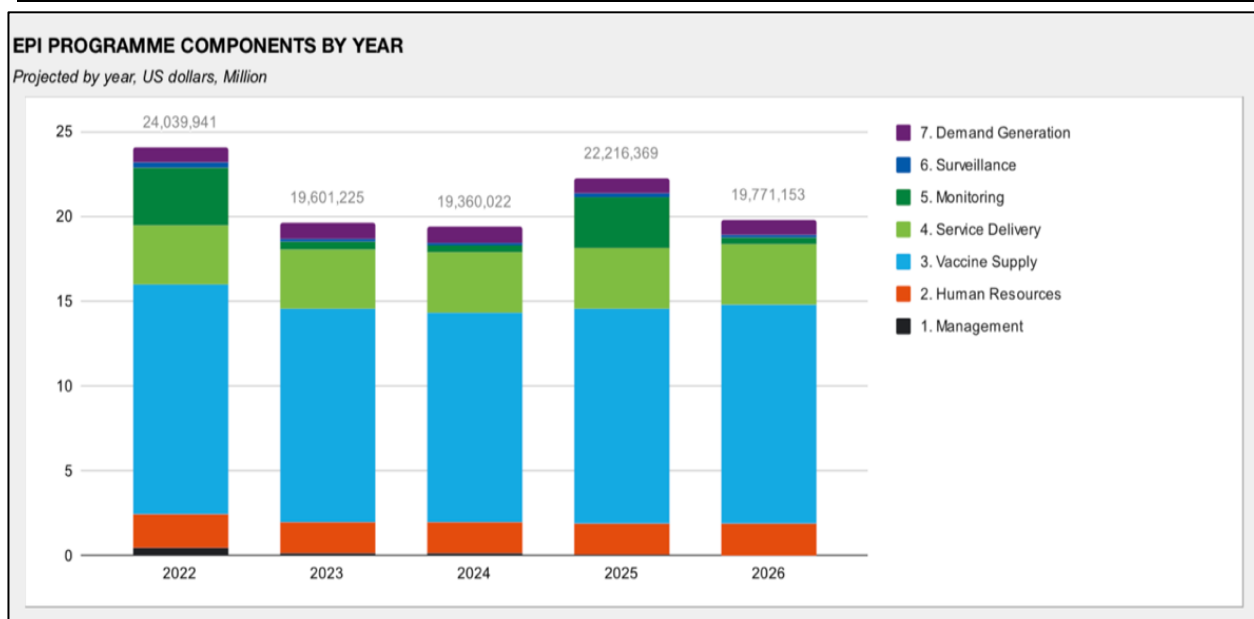
Resources requirements and financing

- **Resources requirements**

Strategies and main interventions enumerated in this NIS document were subsequently broken down into detailed activities which in turn were costed using the new software NIS.Cost App. The total resource requirements in the NIS.Cost App combine two specific costings, which are not mutually exclusive:

1. Resources required to implement the main interventions and changes proposed in the NIS
2. Resources required to keep the routine immunization program functioning as usual

Type of intervention	Total 5 years (USD)
NIS interventions	35,859,770
NIP routine activities	69,128,940
Total type of interventions	104,988,710



More details of the resource requirements are presented in the relevant section of the NIS.

- **Financing**

Concerning the financing, the major sources of funds are from the Government and from Gavi, with some additional funds from the Development Partners. Based on the NIS 2021-2025 strategies and on the resources requirements calculated, a budget dialogue is to be held between the stakeholders. Subsequently, Cambodia will conduct the Full Portfolio Planning (FPP) exercise which, based on

comprehensive and extensive analysis of performance to date and routine immunization program needs for the NIS 5-year strategic period, entails developing one program-wide plan and funding request that is then submitted to Gavi. It should be noted, however, that this funding envelope will be significantly smaller than previous funding envelopes for similar strategic periods.

- **Transition out of Gavi financial support**

GAVI financial support has been and will continue to be important for the immunization program in the coming years. However, Gavi anticipates preliminarily based on historical economic growth that Cambodia will begin the ‘accelerated phase’ of transition in 2026 during which Gavi support will be phased out over a 5-year period (as the Government's co-financing obligation increases) until the country is fully self-financing. Critically, during the phase of accelerated transition, support from Gavi for both vaccine procurement as well as health systems strengthening (technical support) will decrease year on year. The Government needs to be well prepared in advance for that transition, and already start considering the resources requirements to be covered by the domestic funds.

- **Monitoring and evaluation (M&E) framework**

In order to avoid overburdening the immunization program with too many indicators and targets, an optimal list of indicators was considered and agreed upon for the M&E framework. They are classified in 4 sections: a) impact indicators, b) outcome indicators, c) output indicators, and d) Western Pacific Regional Strategic Framework indicators. This list of indicators will be detailed in the core text of this NIS document.

- **Implementation and operationalization**

The NIS will be translated into annual operational plans (AOP), enabling a clear description of all activities necessary to implement the NIS strategies and main interventions by the different stakeholders. There might be a need for technical support to MOH and PHDs to optimize the operational planning and to translate the NIS 2021-2025 into AOPs. In that regard, AOP guidelines were developed by global Partners in parallel to NIS guidance, and could be used as a reference material.

1. Positioning the NIS in a global changing environment

Immunization is one of modern medicine's greatest success stories. Time and again, the international community endorsed the value of vaccines and immunization to prevent and control a large number of infectious and, increasingly, cancers and other chronic diseases.

Expanding access to immunization is crucial to achieving the Sustainable Development Goals (SDG). Not only do immunization prevents sickness and death associated with infectious diseases such as diarrhoea, measles, pneumonia, polio and whooping cough, they also hold up broader gains in education and economic development.

Immunization prevents deaths every year in all age groups from diseases like diphtheria, tetanus, pertussis and measles. It is one of the most successful and cost-effective public health interventions. Immunization currently prevents 4-5 million deaths every year¹. An additional 1.5 million deaths could be avoided, however, if global vaccination coverage improves.

Immunization has also proved to be the most cost-effective public health program, saving Governments money on curative treatments. The estimated economic impact of vaccinations between 2001 and 2020 in 73 low- and middle-income countries were about US\$ 350 billion USD saved in cost of illness².

1.1. NIS alignment with national, regional and global strategic plans

With the world stepping into the new decade, there are important changes in the global landscape that have the potential to impact the way countries develop their National Immunization Strategy (NIS). They are mainly referring to:

- ❖ In May 2020, the World Health Assembly (WHA) endorsed the new global strategy on immunization, the "Immunization Agenda 2030 - A Global Strategy to Leave No One Behind" (IA2030) aiming to address key challenges in immunization over the next decade.
- ❖ In October 2020, WHO Regional Committee endorsed the "Western Pacific Regional Strategic Framework for Vaccine-Preventable Diseases and Immunization 2021–2030", urging Member States to reaffirm their commitment to regional immunization goals and targets.
- ❖ In June 2019, the Gavi Board approved a new five-year strategy "Gavi 5.0" with a vision to "leave no-one behind with immunization" and a mission to save lives and protect people's health by increasing equitable and sustainable use of vaccines.
- ❖ Recently, there was a renewed call for a more integrated primary health care (PHC) as the best and most affordable way to achieve Sustainable Development Goal (SDG) and Universal Health Coverage (UHC) by 2030.
- ❖ Finally, there are concerns that in the next decade, international support for immunization might not increase as quickly as needed to achieve the goals outlined in IA2030, and that the focus for resource mobilization will need to shift from external funding to domestic investments.

In Cambodia, the Health Sector is stepping forth into a new planning phase with the development of the Health Strategic Plan (HSP) 2021-2030. The HSP is also being framed in line with the National Strategic Development Plan (NDS) 2019-2023.

Concerning immunization, the last strategic plan ended in 2020 (cMYP 2016-2020). The Ministry of Health (MOH) initiated the development of its new immunization strategic plan, the NIS 2021-2025. This strategy fits within the broader and integrated approach of the Health Strategic Plan (HSP)

¹ <https://www.who.int/news-room/facts-in-pictures/detail/immunization>

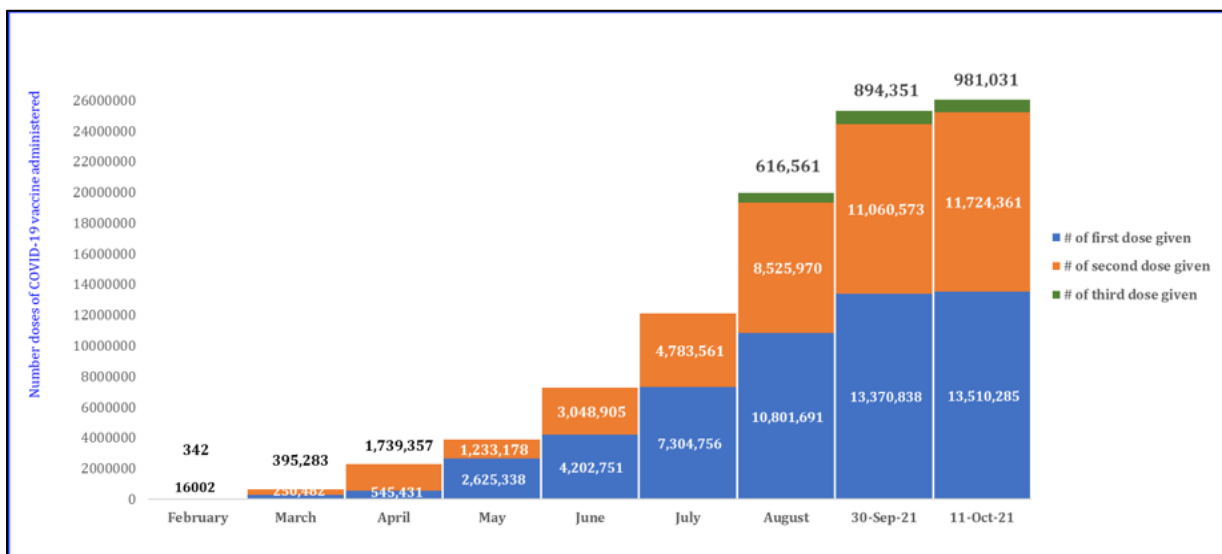
² *World Health Organization Bulletin* 2017; 95: 629–638

2021-2030, but also the Health Workforce Development Plan (HWDP) 2021-2025, and other programs specific strategic plans.

1.2. COVID-19 context

Since early 2020, the COVID-19 pandemic has been in the centre of all attention for health stakeholders worldwide. Cambodia had very few COVID-19 cases up to early February 2021 when the number of cases started to sharply increase. In a fast and extensive response to that situation, Cambodia since then procured millions of doses of COVID-19 vaccines and vaccinated large part of its population, whose total estimate is 16,718,971 in 2020 (World Bank).

The total amount of vaccines received from the 10th February to 11th October is 35,606,640 doses. Doses administered are shown in the below graph. The coverage varies by age group, but as of the 11th October, Cambodia has vaccinated 13.5 million population from 6 years old and above, accounting 80% of the total population for the 1st dose.



The COVID-19 vaccine roll-out in Cambodia certainly represents a unique opportunity to bring reinforced attention to the NIP but also benefits additional resources. However, it also required tremendous efforts from all healthcare workers, and somehow the COVID-19 vaccine roll-out has been to the detriment of the routine immunization, as decreasing coverage could indicate. Moreover, the currently parallel set up for emergency response should phase out and the COVID-19 vaccination later on be integrated into the routine immunization program. This integration poses a significant challenge to the NIP. To put it in perspective, the current routine immunization schedule focuses on delivering vaccines to around 700,000 children under 2 years of age each year, while potential regular administration of COVID-19 booster doses would target the majority of around 17 million population of Cambodia. In that regard, the NIS 2021-2025 is considering the COVID-19 vaccination as an important priority when designing its strategies.

The NIS 2021-2025 should ensure that lessons and innovations from the successful roll-out of COVID-19 vaccine are leveraged to strengthen the broader routine immunization program. For example, strong and highest leadership from the Government, early and effective planning, good governance, sectoral approach and secure adequate vaccines and supplies, involvement of volunteers and the armed forces, collaboration of various committees and the local authorities, close coordination with local authorities to share information, generate demand and mobilize the population, accountability at provincial and district level for meeting immunization coverage targets, and use of digital technologies to track vaccination status.

2. Situation analysis: the “diagnosis”

2.1. Process

The situation analysis of the immunization program was structured in the follow way: a) a desk review of all available immunization and health system documents (more than 100 key documents collected and reviewed), b) individual consultations with all stakeholders involved in immunization (around 30 stakeholders met), and c) findings of the subnational workshops held (3 online workshops), where all 25 Provincial Health Departments (PHD) participated in elaborating the situation analysis and proposing suggestions for NIS priorities and strategies. A complete report of the situation analysis has been issued, which was the basis for elaboration the National Immunization Strategy 2021-2025.

2.2. Summary overview

The following is principally a “summary overview” of the consolidated situation analysis, and although there were great achievements in the immunization program in recent years, this summary overview intentionally focuses on the current challenges, underlying factors and root causes. All details, including the strengths, will be found in the complete report of the situation analysis.

1. Immunization governance and program management

Immunization within the health system environment

- ❖ National Immunization Program (NIP) functions as a highly vertical program
- ❖ Lack of integration of immunization in PHC programs at all levels
- ❖ Decentralised model initiated in 2019, still shaping

Immunization governance and coordination

- ❖ No specific Immunization Inter-agency Coordination Committee (ICC); TWGH not fulfilling same purpose than an ICC; Lack of exchange/coordination forum for immunization strategic thinking
- ❖ No scientific advisory committee on immunization (e.g. NITAG)
- ❖ Insufficient coordination for planning and budgeting between national and subnational

Immunization policy and guidance

- ❖ Immunization barely mentioned in draft HSP, with no specific objectives and strategies
- ❖ Immunization policy and guidance not always adequately implemented/used
- ❖ Some policy documents starting to be ageing (e.g. Immunization Policy 2016)

Immunization program planning and monitoring

- ❖ Existing plans fragmentation (cMYP/NIS, AOP, HSS, CCEOP, EVMIP, MR, Polio, Com.)
- ❖ Annual operational plan (AOP) not fulfilling standards for management and monitoring
- ❖ No previous alignment of cMYP 2016-2020 with AOPs
- ❖ Inadequate monitoring and evaluation (M&E) of immunization program performances

2. Human resources management

Human resource for health in general

- ❖ Recurrent shortage of health personnel in the public health sector
- ❖ Aging workforce; Retirees replacement but no new positions

Human resource for immunization

- ❖ COVID-19 pandemic diverted human resources away from routine immunization activities
- ❖ Inadequate time dedicated to immunization in some PHDs/ODs due to multi-tasking

- ❖ No cold chain manager available at the national level
- ❖ Terms of reference and/or job description missing at the implementation level

Capacity building

- ❖ Because of turn-over, knowledge and skill gaps in many PHDs, ODs and HCs
- ❖ Lack of training in some areas of immunization (e.g. supply chain management)
- ❖ Current nurses' curriculum not providing enough immunization knowledge

Supervision and performance monitoring

- ❖ Lack of supportive supervision planning and implementation, mainly at subnational level
- ❖ Inadequate/ad-hoc supervision and monitoring with no follow-up on recommendations

3. Vaccine supply, vaccine management, cold chain and logistics

Procurement and supply management

- ❖ Vaccines stock-outs reported nationally and in many provinces each year for last five years
- ❖ MR vaccine procurement problem and delay in 2021 due to price increasing and co-financing
- ❖ Principles for vaccines supply not enforced, i.e. reconstituting reserves, recording usage and wastage, respecting ordering and distribution procedures

Effective vaccine management (EVM)

- ❖ EVM assessment 2020 results demonstrated that more efforts are needed on temperature monitoring, stock management, storage capacity, supply chain monitoring
- ❖ Lack of training and supervision on effective vaccine management
- ❖ Cold chain monitoring devices (e.g. Fridge Tag) poorly used due to lack of knowledge
- ❖ Insufficient EVM performance monitoring

Cold chain equipment and logistics

- ❖ HSS and CCEOP implementation delayed
- ❖ National cold room problems with maintenance and electricity
- ❖ Cold chain monitoring devices (e.g. Fridge Tag) not always available
- ❖ Lack of maintenance expertise and spare parts in country; No SOP available for cold chain equipment maintenance

Injection safety and waste management

- ❖ Inadequate waste disposal methods used in some health centres

4. Service delivery and new vaccine introduction

Immunization services within PHC, MCH and other programs

- ❖ No comprehensive PHC approach and programs integration, challenging sustainability of the current model of immunization service delivery
- ❖ Insufficient communication and collaboration between health sector and local authorities
- ❖ Insufficient engagement of communes' structure to increase access and reach the unreached
- ❖ Insufficient communication and provision of information from PHD to OD and to HC

Access and equity, unreached and zero-dose children

- ❖ Fast changing environment, high risk area changing from one year to the next
- ❖ Due to fast development and migration, drop-out between vaccine doses remain challenging; Uncertain regularity and quality of defaulter tracing activities by HC staff
- ❖ Lack of approach for identifying, tracking and reaching unreached and zero-dose children
- ❖ Village Health Service Group (VHSG) unstandardized and often with little to no formal budget

Service planning, implementation and quality

- ❖ Challenge with cycles and timeliness of planning and implementation
- ❖ Fixed sites underutilized (only 2/3 of vaccinations given at health facilities); Health Centre Management Committee (HCMC) not sufficiently used and supported
- ❖ Irregular outreach sessions in some HCs; Outreach planned and managed top-down with Gavi HSS support, not implemented in accordance to needs; Limited availability of HR and/or transport for outreach
- ❖ Variable frequency and quality of practices for screening vaccination status during OPD

New vaccine introduction

- ❖ Delay in HPV introduction and hesitation in selecting HPV type of vaccine
- ❖ No clear decision-making mechanism for new vaccine introduction; Lack of recent studies on disease burden and cost effectiveness; Missing NITAG functions to inform decisions
- ❖ COVID-19 vaccination possibly mainstreamed into routine immunization in the near future

5. Immunization coverage and performances monitoring

Coverage monitoring and reporting

- ❖ Administrative coverage above 100% for several antigens, including at national level, making it impossible to understand the true immunization coverage and therefore to take actions
- ❖ No coverage survey since 2014 (DHS) to allow cross-checking administrative coverage
- ❖ Data recording still not allowing distinguishing between vaccinations administered to children resident within and outside catchment areas (although starting to be separated)
- ❖ Administrative coverage decreased in 2021 for the period from January to June (probably COVID-19 impact) and will most probably further decline in the 2nd semester

Data quality and validation

- ❖ Coverage targets in HMIS based on outdated household data and no longer accurate; Population census conducted in 2019 but no population projection done and used
- ❖ Denominators standardized with likely under- or overestimation of target population; Likely denominator of an HC catchment, while numerator includes children from outside of that area
- ❖ Data inconsistencies suggest underuse of registry and concerns on data integrity; No real or poor mechanism to validate administrative data
- ❖ Insufficient capacity for management of data quality and validation, at different levels; No comprehensive data quality assessment (DQA, LQA) conducted and/or planned

Analysis and use of data for action (NIP intelligence)

- ❖ Lack of culture and coaching on “data for action”
- ❖ No comprehensive and full use of HMIS potential; NIP specific dashboard (national, sub-national) is a good instrument, however still another separate system from HMIS
- ❖ Limited access to HMIS data at HC level compromise analysis and use of data
- ❖ Although feedback on inadequate coverage provided to HC, corrective actions limited

AEFI surveillance and monitoring

- ❖ Poor detection and reporting of AEFI cases including staff hesitancy of reporting; Significant gaps on AEFI surveillance data analysis and monitoring at subnational level despite trainings
- ❖ No national AEFI causality assessment committee to review and decide on causal association
- ❖ Inadequate coordination between NIP and Department of Drugs and Food (DDF)
- ❖ Funding issue for investigation of reported cases

6. VPD surveillance, eradication/elimination/control initiatives and outbreak response

VPD and AFP surveillance system, including laboratory

- ❖ VPD surveillance system is maintained by NIP for VPD/AFP on one side, and by NIPH for other diseases and laboratory surveillance on the other side
- ❖ Inadequate quality and sensibility of VPD/AFP surveillance data; No separate VPD/AFP surveillance assessment conducted or planned
- ❖ Limited engagement and lack of interest of private practitioners in VPD/AFP surveillance activities and VPD eradication/elimination/control initiatives
- ❖ Collection of samples (blood, stool) decreased, and shipping samples to Hong Kong or Japan RRL difficult, especially during COVID-19; Financial support by WHO and US CDC

VPD and AFP case detection, reporting and investigation

- ❖ VPD detection decreased, especially during COVID-19 period, especially AFP cases reported decreased from 33 cases in 2019, 20 cases in 2020 to 5 cases in 2021; Poor practices and documentation of active surveillance and active search for AFP cases
- ❖ Knowledge gaps exist on VPD and AFP case detection at HCs and ODs despite several trainings provided
- ❖ Many provinces and ODs are silent of some VDP and AFP case reporting

Disease eradication/elimination/control initiatives

- ❖ Accumulation of susceptible populations/immunity gaps in high-risk communities, pockets of under-vaccinated population across wide age group and multiple importation of virus from endemic and neighbouring countries remain, so does risk for occurrence of measles outbreak
- ❖ Due to very low AFP rate, risk of cVDPV not immediately detected, and potential outbreak

Outbreak response

- ❖ Laboratory-confirmed measles case reported in 2021
- ❖ Shortage of MR doses and its timely availability in 2021 due to lack of Government resources
- ❖ Preparedness for any outbreak response at OD level not sufficient
- ❖ Quality of precedent MR campaign (SIA 2017) suboptimal

7. Demand generation and communication

Communication for immunization and health promotion

- ❖ Communication for immunization not well integrated with other health services/programs; Double communication system within NIP and Health Promotion Department
- ❖ National immunization communication strategy 2021-2025 still to be implemented; Communication operations insufficiently costed and underfunded
- ❖ Event-based communication rather than systematic planned strategies tailored to local context; Insufficient communication and provision of information from PHD to OD and to HC
- ❖ Potential of "modern communication approaches" not yet fully utilized (e.g. social media)

Demand Generation

- ❖ Lack of robust evidence to precisely define where low demand exists and reasons why; Limited availability of social surveys
- ❖ Challenge between providers and parents, as sometimes parent goes for immunization and service/provider not there or sometimes provider goes to village and parent not there
- ❖ Working mothers not having the same time availability for immunization services than HCW

- ❖ Lack of knowledge on immunization, VPD, number of visits needed and immunization benefits

Behaviors and practices

- ❖ Insufficient properly identified, quantified and qualified parents' behaviours and practices; Limited availability of KABP surveys
- ❖ Insufficient coverage on interpersonal communication (IPC), counselling on immunization and other health topics
- ❖ Minorities, migrants and poor population behaving in different ways; Insufficient information for tailoring action

Community engagement

- ❖ Insufficient participation of community members, especially community leaders, religious leaders and local influencers in immunization efforts
- ❖ Insufficient communication to local authorities, communes and communities
- ❖ Non-health people not enough mobilized; Lack of synergies with non-health communities

8. Macro fiscal situation, national budget and related indicators

- ❖ COVID-19 financial impact, with revenue mobilization decreasing while social intervention expenditures increasing
- ❖ GNI per capita (World Bank, Atlas method) increased from US\$ 1,060 in 2015 to US\$ 1,530, meaning looming transitions from Gavi, Global Fund and other financial support

9. State and non-state health sector financing

- ❖ Institutional capacity and readiness not yet in place (e.g. MTBF)
- ❖ Young decentralization process and unexperienced provincial/district financial management
- ❖ Transition out of Gavi funds perspective as GNI increased regularly in recent years, and most probably will cross the threshold of US\$ 1,630 after COVID-19 recovery

10. Immunization program financing

Vaccine financing

- ❖ Challenge around financing for some vaccine (e.g. MR) in the context of rising prices
- ❖ Challenge in selecting HPV type of vaccine considering prices and co-financing
- ❖ COVID-19 vaccine future financing challenge
- ❖ NMCHC challenges for tracking vaccine financing and procurement

Service delivery financing

- ❖ Hard to estimate the real cost of service delivery, especially for unreached children
- ❖ Unsatisfactory rules for budget planning, e.g. estimation based on number of villages only
- ❖ Full dependency on Gavi funding especially for outreach; HSS3 won't support service delivery costs; No concrete use of the "Fix Lumpsum Grant" for immunization services funding
- ❖ Delay in funds provision for service delivery (alignment planning and financing); Calculation for per-diem for outreach considered to be insufficient
- ❖ Insufficient Government funding for communication, communities' engagement and to support collaboration with VHSG

Technical assistance and equipment financing

- ❖ Trainings, workshops and supervision visits cancelled or postponed, mainly due to COVID-19
- ❖ Other underspending due to the timing of agreements signed
- ❖ Despite being available, funds not disbursed by MOEF until AOP signed

- ❖ Agreement between UNICEF and the NMCHC for cold-chain supply equipment procurement and maintenance not finalised until June 2020

HSS support

- ❖ Additional funding allocation from HSS2
- ❖ As of 14 Sept. 2021, balance of funds available for remainder of HSS2 grant is \$8,006,587
- ❖ Much underspending and limitations placed on activities, mainly due to COVID-19
- ❖ Aside from annual audit, no ongoing monitoring agent engaged until 2021, to provide ongoing financial monitoring

3. NIS roadmap 2021-2025

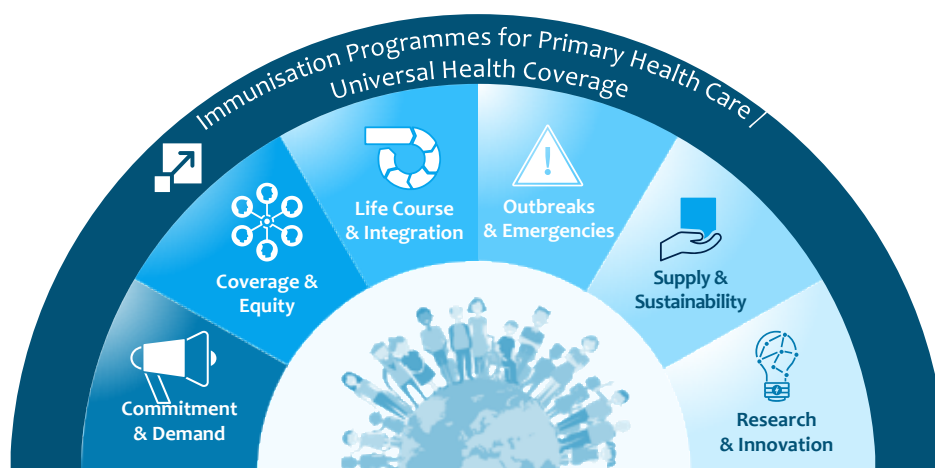
3.1. SDG, UHC and IA 2030

Sustainable Development Goals and Universal Health Coverage

Immunization plays a critical role in achieving the Sustainable Development Goals (SDG), specifically SDG3, “Ensure healthy lives and promote well-being for all at all ages”, and also contributes directly or indirectly to 13 other SDGs. Immunization reaches more people than any other health and social service, making it the foundation of primary health care systems and a key driver toward Universal Health Coverage (UHC).

Immunization Agenda 2030 and Western Pacific Regional Strategic Framework for VPD and Immunization 2021–2030

The Immunization Agenda 2030 envisions a world where everyone, everywhere, at every age, fully benefits from vaccines to improve health and well-being. It aims to maintain hard-won gains in immunization, recover from the disruptions caused by COVID-19, and achieve even more – by leaving no one behind, in any situation or at any stage of life. The Immunization Agenda 2030 is built on 7 strategic priorities, as below described.



The Western Pacific Regional Strategic Framework for VPD and Immunization 2021–2030 (WPRSF)⁴ is the regional transcription of the IA2030 for the Western Pacific Region. The WPRSF is built on 3 strategic objectives, with a total of 18 strategies.

³ <https://www.who.int/teams/immunization-vaccines-and-biologicals/strategies/ia2030>

⁴ <https://iris.wpro.who.int/bitstream/handle/10665.1/14602/WPR-RC071-06-Immunization-Ann-2020-en.pdf>

3.2. NIS vision and strategic priorities

NIS vision

“Cambodia, a country where everyone, everywhere, at every age fully benefits from vaccines for good health and well-being”

NIS strategic priorities

The NIS strategic priorities are aligned with the immunization system components, originated from WHO key reference materials⁵. Those system components have been used for the NIP situation analysis and by MOH and PHDs during the stakeholders’ consultations and workshops. The NIS strategic priorities are also mostly aligned with the IA 2030 strategic priorities. Two sub-levels of priorities have then been used, i.e. “high priority” highlighting area for high prioritization and change, and “ongoing priority” mainly related to routine priorities and routine strategies.

3.3. NIS objectives, strategies and main interventions

Subsequently, for each of the NIS priorities, objectives, strategies and main interventions have been identified, considering “high priority” versus “ongoing priority”, but also “national” versus “subnational” main interventions. The NIS strategies are also aligned with the 18 strategies defined in the Western Pacific Regional Strategic Framework for VPD and Immunization 2021–2030.

It is important to remind that the NIS is a “strategic” document, therefore limited to objectives, strategies and main interventions. Detailed activities won’t be enumerated in the following chapter, mainly to avoid the NIS to become an operational plan. In fact, activities and associated information will be further detailed in an annual operational plan (AOP), which will be developed after the NIS, enabling clear description of all activities necessary to implement NIS strategies and main interventions.

NIS objectives, strategies and main interventions

⁵ Reference to “Guide for conducting an Expanded Program on Immunization (EPI) Review”, WHO IVB 17.17 & Reference to “Guidelines for developing a National Immunization Strategy (NIS)”, WHO August 2021

1. Immunization governance and program management

High priority. Immunization strategic governance

- **Objective:** All immunization stakeholders rely on the functions of an Immunization Inter-agency Coordination Committee within the TWGH for strategic governance and coordination
- **Strategy:** Ensuring strategic changes within the Technical Working Group for Health (TWGH) to integrate essential functions of an Immunization Inter-agency Coordination Committee to meet current and future challenges, including COVID-19 vaccination integration into the routine immunization

Main interventions

- ⇒ Within TWGH, integrating functions to ensure full strategic oversight of immunization policies, strategies and priorities, to provide a forum to optimize information sharing and coordination among all stakeholders, and to strengthen NIP advocacy and partnership; Organizing two to four times a year a TWGH meeting discussing more details of the immunization agenda, including regular feedback from subnational levels, ensuring full attendance of stakeholders, and releasing a formal report to ensure close follow-up on immunization policies, strategies and program priorities

Ongoing priority: Immunization program management

- **Objective:** NIP effectively and efficiently led, managed and coordinated at all levels
- **Strategy:** Strengthening the NIP leadership, management and coordination at all levels within the health system structure (*WPRSF 1.9*)⁶

Main interventions – National

- ⇒ Continuing informing and advocating opinion leaders and decision-makers on the public health and financial values of immunization, and for enhanced commitment on immunization; Exploring the possibility for NIP evolving into a structure positioned at a higher level in the MOH structure
- ⇒ Enhancing leadership, management and coordination (LMC), through targeted technical assistance and by upgrading legislative documents, policies and guidelines; Exploring the opportunity to set-up a Scientific Advisory Committee (e.g. NITAG)
- ⇒ Considering the strengthening of the annual operational/implementation plan as the central planning instrument for planning, budgeting, implementing, coordinating and monitoring immunization activities, and ensuring accountability among key stakeholders; Reviewing progress on workplan activities two to four times a year at the TWGH meeting dedicated to immunization

Main interventions – Subnational

- ⇒ Improving Provincial Health Department (PHD) and Operational District (OD) governance and LMC through technical assistance and regular program review involving Provincial and District Administrations (Governors)
- ⇒ Continuing strengthening the decentralization process in regard to implementation, management and monitoring of the immunization program
- ⇒ Improving coordination and accountability mechanisms between national and subnational levels in regard to immunization

⁶ Reference to the 18 regional strategies enumerated in the “Western Pacific Regional Strategic Framework for VPD and Immunization 2021–2030” (WPRSF) – Numbering used in this chapter refers to WPRSF strategies numbering

2. Human resources management

High priority: Immunization HR within COVID-19 context

1. **Objective: Immunization human resources are ready to meet current and future challenges, including COVID-19 vaccination integration into the routine immunization**
 - **Strategy:** Ensuring the extension and the capacity building of immunization human resources to meet current and future challenges, including COVID-19 vaccination integration into the routine immunization

Main interventions

- ⇒ Expanding and strengthening national, provincial, district and service delivery immunization teams to ensure full implementation of the NIS 2021-2025, and of the COVID-19 vaccination integration into routine immunization; Considering the long-term recruitment of new staff, to cope with the work overflow created by COVID-19 vaccination

Ongoing priority: Immunization HR routine capacity

2. **Objective: All immunization-related positions are fully filled with knowledgeable and skilled staff**
 - **Strategy:** Securing and properly distributing knowledgeable, skilled and motivated professionals to implement, manage and monitor the immunization program and its performances at all levels (*WPRSF 1.9*)

Main interventions – National

- ⇒ Continuing advocating for filling essential positions requiring immunization-skilled staff, aligning immunization human resources needs and requirements with the new Health Workforce Development Plan 2021-2025
- ⇒ Establishing a PHC staff database, mapping human resources in each health centre (number, capacity, preservice and in-service training, prerequisite fulfil); Conducting training needs assessment to inform the PHC staff database
- ⇒ At all levels, accompanying HR expansion by developing HR knowledge and skills using new capacity building models like collaborative technical assistance through academic institutions, innovations for training using digital platforms, online and hybrid training, skill transfer strategies like coaching and mentoring; Updating training curriculum for all medical and allied students in academic institutions, especially in nursing/midwifery schools

Main interventions – Subnational

- ⇒ Prioritizing actions on formal comprehensive training (prerequisite), mentoring, supportive supervision and continuing professional education to improve capacity and performances of PHD, OD and health centre professionals
- ⇒ Reinforcing the planning, implementation and control of supportive supervision activities; Exploring further integration approaches for HR with other health programs, and strengthening linkages with health sector, local authorities and volunteers

3. Vaccine supply, vaccine management, cold chain and logistics

High priority: Vaccine supply, vaccine management, cold chain, and logistics within COVID-19 context

1. Objective: Vaccine supply, vaccine management, cold chain and logistics are ready to meet current and future challenges, including COVID-19 vaccination integration into the routine immunization

- **Strategy:** Expanding and strengthening vaccine supply, vaccine management, cold chain and logistics capacities to meet current and future challenges, including COVID-19 vaccination integration into the routine immunization

Main interventions

- ⇒ Securing the provision and management of all required vaccines and future equipment to ensure adequate cold chain capacity at all levels, including new regional hubs, ultra-cold chain (UCC), and considering the future COVID-19 vaccination integration into the routine immunization; Ensuring all information, training, SOPs, management and monitoring are provided for ultra-cold chain (UCC) equipment

Ongoing priority: Vaccine supply, vaccine management, cold chain, and logistics within routine immunization program

2. Objective: All recommendations from the 2020 effective vaccine management (EVM) assessment are implemented at the different levels

- **Strategy:** Ensuring the implementation of all recommendations from the 2020 effective vaccine management (EVM) assessment at the different levels (*WPRSF 1.6*)

Main interventions – National

- ⇒ Improving vaccine forecast and procurement and securing vaccine supply, with the use of accurate population data, usage and wastage rates, vaccine buffer and other core indicators
- ⇒ Ensuring the implementation and monitoring of the EVM comprehensive Implementation Plan 2021-2025, according to EVM 2020 recommendations, involving experienced staff to support all interventions at the different levels
- ⇒ Developing and implementing throughout the country a web-based system for vaccine supply, vaccine management, cold chain and logistics, building on the experience developed during the COVID-19 vaccine roll-out

Main interventions – Subnational

- ⇒ Improving use of and enforcing EVM standards and good practices (stock management, temperature control, recording usage and wastage, ordering and distribution procedures) at provincial, district and HC levels; Exploring new approaches to strengthen last mile supply chain
- ⇒ Continuing provision and installation of cold chain and ultra-cold chain (UCC) and transport equipment, through CCEOP, HSS and other financing channels
- ⇒ Strengthening and expanding the system for preventive and curative maintenance for cold chain equipment, including UCC maintenance

4. Service delivery and new vaccine introduction

High priority: Unreached, under-immunized and zero-dose children

1. **Objective: Immunization service delivery is ready to reach unreached, under-immunized and zero-dose children; Immunization validated coverage is reaching > 95% for all antigens**
 - **Strategy:** Expanding and strengthening the capacity of service delivery to regularly reach unreached, under-immunized and zero-dose children as a platform for stronger primary health care (PHC), considering also the COVID-19 vaccination integration into the routine immunization (*WPRSF 1.1*)

Main interventions

- ⇒ Regularly assessing and adjusting service delivery strategies to reach all children and other target groups, including unreached, under-immunized and zero-dose children, vulnerable and high-risk groups; Accelerating the implementation of those strategies; Increasing effective involvement of health and non-health stakeholders at all levels (Governor, CCWC, VSHG, village council, community leader, school, private practitioner and association), holding them responsible and accountable for immunization service delivery (*WPRSF 1.3*)

Ongoing priority: Service delivery integration and new vaccine introduction

2. **Objective: Immunization service delivery enhanced integration with other program activities**
 - **Strategy:** Exploring further integration of immunization service delivery with other program activities (e.g. PHC, RMNCH, WASH, disease control programs) to optimize the use of resources and to ensure synergies, while including COVID-19 vaccination into the routine immunization and introducing selected new vaccines

Main interventions – National

- ⇒ Evaluating and proposing integration of PHC and NCD activities (e.g. for cervical cancer) with immunization, leveraging life course vaccination (e.g. TT, HPV, COVID-19, influenza)
- ⇒ Including COVID-19 vaccine from childhood onward into routine immunization as part of a basic PHC package of care; Designing strategies specific for COVID-19 vaccination (*WPRSF 3.5 supplement*)
- ⇒ Introducing HPV vaccine, 2nd dose of IPV and considering other new vaccine future introduction, as per country priority in the future (e.g. rotavirus, Td, influenza vaccines), within the frame of expanding immunization along the life course (*WPRSF 1.5 & WPRSF 1.2*)

Main interventions – Subnational

- ⇒ Accelerating identification of target population, especially unreached, under-immunized, zero-dose children and other high-risk groups
- ⇒ Prioritizing actions to improve access, quality (e.g. service experience), frequency and accountability of fixed, outreach and catch-up services; Supporting subnational level on conduct of integrated services
- ⇒ Creating a sustainable approach for improving community and VSHG engagement and education

5. Immunization coverage and performances monitoring

High priority: Immunization “quality-assured” data

1. Objective: Immunization coverage and performances data are meeting quality standards

- **Strategy:** Improving the quality and reliability of all immunization coverage and performance monitoring indicators to optimally plan, implement and manage the immunization program, including COVID-19 vaccination data (*WPRSF 2.3*)

Main interventions

- ⇒ Prioritizing a range of interventions to improve data quality and ensure “quality-assured” and validated immunization data, enhancing data analysis, management and use for program management and decision making, at all levels by all stakeholders; Implementing regular immunization data quality assessment, including self-assessment, and establishing a monitoring and evaluation system for immunization program performances, at all levels

Ongoing priority: Immunization coverage and performances monitoring

2. Objective: Immunization coverage and performances monitoring is ready to support the immunization program

- **Strategy:** Strengthening the monitoring and the management of “quality-assured” and validated immunization data, including data analysis, use for program management and decision making, at all levels by all stakeholders (*WPRSF 2.4*)

Main interventions – National

- ⇒ Leveraging the COVID-19 experience, introducing the immunization e-registry into the routine immunization, allowing for the automatic tracking of appointments/missed doses through SMS reminders to the caregiver, and applying a system of regularly tracking/reporting of missed children from the commune to the district and to the province governors, on a quarterly basis
- ⇒ Exploring broader alignment and integration of immunization data into the existing HMIS, including immunization dashboard, and enhancing the digitization of health centres (e.g. immunization e-registration)
- ⇒ Strengthening adverse event following immunization (AEFI) surveillance system, especially with new vaccine introduction (e.g. COVID-19, HPV) and ensuring preparedness for and response to a safety event related to vaccines or immunization program (*WPRSF 1.6 & WPRSF 3.2*)

Main interventions – Subnational

- ⇒ Improving at health facility, district and provincial levels the collection, reporting and monitoring of the immunization and AEFI quality data, through regular quality-check, triangulation and assessment
- ⇒ Strengthening linkage between health facility information and commune registry, for births, CBAW and under-five, including high-risk groups, using field registration (CGR, geo-registry)

6. VPD surveillance, eradication /elimination/ control initiatives and outbreak response

High priority: VPD and COVID-19 surveillance and outbreak response

1. Objective: VPD and COVID-19 surveillance and outbreak preparedness and response are ready to meet current and future challenges

- **Strategy:** Expanding and strengthening the capacity and quality of the VPD and COVID-19 surveillance and outbreak response to meet current and future challenges, considering the increased scale generated by COVID-19 surveillance and response

Main interventions

- ⇒ Evaluating the VPD and COVID-19 surveillance necessary interventions and integration, understanding and securing the requirements in term of system, human resources, laboratory materials and equipment and financing; Ensuring preparedness for and coordinated response to VPD and COVID-19 potential new outbreak and to new emerging vaccine-preventable diseases

Ongoing priority: Routine VPD surveillance, eradication/elimination/control initiatives and outbreak response

2. Objective: VPD surveillance and eradication/elimination/control initiatives indicators are meeting national and Western Pacific Region standards and targets

- **Strategy:** Strengthening the VPD surveillance, eradication/elimination/control initiatives and outbreak preparedness and response to meet the Western Pacific Region standards and targets

Main interventions – National

- ⇒ Strengthening the management and monitoring of “quality-assured” and validated VPD surveillance and laboratory data, including data analysis, use for program management and decision making, at all levels by all stakeholders; Promoting the development of high-functioning surveillance systems⁷; Enhancing collaboration and coordination between NIP and NIPH laboratory (*WPRSF 2.1 & WPRSF 2.4*)
- ⇒ Implementing regular surveillance review and assessment, including self-assessment, and establishing a monitoring and evaluation system for VPD surveillance, eradication, elimination and control initiatives performances, at all levels
- ⇒ Ensuring preparedness for and response to public health emergencies related to VPDs, including supplementary immunization activities (SIA) (*WPRSF 3*)

Main interventions – Subnational

- ⇒ Strengthening VPD, especially AFP and AFR case’s detection, reporting, investigation and management throughout all 25 provinces; Improving timeliness of detection for AFP surveillance with timely shipment of specimens for confirmation (*WPRSF 2.2*)
- ⇒ Communicating with hospitals, health care workers and communities, increasing awareness for early detection and investigation, and enhancing active surveillance for AFP and AFR cases

⁷ Reference to the Global Strategy for Comprehensive Vaccine-Preventable Disease Surveillance, IA 2030

7. Demand generation and communication

High priority: Demand generation and communication within COVID-19 context

1. Objective: Immunization demand generation and communication are ready to meet current and future challenges, including COVID-19 vaccination integration into the routine immunization

- **Strategy:** Expanding and strengthening the capacity of the immunization demand generation and communication to meet current and future challenges, considering the increased scale generated by COVID-19 vaccination integration into the routine immunization

Main interventions

- ⇒ Evaluating the COVID-19 vaccination demand generation and communication necessary interventions and integration into the routine immunization program and health promotion, understanding and securing the requirements in term of system, human resources, equipment and financing; Studying population behaviours and practices regarding COVID-19 vaccination to prevent, identify and respond to any possible hesitancy

Ongoing priority: Demand generation and communication within routine immunization program

2. Objective: Immunization services actively sought by the population and not being confronted to significant hesitancy

- **Strategy:** Strengthening the routine immunization demand generation and communication, enhancing vaccine confidence and acceptance (*WPRSF 1.7*)

Main interventions – National

- ⇒ Ensuring the implementation and monitoring of the National Immunization Communication Strategy 2021-2025
- ⇒ Understanding parents' and other caregivers' behaviours and practices, including from unreached population, high-risk groups like minority and indigenous ethnic groups, migrants and poor population, through social surveys, human centred design approach, KABP surveys and other research studies, including exploring any equity and gender related barriers related to immunization
- ⇒ Boosting demand in minority and indigenous ethnic groups or areas of low coverage, to tackle the issue of unreached children more explicitly; Leveraging Commune Committee for Women and Children (CCWC), VSHG, village council, community leader, school structures to enhance demand generation; Exploring broader integration of immunization communication with the health promotion department and other public health programs

Main interventions – Subnational

- ⇒ Intensifying awareness, health promotion and social mobilization activities to empower population and communities to take ownership of their health and creating demand for immunization and health services
- ⇒ Increasing the involvement and synergies with communities, CCWC and VSHG for immunization advocacy, communication and social mobilization throughout the provinces, districts, communes and villages

8. Immunization program financing

High priority: Vaccine security and immunization financing

1. **Objective: Vaccine security and immunization financing are ready to meet current and future challenges, including new vaccine introduction and COVID-19 vaccination integration into the routine immunization**
 - **Strategy:** Securing sustainable and adequate domestic financing for vaccine procurement, supplies and immunization operations, including new vaccine introduction and COVID-19 vaccination integration into the routine immunization (*WPRSF 1.8*)

Main interventions

- ⇒ Ensuring all vaccine security, through budget earmarking and funds timely allocation for procurement of all routine and new vaccines, avoiding any major stock-out at any level and ensuring vaccine buffers financing; Advocating and securing the long-term financing of the immunization program, considering COVID-19 vaccination integration, new vaccine introduction, outbreak response, increasing vaccine costs and the future transition out of Gavi financing; Strengthening coordination mechanism for ensuring external donor contributions (vaccines, grants, TA) (*WPRSF 1.4*)

Ongoing priority: Immunization financial management performances

2. **Objective: Immunization financial management is meeting quality standards**
 - **Strategy** Strengthening immunization costing, budgeting and financing mechanisms within the health financing system and using public financial management (PFM) principles

Main interventions – National

- ⇒ MOH ensuring the complete formulation of annual national budget estimates for the overall immunization program with achievable planning; Improving coordination with subnational administrations and PHDs
- ⇒ MOEF and MOH improving the immunization financing performance and accountability mechanisms, linking to performance informed budgeting, under the Public Financial Management Reform Program; Setting-up standard performance and financial indicators for the provinces
- ⇒ Government and MOH working with Development Partners to optimize the effectiveness of their financial support and developing innovation in vaccine and service delivery financing

Main interventions – Subnational

- ⇒ PHDs ensuring the complete formulation of annual provincial budget estimates for the overall immunization program with achievable planning
- ⇒ Advocating for subnational immunization financing, including enhanced service delivery for unreached children, hard-to-reach areas and high-risk groups
- ⇒ Provincial Governments and PHDs improving the immunization financing performance and accountability mechanisms; Supporting public financial management skills development in PHD, OD and health centre

4. Immunization in Cambodia at the horizon 2030

4.1. Why a need for essential changes towards the horizon 2030?

As of 11 October 2021, Cambodia has vaccinated 13.5 million population from 6 years old and above, accounting 80% of the total population. This response was made possible only due to a full mobilization and a massive effort of all sectors of the Government and its partners. Although considered a success-story, the impact of the COVID-19 response on routine activities was substantial, with routine immunization coverage decreasing, with diseases surveillance and diseases control also challenged. Although NIP will catch up progressively in the coming months, the burden on the program is high, especially considering the current NIP structure, functions and resources. It is therefore important to raise the concern of the capacity of the National Immunization Program, in its current design, to undertake future major challenges, considering no compromise should be made on routine immunization activities.

NIP evolution and essential changes become an even more important question when we considered health emergency response within the last decade pandemic and major outbreaks like H1N1, Ebola, measles and COVID-19, which were tackled by a vaccination response and public health and social measures. In that regard, WHO has radically changed the way they work on emergencies with the establishment of the WHO Health Emergencies Program (WHE), which benefited the support of the historical EPI program, taken the immunization program at a higher level within the health sector.

NIP is also not limited now and will not be limited to childhood vaccination. It has high experiences to handle vaccination beyond childhood. As many vaccines are now available for adult including COVID-19 vaccine, NIP has to continue and strengthen to play its role for vaccination throughout the life course. Decision makers of Government has to think and plan to facilitate for vaccination throughout the life course.

Other reason and need to consider essential changes for the immunization program are that NIP won't be able to remain an isolated vertical program in the future, especially after the transition out of Gavi funds. Optimization of resources will be a major priority for Government. Although the immunization program should be given the highest value as one major program of primary health care (PHC), its further integration into PHC will also be essential. Several middle-income countries have demonstrated in recent decades that it was the suitable way to follow.

However, changes are not coming without pitfalls, especially for a successful program like immunization, and the preparation and proper transition will be of the highest importance. So, considering those reasons and needs for changes, what and how do we want the immunization program in Cambodia to look like at the horizon 2030?

4.2. What changes for NIP at the horizon 2030 and how to approach?

There is a need for fundamental reflection and prospective for being able to think and conceive essential changes for NIP structure, functions and resources over the next 5 to 10 years. Those changes will require much structured work between all major stakeholders' involvement, and the "change process" couldn't be realised within the frame of this NIS 2021-2025 without thoughtful study and research. However, one may now start paving the way and planning for that initial work, considering the following points.

First, a collective reflection should be done on COVID-19 response to inform NIP in areas such as Government leadership, human resources requirement, stakeholders' collaboration and coordination, communities' engagement, healthcare workers' skill set, surge capacity. All that information coming out of a thorough analysis will help thinking the future NIP structure, functions and resources, but also its governance and management.

Then, options and scenarios need to be studied and proposed, considering life course immunization, with adolescent and adult vaccination, but also further strategies to reach the unreached which remains a high priority in the region (reference to “WHO vision with Western Pacific Member States, August 2019”). In that regard, the UHC agenda remain central when thinking the future of the NIP program, but also the evidence that vaccination should be an integral part of the health emergency response.

Subsequently, the system design will be a major area to further study to strengthen the immunization program. Immunization is a core public health service, part of a decentralized system, however there are currently limitation in its development with the verticality of the NIP program itself. Its evolution certainly requires essential thinking and changes to get it more integrated. Creating a new parallel system, e.g. for adolescent and adult vaccination (COVID-19 example) is probably not an adequate solution, therefore developing and enhancing the current program will be the way to explore. In that regard, study and research need to consider more options for service delivery, as one size model is not fit for all, especially as health centres are currently a flagship. Experiences of EPI/NIP reform from middle-income countries would be an interesting subject to look at and study.

Finally, the financing of a wider-scale immunization program with its long-term sustainability will be a major domain to investigate. There is a need to study what and how financial investment should be made, considering immunization is not only costing money but saving money too. The business model that goes with such investment should be defined exploring different areas, like public-private partnership, health insurance system, adult payable vaccination, international vaccination centre.

In summary, the NIP structure, functions and resources at the horizon 2030 need to be deeply reconsidered, promoting the immunization program at a higher-level inside MOH, PHD and OD, providing reinforced governance, human resources and funds, reinforcing management and coordination mechanisms and scientific advisory body. Basically, NIP should become a new enhanced program, that could be called “NIP+”.

When to consider these essential changes for NIP?

It is important to mention that the National Immunization Strategy (NIS) 2021-2025, in its current format, did not have the objective nor the capacity to already propose and implement essential changes and/or to reform the NIP structure, functions and resources, including governance and management. The priorities, strategies and main interventions identified in this NIS document are somehow starting “bridging” the present NIP to an enhanced NIP for the period 2021-2025, and some strategies are starting tackling some changes, like increasing immunization governance, human resources and financing.

However, “full change” strategies and reform, as above presented, will definitely need further collective reflection among major stakeholders, structured research and studies, with more time and validation as it will touch the healthcare system itself. The period 2022-2023 may be envisaged to conduct these collective reflection, research and studies, considering the current proposed NIS 2021-2025 a living document which should evolve defining the immunization program at the horizon 2030.

5. Resource requirements and financing

5.1. Resources requirements

Strategies and main interventions enumerated in this NIS document were subsequently broken down into detailed activities which in turn were costed using the new software NIS.Cost App. The total resource requirements in the NIS.Cost App combine two specific costings, not mutually exclusive:

1. Resources required to implement the main interventions and changes proposed in the NIS
2. Resources required to keep the routine immunization program functioning as usual

The NIS main interventions costing is referring to all specific interventions considered necessary to reach objectives and strategies defined for next five years, either high priority or ongoing priority.

The routine immunization program costing is referring to the day-to-day activities to keep the immunization program functioning well, i.e. procuring all vaccines with supplies, procuring cold chain and logistics equipment, implementing maintenance for CCE, providing essential immunization service delivery (outreach, fixed sessions), implementing supervision visits, procuring laboratory reagents for eradication, elimination and control initiatives, implementing routine immunization communication.

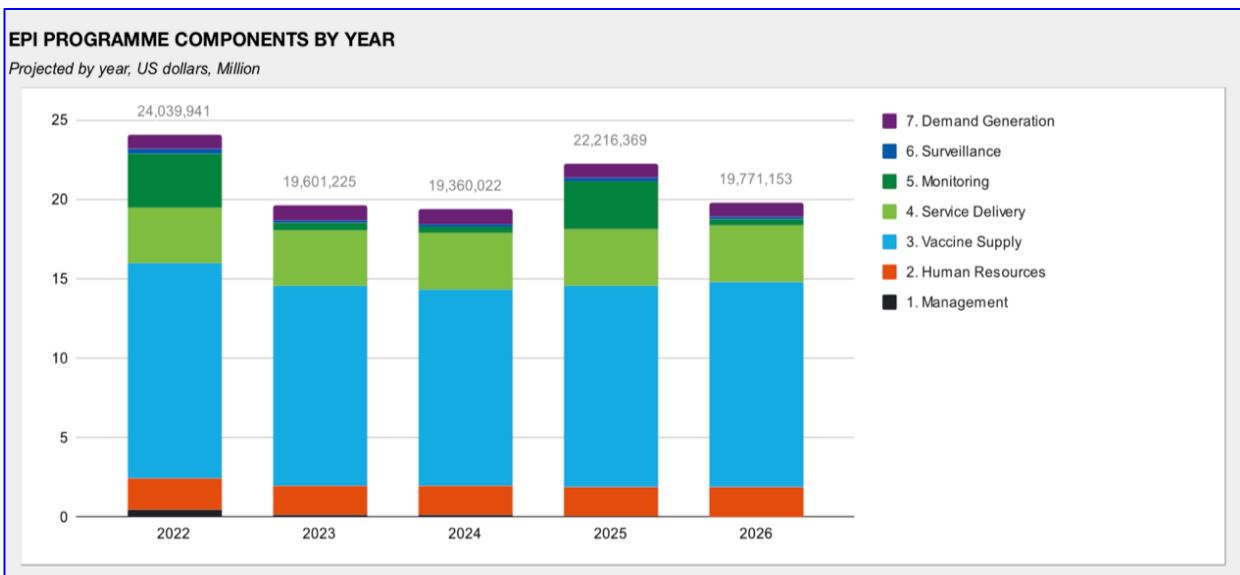
Below is a summary of the resource requirements. All data, assumptions, sources and analysis are provided in details in the NIS.Cost App for Cambodia NIS 2021-2025. It is important to remind that the NIS resources requirements are solely overall estimates for subsequent budget dialogue. Further precision in costing will be brought in AOP exercise on an annual basis.

Resource requirements split between NIS interventions and NIP routine activities (US dollar)

Type of intervention	Total 5 years
NIS interventions	35,859,770
NIP routine activities	69,128,940
Total type of interventions	104,988,710

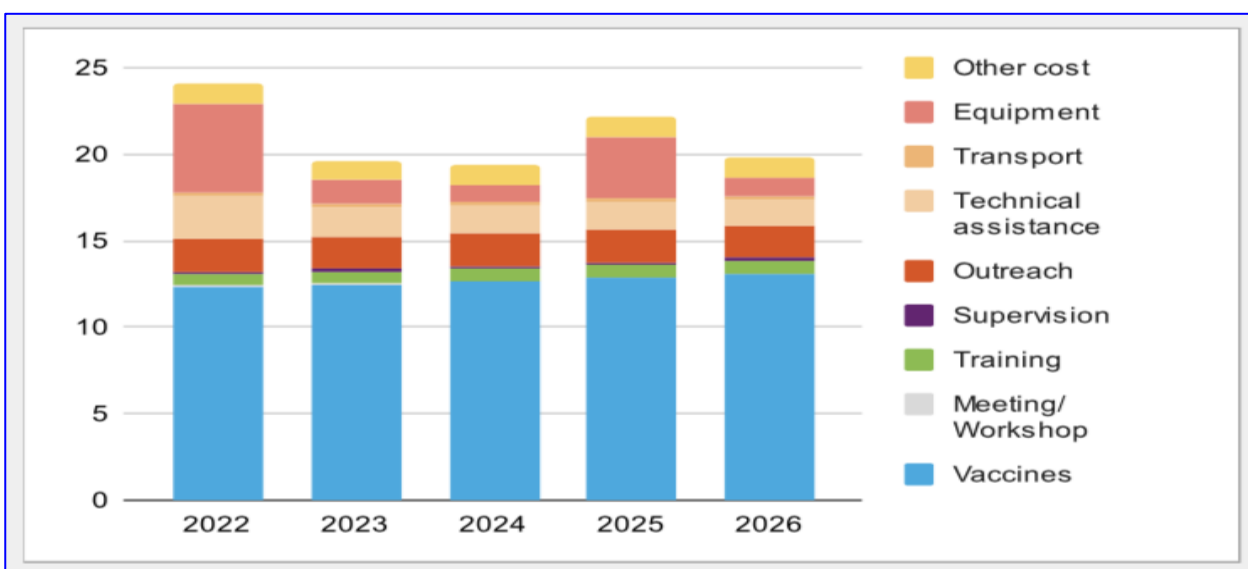
Resource requirements by immunization system component (US dollar)

No	Immunization system component	2022	2023	2024	2025	2026	Total 5 years
1	Management	455,237	171,847	121,757	71,667	21,577	842,085
2	Human Resources	1,978,204	1,841,264	1,841,264	1,841,264	1,841,264	9,343,260
3	Vaccine Supply	13,510,271	12,549,210	12,377,072	12,642,563	12,900,132	63,979,249
4	Service Delivery	3,504,430	3,481,582	3,506,107	3,578,007	3,556,262	17,626,386
5	Monitoring	3,422,515	483,540	440,040	3,020,990	440,040	7,807,123
6	Surveillance	303,699	175,279	175,279	225,279	175,279	1,054,815
7	Demand Generation	865,586	898,504	898,504	836,599	836,599	4,335,793
Total all components		24,039,942	19,601,226	19,360,023	22,216,369	19,771,153	104,988,713



Resource requirements by costing line item (US dollar)

No	Costing line items	2022	2023	2024	2025	2026	Total 5 years
1	Vaccines	12,296,965	12,481,115	12,668,025	12,857,747	13,050,301	63,354,153
2	Meeting/ Workshop	107,900	32,900	32,900	32,900	32,900	239,500
3	Training	691,626	714,826	699,166	732,806	775,726	3,614,150
4	Supervision	139,156	139,156	139,156	139,156	139,156	695,780
5	Outreach	1,855,386	1,855,386	1,855,386	1,855,386	1,855,386	9,276,930
6	Technical assistance	2,474,164	1,660,729	1,610,639	1,583,154	1,486,054	8,814,740
7	Transport	267,665	267,665	267,665	267,665	267,665	1,338,325
8	Equipment	5,116,914	1,356,750	963,667	3,574,516	993,566	12,005,413
9	Other cost	1,090,165	1,092,698	1,123,418	1,173,038	1,170,398	5,649,717
Total all costing lines		24,039,941	19,601,225	19,360,022	22,216,368	19,771,152	104,988,708



5.2. Financing

Concerning the financing, the major sources of funds are from the Government and from Gavi, with some additional funds from the Development Partners. Based on the NIS 2021-2025 strategies and on the resources requirements calculated, a budget dialogue is to be held between the stakeholders. Subsequently, Cambodia will conduct the Full Portfolio Planning (FPP) exercise which, based on comprehensive and extensive analysis of performance to date and routine immunization program needs for the NIS 5-year strategic period, entails developing one program-wide plan and funding request that is then submitted to Gavi.

Funding available from Gavi for the 5-year period includes funding for procurement of vaccines in the existing routine schedule (co-financed by the Government), new vaccines introduced into the routine schedule (e.g. HPV, rotavirus) and campaigns, vaccine introduction grants and operational support for campaigns, cold chain equipment, health systems strengthening, and partner technical assistance. It should be noted, however, that this funding envelope will be significantly smaller than previous funding envelopes for similar strategic periods. Specifically, the ceiling for Cambodia's next 5-year Gavi Health System Strengthening grant (HSS3) is US\$ 13.2 million, a greater than 50% reduction than the current Gavi HSS grant (HSS2) which had a ceiling of US\$ 28.1 million.

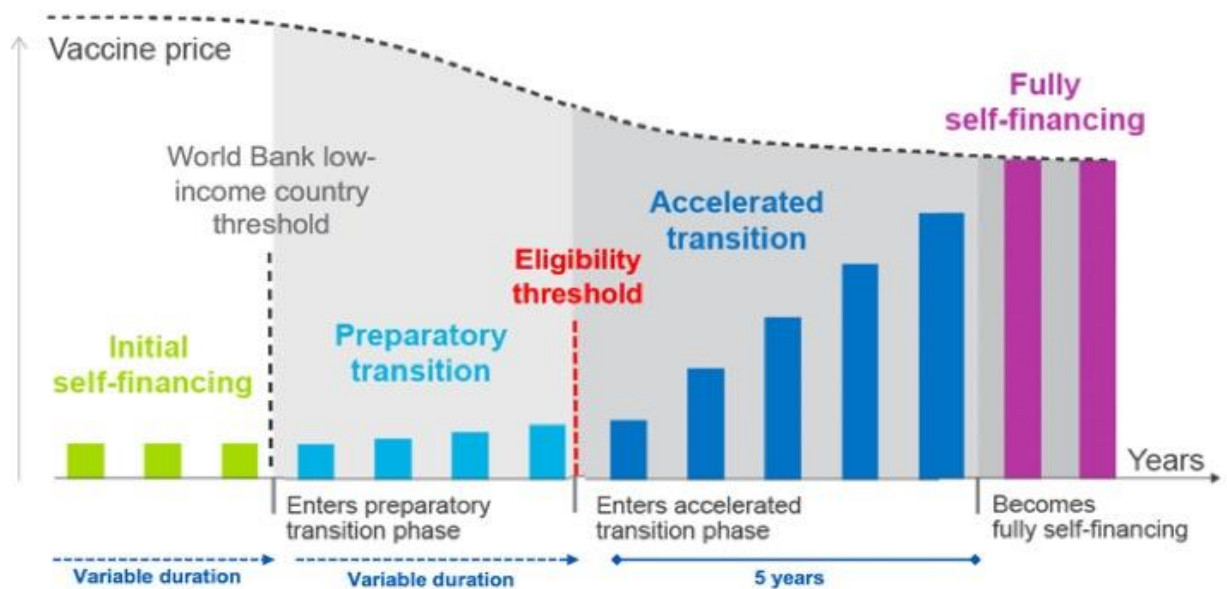
5.3. Special financial considerations

Immunization strategies' financing could be impacted by some specific time- and resources-taking interventions, but also by economic circumstances. It is therefore important to highlight those special financial considerations, in order to keep them in perspective for the NIS implementation and make sure they will be properly budgeted and financed.

Transition out of Gavi financial support

GAVI financial support has been and will continue to be important for the immunization program in Cambodia in the coming years. Current fiscal challenges due to the impact of COVID-19 have strained the economy, with revenue mobilization decreasing, social intervention expenditures increasing and considerable budget for health being diverted to support the rollout of COVID-19 vaccination and management. However, prior to the COVID-19, Cambodia has seen a sharp increase of its GNI per capita (World Bank, Atlas method) from US\$ 1,060 in 2015 to US\$ 1,530 in 2019.

It means that, after the COVID-19 recovery, the GNI per capita could soon reach the threshold of US\$ 1,630, triggering the start of the transition phase out of Gavi financial support. Gavi anticipates preliminarily based on historical economic growth that Cambodia will begin the 'accelerated phase' of transition in 2026 during which Gavi support will be phased out over a 5-year period (as the Government's co-financing obligation increases) until the country is fully self-financing. Refer to diagram below depicting the phases of transition from Gavi financial support.



Critically, during the phase of accelerated transition, support from Gavi for both vaccine procurement as well as health systems strengthening (technical support) will decrease year on year. The Government needs to be well prepared in advance for that transition, and already start considering the resources requirements to be covered by the domestic funds.

COVID-19 vaccination

For the COVID-19 vaccination, it will be of the highest importance to understand the future scenarios. In this NIS document, strategies are already starting considering the fact that COVID-19 vaccination may continue. However, future scenarios, with childhood and adult's vaccination integrated within routine immunization, will required much more understanding the necessary resources requirements.

In that regard, a thorough assessment and analysis should be done on the COVID-19 response to inform scenarios and resources requirements in areas such as vaccine and equipment supplies, service delivery, human resources, communities' engagement, healthcare workers' skill set, surge capacity.

New vaccine introduction

There was some attempt in recent years to introduce new vaccines like HPV, with an application to Gavi approved in March 2019. However, hesitation regarding the selection of the type of HPV vaccine and more recently the impact of COVID-19, all have led to the postponing of the introduction. In that regard, deciding on the HPV type of vaccine to be used and securing the HPV co-financing will be important.

Other new vaccines introduction (NVI) has been mentioned in this NIS, like rotavirus, Td and influenza vaccines, within the frame of expanding immunization along the life course. Also, a 2nd dose of IPV is considered within the WPR immunization policies and strategies. Diseases burden studies but also cost-effectiveness studies are important to properly decide on NVI policies and strategies, considering the resources requirements to be secured. Early NVI decision making is also recommended so that there is sufficient lead time to plan and mobilize adequate financing.

Also, Cambodia currently does not have a formal scientific advisory committee on immunization (e.g. NITAG), although the TWGH is the body to make decision on NVI. NITAG usually plays an essential role in preparing data and facilitating discussions and decisions concerning NVI. Strengthening the capacity and focus on immunization of existing TWGH will be important for NVI decision-making.

Supplementary immunization activities

In the context of Cambodia decreasing immunization coverage due to the impact of the COVID-19 response burden, susceptible population for disease like measles and rubella has been slightly growing. Moreover, it was already recognized before the COVID-19 period that susceptible population was growing in unreached population. It may represent now a non-negligible risk of outbreak, and consecutively a disruption of the routine immunization program, as the focus will be turned once again towards outbreak response.

In order to avoid any outbreak to develop, Cambodia may need to implement preventive supplementary immunization activities (SIA) with MR and potentially with OPV vaccines, focusing on low coverage geographical areas and specific vulnerable age groups. Budgeting and financing those SIAs will be important too.

6. Monitoring and evaluation

6.1. Monitoring NIS and NIP

Monitoring the NIS implementation is normally different from measuring NIP performances, which countries usually do routinely, irrespective of the existence of the NIS. In the case of Cambodia, there are certainly the HMIS and the NIP dashboard which could provide some information, but no specific monitoring and evaluation (M&E) framework for NIP, useful for priorities setting, decision making and program management.

In the Cambodia context, it will be an illusion to consider two separate M&E frameworks, one for monitoring the implementation of the NIS and one for monitoring the NIP performances. Therefore, to simplify, only one M&E framework is proposed, including essential indicators to monitor the NIS implementation and the NIP performances. In that regard, most of the objectives enumerated in this NIS document are included in the proposed M&E framework.

Concerning a more detailed monitoring of the NIS implementation, the main interventions highlighted in this document will regularly be tracked, and also reviewed during a mid-term review (e.g. in 2023), which will be an important step to check if the NIS is on track. In that regard, WHO standard international EPI program review and other assessments (e.g. EVM) could be part of the evaluation of the program. Finally, let's not forget that the NIS will be translated in annual operational plans (AOPs), which will have their own monitoring of activities.

6.2. Monitoring and evaluation framework

In order to avoid overburdening the immunization program with too many indicators and targets, an optimal list of indicators was considered for the M&E framework. They are classified in 4 sections: a) impact indicators, b) outcome indicators, c) output indicators, and d) Western Pacific Region Strategic Framework indicators that Member States are committed to. The following table provides a summary list of those core indicators. A separate M&E template provides the complete set of indicators with the sources of data, the baseline values and the target values.

Note: As IA 2030 and WPRSF 2021-2030 have not yet specified M&E indicators as of now, some flexibility to accommodate additional indicators for M&E framework in Cambodia would be applicable.

	Indicator
I. Health impact indicators	
I.1	<i>Under-five mortality rate: Number of deaths of < 5-year-old children per 1,000 live births</i>
I.2	<i>Measles incidence: Number of laboratory-confirmed measles cases per 100,000 population</i>
I.3	<i>Hepatitis B incidence: Number of chronic hepatitis cases among < 5-year-old children</i>
II. Immunization outcomes indicators	
Immunization coverage	
II.1	<i>DTP3/Penta3 coverage: Proportion (%) of children under one year receiving 3 doses of diphtheria-tetanus-pertussis containing vaccine</i>
II.2	<i>MCV1 coverage: Proportion (%) of children under one year receiving the 1st dose of measles containing vaccine</i>
II.3	<i>Hepatitis B coverage: Proportion (%) of live births receiving the hepatitis B vaccine within 24 hours</i>
II.4	<i>Children fully immunized: Proportion (%) of children under one year receiving all basic vaccinations as per the immunization schedule</i>
Immunization demand and utilization	
II.5	<i>Dropout rate: Proportion point difference (%) between DTP1/Penta1 and DTP3/Penta3 vaccine coverage</i>
II.6	<i>Timeliness of vaccination: Proportion (%) of surviving infants receiving the 1st dose of MCV on time</i>
Immunization equity	
II.7	<i>Geographic equity: Proportion (%) of operational districts with at least 80% for DTP1 vaccine coverage</i>
II.8	<i>Zero-dose children: Proportion (%) of children who did not receive 1st dose of DPT by 1 year of age</i>
III. Immunization output indicators	
Program management and financing	
III.1	<i>Government expenditures for immunization</i>
III.2	<i>Proportion (%) of total estimated costs funded with dedicated budget lines</i>
III.3	<i>Proportion (%) of funds disbursed by versus allocated to provincial Government for immunization activities</i>
III.4	<i>Proportion (%) of health facilities with completed report submitted on time?</i>
III.5	<i>Presence of an independent scientific advisory group (e.g. NITAG) that meets standard criteria</i>
Human resources management	
III.6	<i>Proportion (%) of vacant positions out of budgeted positions for immunization provincial officers</i>
III.7	<i>Proportion (%) of immunization staff from health facilities which participated in an immunization training</i>
III.8	<i>Proportion (%) of healthcare facilities providing immunization that received 2 supervision visits per year</i>
III.9	<i>Proportion (%) of healthcare facilities providing immunization that received at least 1 supervision visit per year</i>
Vaccine supply, quality and logistics	
III.9	<i>Proportion (%) of districts vaccine stores that did not experienced any stockout of any childhood vaccine</i>

	Indicator
III.10	Proportion (%) of healthcare facilities providing immunization that have a functioning cold chain equipment (CCE)
III.11	Proportion (%) of healthcare facilities with adequate cold space availability
III.12	Proportion (%) of districts vaccine stores equipped with temperature monitoring device (Fridge Tag)
Service delivery	
III.13	Proportion (%) of districts with completed micro plan for immunization activities
III.14	Proportion (%) of fixed immunization sessions conducted against planned immunization sessions
III.15	Proportion (%) of outreach immunization sessions conducted against planned sessions, using Government fund
Immunization coverage and AEFI monitoring	
III.16	Percent point (%) between administrative data and survey data for DTP3/Penta3 coverage
III.17	Proportion (%) of districts reporting administrative coverage of DTP3/Penta3 >100%
III.18	Proportion (%) of districts with a negative drop-out rate between DTP3/Penta3 and DTP1/Penta1
III.19	Proportion (%) of provinces which conducted a data quality assessment
III.20	AEFI rate: Number of AEFI cases reported per 100,000 surviving infants
VPD surveillance and control	
III.21	Proportion (%) of provinces which did not report any AFP case
III.22	Non-polio AFP rate: Number of Acute Flaccid Paralysis (AFP) cases reported per 100,000 < 15 years population
III.23	AFR rate: Number of Acute Fever and General Rash (AFR) cases reported per 100,000 population
Advocacy, communication and demand generation	
III.24	Proportion (%) of healthcare facilities providing immunization where community awareness/engagement meeting was conducted
III.25	Proportion (%) of healthcare facilities providing immunization where village health volunteers were engaged
IV. Western Pacific Regional Strategic Framework 2021-2030 goals and targets	
IV.1	Polio - Goal: Elimination of infection (regional eradication, including VDPV) Target: Zero incidence of polio due to any type of poliovirus infection
IV.2	Measles - Goal: Elimination of infection Target: Zero incidence of measles due to endemic measles virus infection
IV.3	Rubella - Goal: Elimination of infection Target: Zero incidence of rubella due to endemic virus infection; zero cases of domestically acquired CRS
IV.4	Tetanus - Goal: Elimination of disease Target: (1) achieve MNT elimination (defined as < 1 NT case/1000 live births in each district) in the Region; and (2) maintain MNT elimination in every country and area
IV.5	Hepatitis B - Goal: Elimination of mother-to-child transmission Target: Reduce chronic hepatitis B to less than 0.1% among 5-year-old children

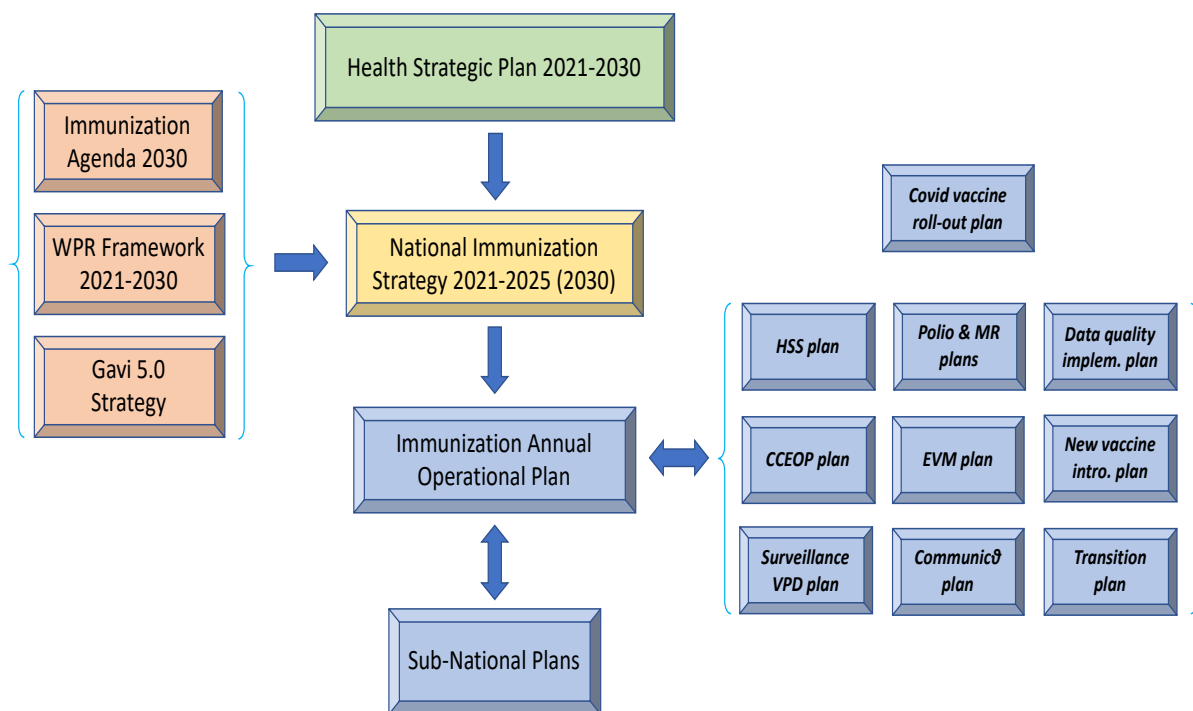
	Indicator
IV.6	Diphtheria - Goal: Accelerated control Target: Zero death caused by infection with <i>Corynebacterium diphtheria</i>
IV.7	Pertussis - Goal: Accelerated control Target: Zero death caused by infection with <i>Bordetella pertussis</i>
	Other VPDs (13) - Not yet applicable to context for control purpose: Japanese encephalitis; Human papillomavirus; Hib disease; Pneumococcal disease; Rotavirus diarrhoea; Meningococcal disease; Mumps; Varicella; Seasonal influenza; Rabies; Hepatitis A; Typhoid; Cholera

7. Implementation and operationalization

The NIS 2021-2025 is a strategic document and as such its implementation and use is multidimensional. First, this is an advocacy document, which will be used for discussing programmatic and financial priorities within the Government and the stakeholders, including Development Partners.

In that regard, the NIS is a document linked and inter-dependant to other immunization strategic documents, i.e. IA 2030, WPRSF 2021-2030, Gavi 5.0 Strategy. Also, as the NIS 2021-2025 is covering some health system components (like governance, human resources, financing) which go beyond immunization, it is also interrelated to wider strategies like the National Strategic Development Plan (NSDP) 2019-2023, HSP 2021-2030, HWDP 2021-2025.

The NIS will then be concretely translated into annual operational plans (AOPs), national and subnational, enabling a clear description of all activities necessary to implement the NIS strategies and main interventions. The AOP will be driven by the NIS, but will also be aligned with all technical workplans which have been in use in the immunization program. The below representation describes the interrelation of the NIS with all different strategic and operational plans.



7.1. Risk, assumption and mitigation

The NIS is a dynamic document and as such might need revision when the environment or assumptions change. In case the situation changes in a negative direction, e.g. unexpected decrease in funding, vaccine-preventable disease outbreak or the emergence of a new disease that threatens the health system, such as COVID-19, the scope of the NIS might need to prioritize or deprioritize certain interventions. Not all changes should trigger a revision of the NIS - only significant changes - and care should be taken not to change course too often.

Important stakeholders like the Ministry of Economy and Finance (MOEF), but also Development Partners like the World Bank (WB) and the Asian Development Bank (ADB) are closely monitoring the fiscal situation in Cambodia and are supporting the Government and MOH in assessing the risk, assumption and mitigation for the health sector, including immunization.

7.2. From NIS to AOP

The annual operational plan (AOP) is the identification of actionable activities to be carried out to achieve NIS priorities, objectives and strategies. The AOP is managerial and shorter term, as opposed to strategic planning, dealing with month-by-month or quarter-by-quarter activities and often with one-year time horizon (annual plan). The AOP will operationalize NIS strategies/main interventions at both national and provincial levels, and therefore it is essential that all activities in the AOP are aligned with NIS strategies/main interventions.

An AOP typically includes the following headings:

- ⇒ **What:** Description of activities for each strategy/main intervention of the NIS
- ⇒ **Who:** Person(s) and/or institution(s) responsible for the activities?
- ⇒ **What cost:** Resources required and origins of resources
- ⇒ **When:** Timing and sequencing of all activities
- ⇒ **How:** A method to measuring progress (monitoring)
- ⇒ **Which priority level:** A colour code, e.g. red for high, yellow for medium, green for low
- ⇒ **Which referring plan:** Information and link to other plans (HSP, HSS, EVMIP)

As a package with the NIS guidelines and NIS. Cost App, “Guidelines for development or optimization of annual operational plan for immunization services” were developed and are available on WHO and UNICEF websites mentioned in the annexed documents.

Rolling AOP

In addition to standard AOP, MOH and PHDs would consider description of activities that are expected to be implemented over a period of one to two years beyond the period of the AOP. That will be what is called a “Rolling AOP”. The reason for capturing additional activities in a rolling AOP is to increase the visibility of upcoming activities and improve the planning of activities that specifically work towards a common objective (e.g. NVI, SIA), and require sequencing of implementation over a multi-year period. Rolling AOP should only capture prioritised interventions included in the NIS.

ANNEXED DOCUMENTS TO NIS 2021-2025

Several documents were enumerated in the NIS. In order to avoid overloading this NIS document, they won't be attached as annexes, but they are all available in NIP and on the mentioned websites.

1. List of all stakeholders involved in the NIS development
2. List of all reports and assessments (2016-2020) reviewed for the situation analysis
3. Report of the consolidated situation analysis with all PHD inputs
4. NIS.Cost App filled-in with costing, budgeting and financial information
5. M&E framework, including indicators, sources of data, baseline and target values
6. Guide for conducting an Expanded Program on Immunization (EPI) Review⁸, WHO IVB 17.17
7. Guidelines for developing a National Immunization Strategy (NIS)⁹, WHO Aug. 2021
8. NIS costing approach NIS.Cost App¹⁰
9. Guidelines for development or optimization of AOP for immunization services¹¹, UNICEF Aug.2021

⁸ [www.who.int/publications/i/item/a-guide-for-conducting-an-expanded-programme-on-immunization-\(epi\)-review](http://www.who.int/publications/i/item/a-guide-for-conducting-an-expanded-programme-on-immunization-(epi)-review)

⁹ www.who.int/teams/immunization-vaccines-and-biologicals/vaccine-access/planning-and-financing/nis

¹⁰ immunizationeconomics.org/unicef-niscost => NIS.Cost App to be available shortly online

¹¹ <https://immunizationeconomics.org/unicef-national-planning-and-budgeting>