

COUNTRY NATIONAL VACCINATION PRIORITIZATION AND ALLOCATION PLAN¹

A. The Plan

1. The Philippines' National COVID-19 Vaccination Plan (The Plan) is encapsulated by two key documents of the government: (i) the National COVID-19 Vaccination Roadmap Framework developed by the COVID-19 Vaccine Cluster under the Inter-agency Task Force for the Management of Emerging Infectious Diseases (IATF) with a designated vaccine czar; and (ii) the National Deployment and Vaccination Plan for COVID-19 Vaccines by the Department of Health (DOH).

2. The National COVID-19 Roadmap provides the broad framework, principles, and directions for the government's national vaccination program. It provides key considerations for the selection of vaccines (e.g., safety, efficacy, sensitivity, supply, cold chain requirement), the process and stages of vaccination from scientific evaluation to monitoring and safety surveillance, and the desired end-state of coronavirus vaccination. It sets for the prioritization principles in line with World Health Organization's Strategic Advisory Group of Experts on Immunization (SAGE) guidance and recommendations and country context (priority groups, sectoral, and geographical), and allocation plan for vaccines relative to various capacities.

3. The National Deployment and Vaccination Plan for COVID-19 Vaccines provides the detailed operations plan and delivery system covering regulatory approvals, institutional arrangements, planning and coordination, vaccine delivery, demand generation and risk communication, cold chain and logistics, medical waste management, safety surveillance, and monitoring and evaluation, and other mechanisms. It further defines the implementation arrangements, roles, and responsibilities within the DOH, other responsible agencies of the central government, and the local governments.

4. **Goal, processes, and end state.** The coronavirus disease (COVID-19) vaccination program aims to have: a safe, equitable, and cost-effective immunization for all Filipinos; full economic recovery and normalcy of people's lives; and a sustainable immunization program for 3–5 years. In view of providing access to safe and effective COVID-19 vaccines among its population, it has put in place mechanisms and processes on the following: scientific evaluation and selection; access, procurement, financing; shipment and storage; vaccine distribution, deployment, and nationwide administration; and assessment, monitoring, and evaluation. The intended results or desired end- state of the program are as follows: have a safe, equitable, and cost-effective immunization for all of Filipinos; attain full economic recovery and normalcy of people's lives; and have a sustainable immunization program for 3-5 years. Table 1 shows the phases and critical activities of the roadmap.

Table 1: Phases and Critical Activities

Assessment	Planning	Preparation	Execution
(i) Scientific evaluation and selection (Portfolio)	(i) Building the roadmap	(i) Diplomatic engagement	(i) Procurement process
(ii) Identifying risks and decision points	(ii) Planning and organizing	(ii) Negotiating and contracting	(ii) Production, shipment, and storage
	(iii) Lining up critical activities	(iii) Confirming financing scheme	(iii) Distribution and deployment
		(iv) Preparing supply chain	

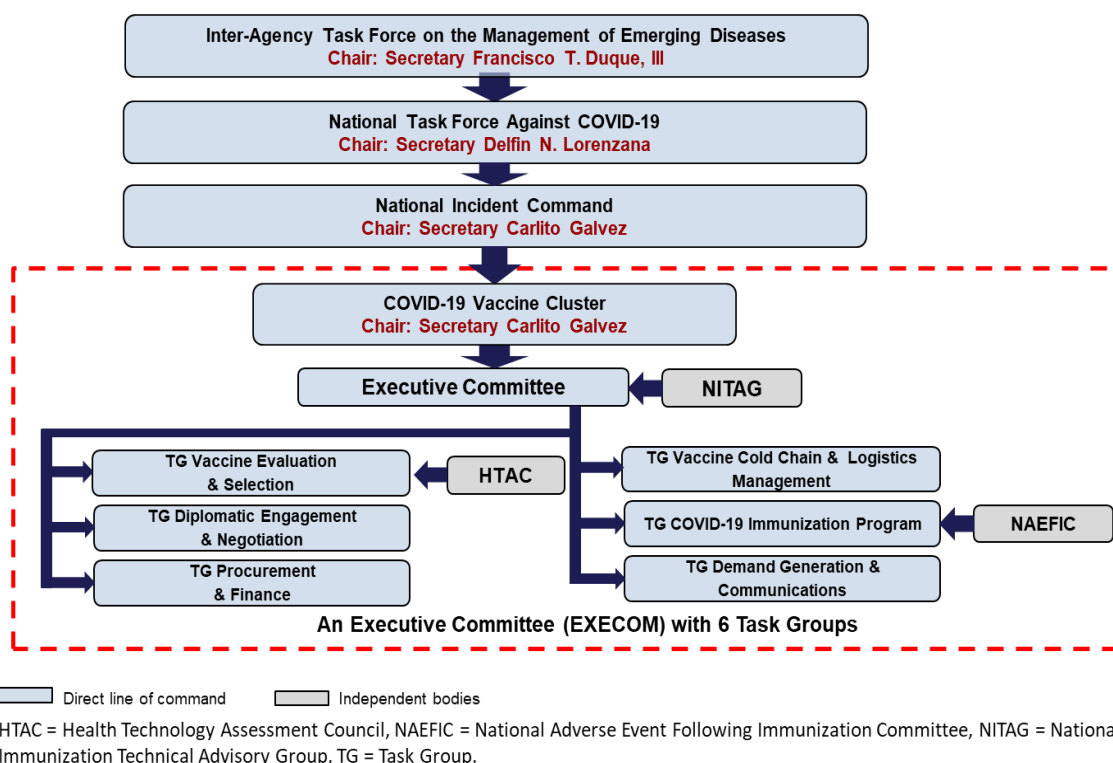
¹ Summary based on the Philippines National COVID-19 Vaccination Roadmap Framework, and the Philippine National Deployment and Vaccination Plan for COVID-19 Vaccines.

Assessment	Planning	Preparation	Execution
(iii) Determining critical path (iv) Determining resources needed (v) Determining the supply chain requirements	(iv) Delineating tasks / responsibilities of concerned agencies (v) Organizing panel of experts (vi) Determining vaccination center and mobilizing volunteers	(v) Establishing Personal Information System QR codes (vi) Strat Com (Preparing the local government units/ people) (vii) Distribution and deployment planning	(iv) Implementation and vaccination (1) (v) Redeployment and vaccination (2) (vi) Waste disposal

Source: COVID-19 Vaccine Cluster. National COVID-19 Roadmap Framework, December 2020.

5. **Institutional Arrangements.** The IATF organized a COVID-19 Vaccine Cluster—headed by a COVID-19 Vaccine Czar, together with the Response and the Recovery Clusters—which comprises technical working groups to focus on key processes of the vaccination program as provided for in the roadmap: vaccine evaluation and selection, diplomatic engagement and negotiation, procurement and finance, vaccine cold chain and logistics, COVID-19 immunization program, and demand generation and communications. A National Immunization Technical Advisory Group (NITAG) provides advice to the executive committee. The Health Technology Assessment Council supports the evaluation and selection of vaccine candidates, while the National Adverse Event Following Immunization Committee on post-vaccination monitoring and evaluation.

Figure 1: COVID-19 Vaccine Cluster Structure



Source: Adapted from the DOH. Philippine National Deployment and Vaccination Plan. January 2021, p. XX.

6. At the operations level, an Incident Command System will be organized and supported by COVID-19 Vaccine Operations Centers with established units at the national, regional, and local

levels—National COVID-19 Vaccination Operations Center, Regional COVID-19 Vaccination Operations Centers, and Local COVID-19 Vaccination Operations Centers.

7. **Prioritization and Allocation Plan.** The national government targets to vaccinate 50 million up to 70 million people in 2021, and all Filipinos by 2023. It has planned to secure up to 148 million doses of COVID-19 vaccines including free vaccine doses from the COVID-19 Global Vaccines Access (COVAX) facility for up to 20% of eligible population, and from bilateral arrangements with vaccine suppliers. The Plan has set target groups, and priority, eligible population for the vaccination program in line with SAGE and country context (Annex 1). Group A (estimated at 25 million or 23% of the total population), the primary target group, prioritizes frontline health workers, indigent senior citizens, remaining senior citizens and indigent populations, and uniformed personnel. Group B, the second target group (up to 44% of total population), covers teachers and social workers, other government workers (national and local), other essential workers outside health, education, and social sectors; socio-demographic groups at significant risk other than senior citizens and indigent populations (persons with disability, persons deprived of liberty, persons living in high density areas, eligible students); overseas Filipino workers; and remaining Filipino workforce (as may be determined by government agencies. Group C are the remaining Filipinos not included in Groups A and B.

Table 1: Vaccine Allocation Plan for the Philippines, 2021–2023

Vaccine Access		2021		2022		2023	
		Eligible Population		Eligible Population		Eligible Population	
		Number (million)	% of total population	Number (million)	% of total population	Number (million)	% of total population
Target	Current year	70	63%	42	37%	2	2%
	Previous year's			70	63%	112	98%
Total population		110	63%	112	100%	114	100%

Source: Inter-Agency Task Force on Emerging Infectious Diseases. *Philippine National Deployment and Vaccination Plan for COVID-19 Vaccines*. 26 January 2021 (p.38). Manila.

8. **Vaccine delivery.** Broadly, the vaccine delivery follows the multi-level governance structure of the health system, the National Immunization Program, and routine immunization. The DOH will supply and distribute vaccines, guide and monitor implementation, track adverse events, and evaluate the vaccination program. Central health development will facilitate distribution of vaccines to the local government units (LGUs). The private sector is also supporting meet the cold chain system requirements, and logistical arrangements to supply and distribute vaccines nationwide, particularly for vaccines that require ultra-cold storage, i.e., -70°C. Depending on the type of vaccine and cold chain system capacity, health facilities (public and private hospitals and clinics), LGUs (health units), and the vaccination teams will be responsible for on-site pre-implementation, vaccine administration, and post-vaccination procedures. The Plan also provides for the required information system infrastructure, systems and procedures, vaccines delivery, updated protocols particularly for vaccines that require ultra-cold storage and monitoring and evaluation. It adapts an active safety surveillance system to detect and manage adverse events following immunization (AEFI). Annexes 2 and 3 show key processes of the end-to-end delivery under the National Deployment and Vaccination Plan for COVID-19 Vaccines including human resources and AEFI process flow and management.

9. **Geographical consideration.** In addition to the SAGE framework in prioritizing the 3 major target groups and 12 subgroups, the Plan considers the geographical characteristics and the capacities at the subnational level in its deployment strategy. Regional prioritization is based on the burden of COVID-19 cases following the criteria of and guidance from NITAG (Table 2,

Annex 3). NITAG reviews the burden of COVID-19 cases every month and recalibrate priority areas, as appropriate. Based on this, NCR, Region, IV-A, Region XI, Cordillera Autonomous Region, and Region VIII are the top five priority regions. Moreover, the type of vaccines to be distributed or supplied considers the cold chain system requirement.

B. COVID-19 Vaccine Access: Procurement, Regulation, and Financing

10. **Procurement.** In addition to its participation in the COVAX facility, the government continuously engages in dialogues with countries and pharmaceutical companies to ensure access to more COVID-19 vaccines. The Office of the President has allowed the IATF to enter into agreements with private vaccine developers, release advance payments, and access financing and various modalities, including public-private partnerships. The COVID-19 Vaccine Cluster under the IATF together with the Department of Finance and DOH negotiate with vaccine manufacturers (bilateral) to secure, procure, and finance required doses for 2021. The LGUs and the private sector can access vaccines through tripartite agreements with the national government and vaccine manufacturers. Many LGUs have indicated to finance vaccines for their constituents.

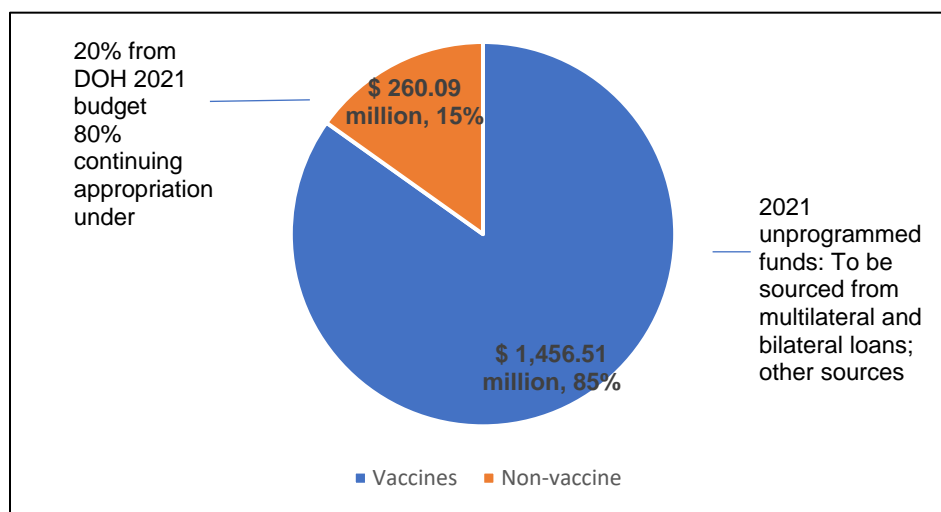
11. **Regulatory approval.** The President issued Executive Order No. 121 granting the Food and Drug Administration (FDA) of the Philippines to issue Emergency Use Authority for COVID-19 drugs and vaccines, which further provides that: *outside clinical trial and except in cases where a Compassionate Special Permit is issued, no unregistered COVID-19 drug and vaccine may be manufactured, sold imported, exported, distributed or transferred without an emergency use authorization (EUA)* (Section 1). Sections 2–4 clearly provide for certain conditions, qualified application for EUA, reliance and recognition of regulatory decision by World Health Organization, United States Centers for Disease Control and Prevention, or other internationally-recognized and established regulatory authorities.² The WHO's issuance of emergency use validation through its Emergency Use Listing (EUL) procedure will expedite or accelerate FDA's regulatory process. Further, Sections 5-7 of Executive Order No. 121 indicate that an expert panel will review the safety and effectiveness of COVID-19 drug or vaccine applied for an EUA, as well as the validity of the EUA, and the conduct of post-authorization monitoring by FDA and pharmacovigilance obligations of the EUA holder.

12. **Indicative Financing Need.** The National COVID-19 Vaccination program is estimated to cost ₱82.5 billion (\$1.7 billion) in 2021; of which, 85% for the purchase of vaccines and 15% for non-vaccine items. The national government has appropriated a total of ₱72.5 billion (or approximately \$1.5 billion) for COVID-19 vaccine access and delivery under the 2021 General Appropriations Act (national budget law). This will complement the vaccine provisions under the Bayanihan to Recover as One Act (Bayanihan 2), which includes appropriation of ₱10 billion (or approximately \$0.2 billion) for testing and procurement of COVID-19 medication and vaccine.³ Figure 1 shows the indicative program financing in 2021 for the national government.

² Government of the Philippines. 2020. [Executive order No. 121, S. 2020](#). Manila.

³ Government of the Philippines. 2020. *RA No. 11494: An Act Providing for COVID-19 Response and recovery Interventions and Providing Mechanisms to Accelerate the Recovery and Bolster the Resiliency of the Philippine Economy, Providing Funds therefor, and for Other Purposes*. Manila. The government has extended the use of funds under this law until 30 June 2021.

Figure 1: Indicative National Government Vaccination Program Financing (\$ million)



DOH = Department of Health.

Note: \$1 = Php 48.06.

Source: Asian Development Bank staff estimates.

13. The government requested the Asian Development Bank (Annex 4) and other development partners to support the national COVID-19 vaccination program. This includes financing and procurement of vaccines, and technical assistance including vaccine introduction readiness, vaccination campaign, risk communications, monitoring and evaluation.

Annex 1: Target Groups, Prioritization and Eligible Population

Target Group	Prioritization	Eligible Population in 2021*
Group A	1: Frontline health workers 2: Indigent senior citizens 3: Remaining senior citizens 4: Remaining indigent population 5: Uniformed personnel	25 million or 23% of the population
Group B	6: Teachers and social workers 7: Other government workers (national and local) 8: Other essential workers (outside health, education, and social sectors) 9: Socio-demographic groups at significant risk other than senior citizens and indigent populations (persons with disability, persons deprived of liberty, persons living in high density areas, eligible students) 10: Overseas Filipino Workers 11: Remaining Filipino workforce (as determined by relevant government agencies)	49 million or 44% of the population**
Group C	12: Remaining Filipino citizens (other Filipino citizens not in Group A and Group B)	36 million or 33% of the population

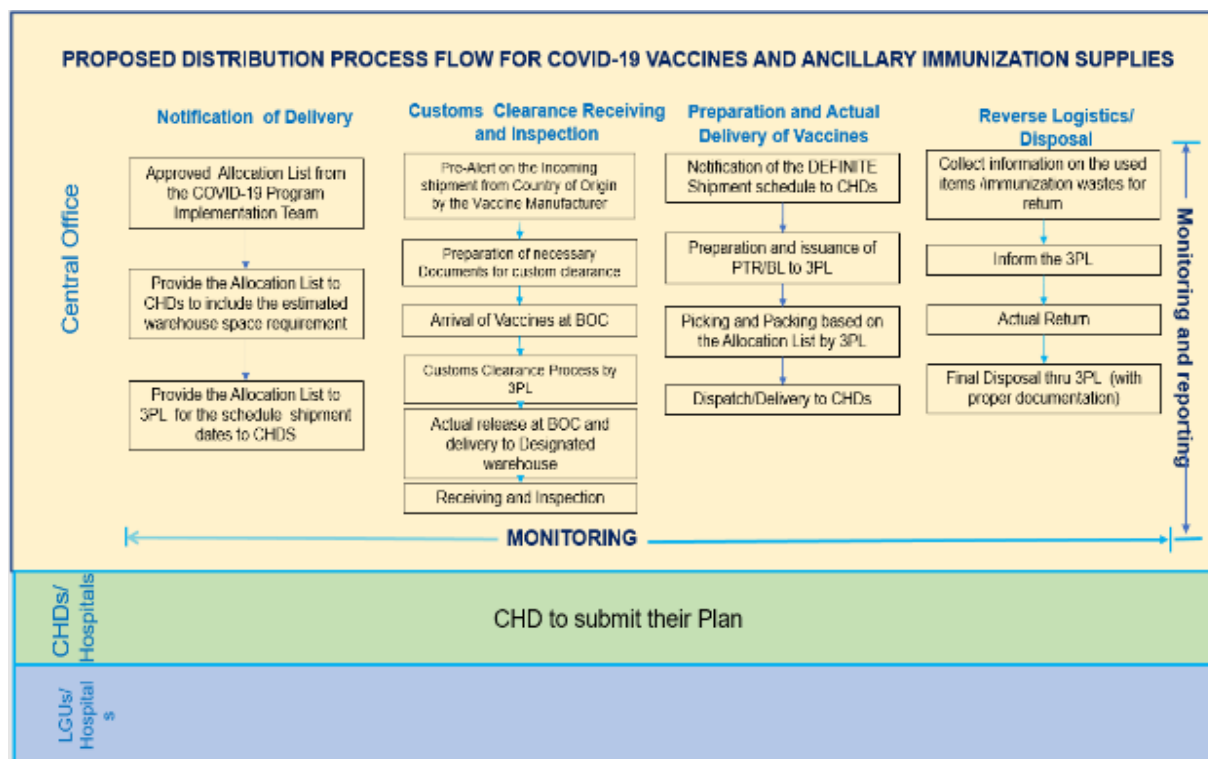
Note: *Not all can receive vaccines in 2021

** Added potential coverage of eligible students under Priority 9 with enrollment data the Department Education, Commission on Higher Education, and Technical Education and Development Authority.

Source: National Deployment and Vaccination Plan for COVID-19 Vaccines. Interim Plan January 2021. With updates from various sources.

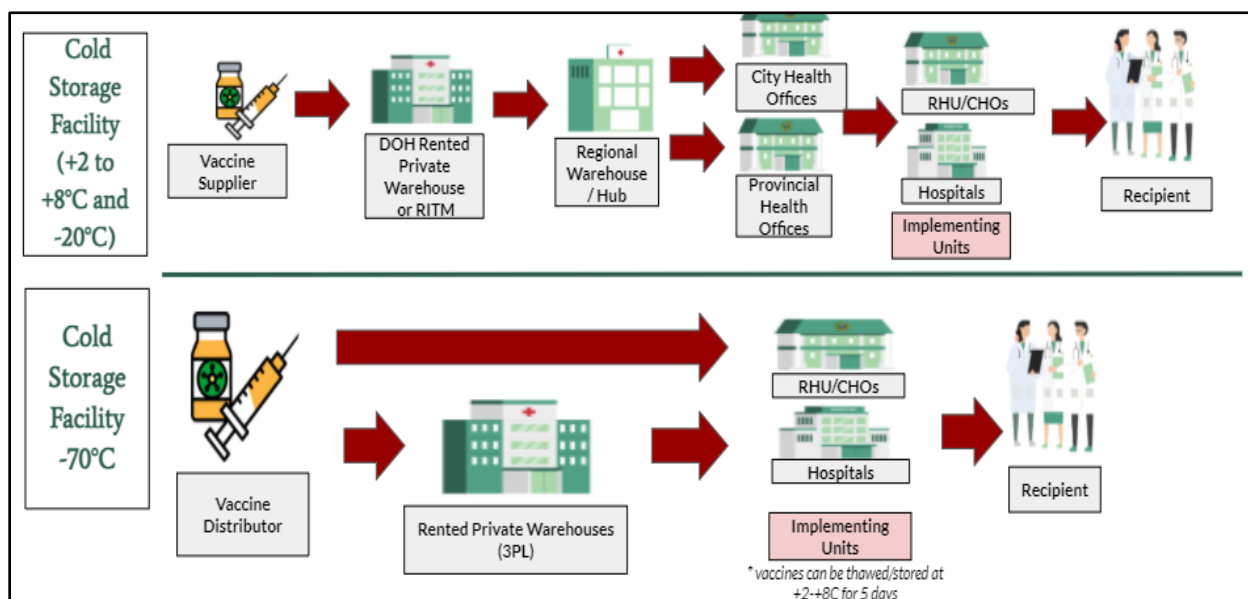
Annex 2: KEY PROCESS ON COVID-19 VACCINE DELIVERY

Figure 1: Vaccine Delivery and Monitoring Process



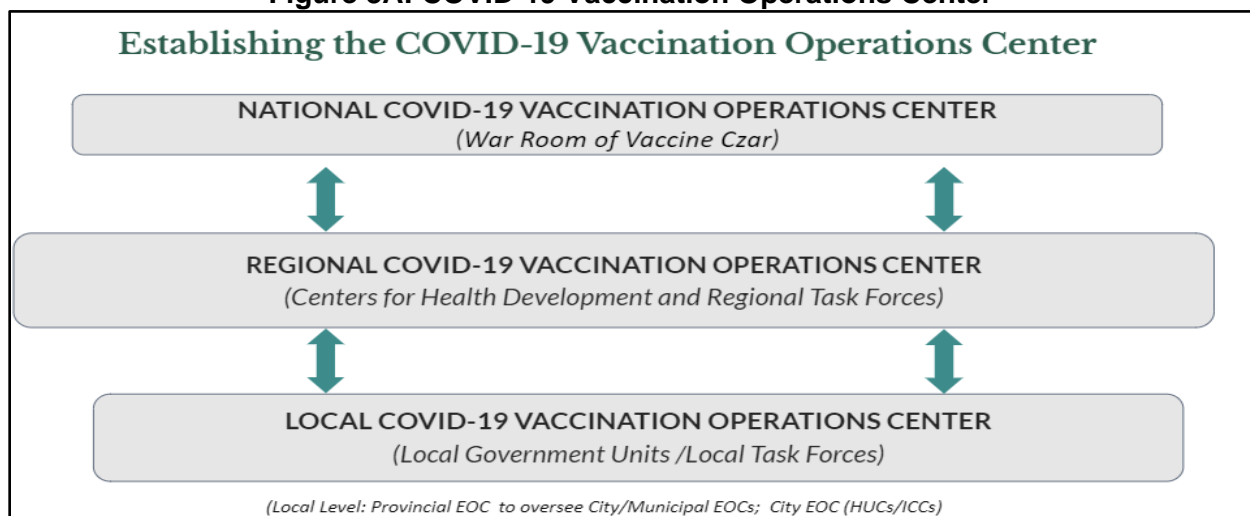
Source: Adapted from the DOH. Philippine National Deployment and Vaccination Plan for COVID-19 Vaccines. January 2021, p. 44.

Figure 2: Distribution of Vaccines According to Storage Requirement



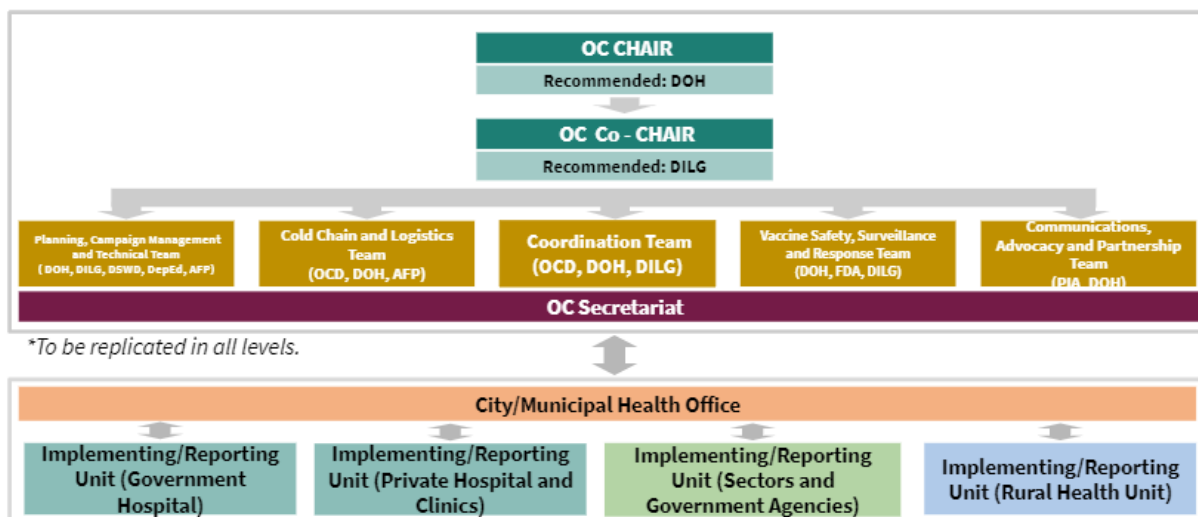
Source: Adapted from the DOH. Philippine National Deployment and Vaccination Plan for COVID-19 Vaccines. January 2021, p. 55.

Figure 3A: COVID-19 Vaccination Operations Center



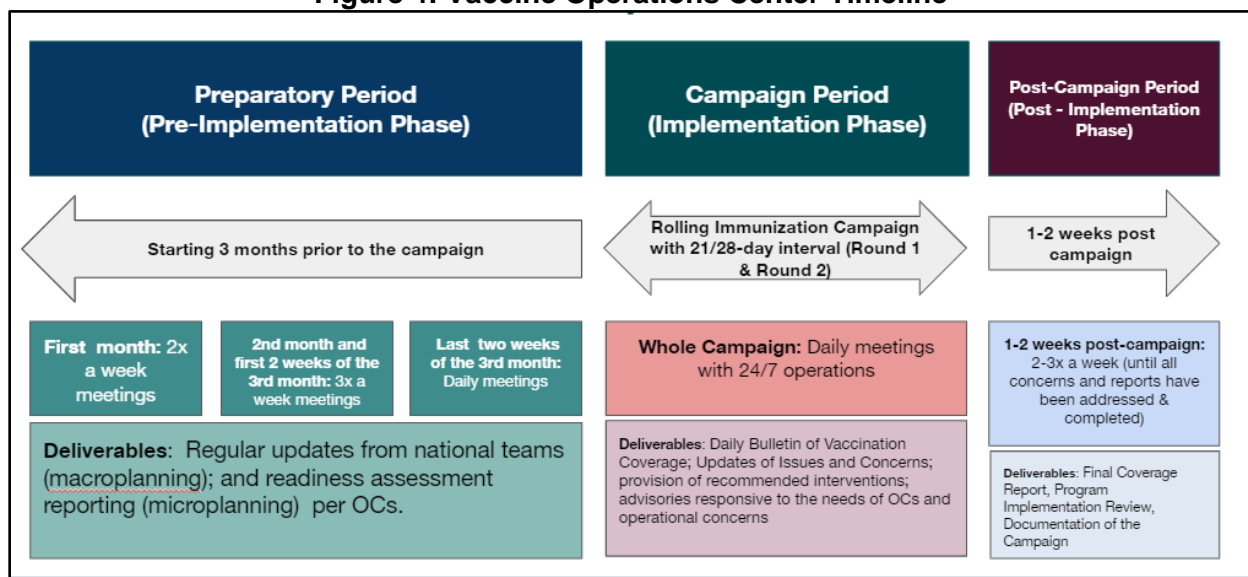
Source: Adapted from the DOH. Philippine National Deployment and Vaccination Plan for COVID-19 Vaccines. January 2021, p. 13.

Figure 3B: Vaccination Operations Center Teams



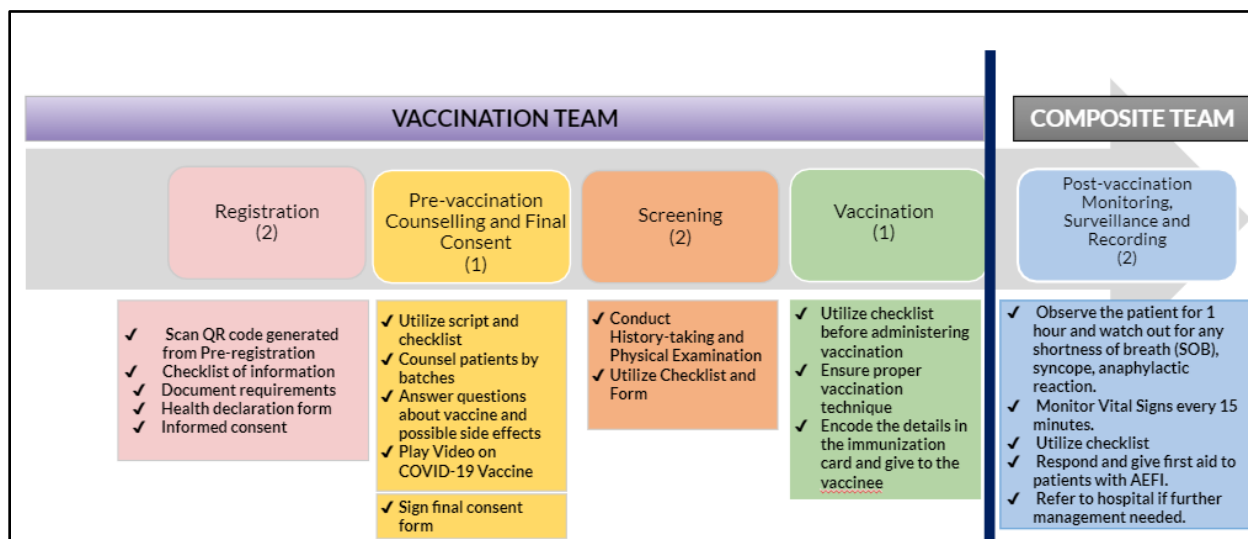
Source: Adapted from the DOH. Philippine National Deployment and Vaccination Plan for COVID-19 Vaccines. January 2021, p. 18.

Figure 4: Vaccine Operations Center Timeline



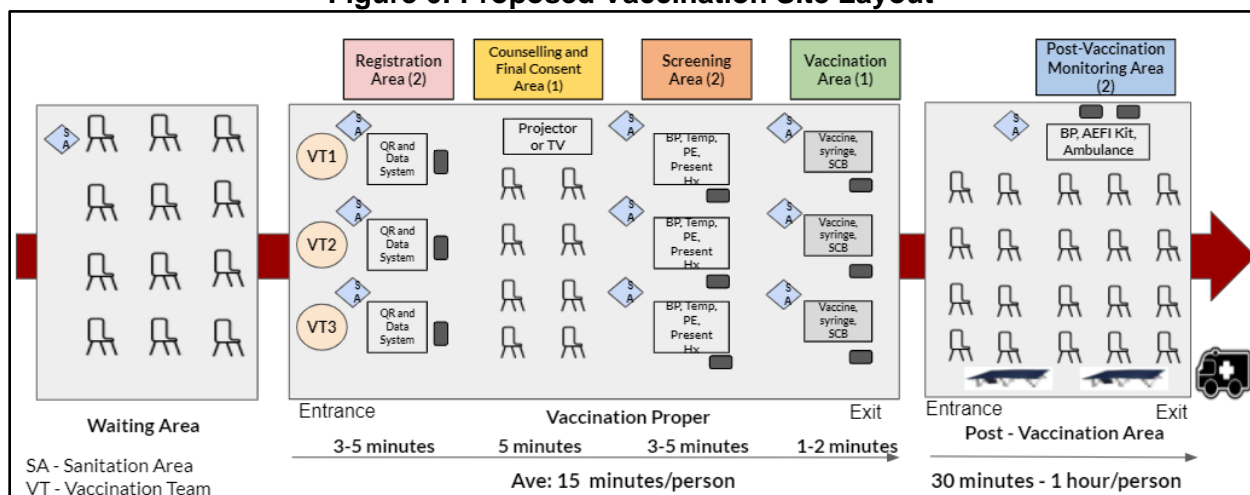
Source: Adapted from the DOH. Philippine National Deployment and Vaccination Plan. January 2021, p. 25.

Figure 5: Vaccination Administration Flow



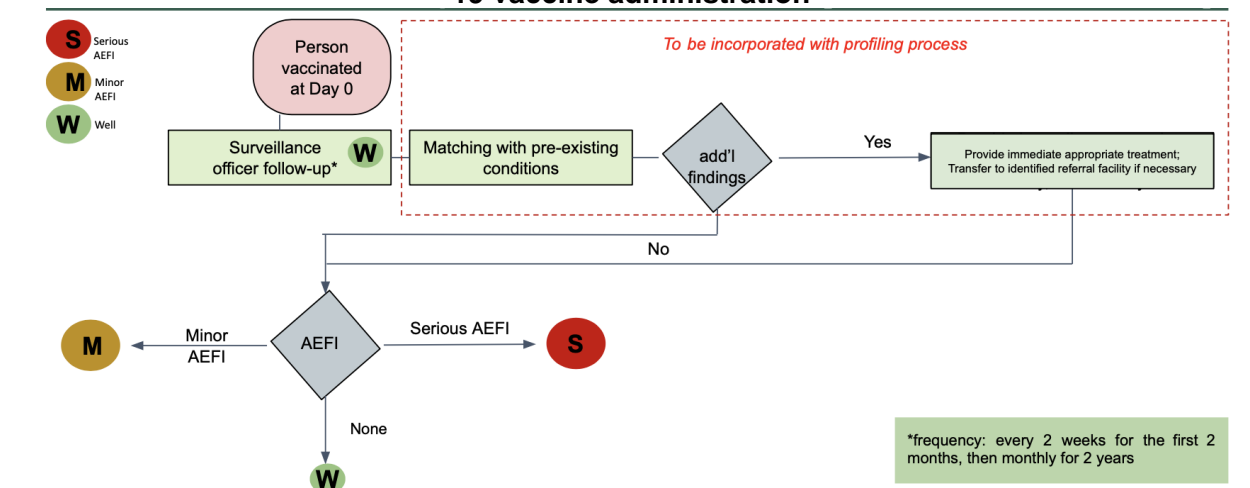
Source: Adapted from the DOH. Philippine National Deployment and Vaccination Plan. January 2021, p. 54.

Figure 6: Proposed Vaccination Site Layout



Source: Adapted from the DOH. Philippine National Deployment and Vaccination Plan for COVID-19 Vaccines. January 2021, p. 84

Figure 7: Process flowchart for AEFI surveillance and response in the context of COVID-19 vaccine administration



Source: Adapted from the DOH. Philippine National Deployment and Vaccination Plan for COVID-19 Vaccines. January 2021, p. 99

Annex 3

Table 2: VACCINATION TEAMS AND REQUIRED HUMAN RESOURCES

Team/Other Personnel needed	Composition
Vaccination Team (6)	(2) for screening and assessment: Physician/Nurse/Midwife(1) as health educator: Allied Professionals/ Volunteers from partner agencies (e.g. teachers, social workers, medical students, etc.) (1) as vaccinator: Physician/Nurse/Midwife of RHU/Pharmacist (certified by PRC) (2) as documentor/recorder and vital signs-taker: Midwife/BHW/Health Staff / Volunteers from partner agencies (e.g., teachers, social workers, medical students, etc.)
AEFI Composite Team (2)	(1) to monitor and provide response: Paramedic/Nurse/Midwife (1) to conduct surveillance: Surveillance Officer/ Nurse/Midwife/Pharmacist
Supervisors/Monitors	(1) Vaccination Team Supervisor: preferably a physician, for at least three (3) vaccination teams (1) Implementing Unit Level Supervisor: for the entire implementing unit (1) LGU Level Supervisor: for the entire LGU Internal Monitors and Independent Monitors
Other personnel needed in the implementing units	Cold Chain and Logistics Officer/s Local Officials (barangay captains) Security Personnel (PNP) Drivers Safety Officers (Barangay Tanods, among others)
Other personnel needed in community/health facilities	Social mobilizers: BHWs and hospital staff (HR) Navigators/Transport: BHWs and Local Officials, Health Facility Management

Source: Adapted from the DOH. Philippine National Deployment and Vaccination Plan for COVID-19 Vaccines. January 2021, pp. 76-77.

Table 2: Priority Regions based on burden of COVID-19 cases
(as of January 2021)

Region	Total Cases As of Jan 8	Total Active Cases as of Jan 6	Rank (Active Cases)	Number of Cases Recent 4 Weeks (Dec 6 - Jan 2)	Attack Rate (Recent 4 Weeks)	Rank (Attack Rate)	Average Rank (Burden of Disease)	Overall Rank (Burden of Disease)	Population Density	Rank (Population Density)
NCR	27,104	7,181	1	10,978	80	2	1.5	1	22,301.54	1
Region IV-A	23,134	3,626	2	6,407	40	5	3.5	2,3,4	968.71	2
Region XI	88,405	1,804	4	3,093	58	3	3.5	2,3,4	258.94	8
CAR	212,876	976	6	2,289	127	1	3.5	2,3,4	91.22	17
Region VIII	8,567	1,314	5	2,544	54	4	4.5	5	204.11	12
Region III	2,885	2,144	3	3,771	31	8	5.5	6	562.12	3
Region II	12,157	701	8	1,425	39	6	7	7	184.57	13
Region VI	5,472	751	7	1,684	21	10	8.5	8	380.15	6
Region X	6,131	834	9	1,241	25	9	9	9,10	245.24	9
CARAGA	5,605	573	11	951	35	7	9	9,10	92.99	16
Region I	4,822	569	12	940	18	11	11.5	11	406.57	5
Region VII	2,853	646	10	952	12	14	12	12	513.77	4
Region XII	32,575	499	13	800	16	12	12.5	13	215.92	11
Region IX	13,810	342	14	606	16	13	13.5	14	228.21	10
Region V	5,194	309	15	525	9	16	15.5	15,16	338.62	7
Region IV-B	8,967	185	16	365	11	15	15.5	15,16	107.24	15
BARMM	6,010	126	17	194	5	17	17	17	114.14	14

Source: Adapted from the DOH. Philippine National Deployment and Vaccination Plan for COVID-19 Vaccines. January 2021, pp. 52-53.



Republic of the Philippines
DEPARTMENT OF FINANCE
Roxas Boulevard Corner Pablo Ocampo, Sr. Street
Manila 1004

MR. MASATSUGU ASAKAWA

President
Asian Development Bank
6 ADB Avenue, Mandaluyong City

Dear **MR. ASAKAWA:**

On behalf of the Government of the Philippines, we would like to express our heartfelt gratitude to the Asian Development Bank (ADB) for its continuous support in the Government's response to the coronavirus disease (COVID-19).

Since January 2020, the Philippines has been responding to the COVID-19 pandemic. With the identification of the country's first reported local transmission on March 7, 2020, and the recognition that SARS-CoV2 constituted a threat to national security, President Rodrigo Roa Duterte declared the whole country under a State of Public Health Emergency through Proclamation No. 922¹ on March 8, 2020. On March 16, 2020, the President also signed Proclamation 929² declaring the whole country under a State of Calamity.

On March 23, 2020, the Philippine Congress enacted Republic Act No. 11469, otherwise known as the Bayanihan To Heal As One Act (Bayanihan I),³ which granted President Duterte emergency powers to mitigate the adverse effects of the pandemic. On September 11, 2020, President Duterte signed into law Republic Act No. 11494, or the Bayanihan To Recover As One Act (Bayanihan II),⁴ affirming the state of continuing national emergency and mandating comprehensive government actions to address COVID-19. Bayanihan II appropriated Php 10 billion to finance COVID-19 testing and the procurement of COVID-19 medication and vaccines in the nature of a standby fund.

The Philippine Government aims to save lives and recover from the impact of the pandemic thru its COVID-19 vaccine deployment and immunization program, which seeks to provide free, effective and high-quality vaccines against SARS-CoV2 to all Filipinos, prioritizing the most-at-risk and most-

¹ <https://www.officialgazette.gov.ph/2020/03/08/proclamation-no-922-s-2020/>.

² <https://www.officialgazette.gov.ph/2020/03/16/proclamation-no-929-s-2020/>.

³ <https://www.officialgazette.gov.ph/2020/03/24/republic-act-no-11469/>.

⁴ <https://www.officialgazette.gov.ph/downloads/2020/09sep/20200911-RA-11494-RRD.pdf>.

vulnerable populations. Consequently, under the National COVID-19 Vaccine Roadmap, Deployment and Immunization Plan (Roadmap), the plan is to inoculate 112 million Filipinos up to three years, starting with an estimated 25 million Filipinos (or 23%) in 2021, continuing with 45 million (or 40%) in 2022, and completing the remaining 42 million (or 37%) in 2023. Considering the global vaccine supply, the period of implementation may change depending on availability of supply.

Target population to be inoculated in 2021 will comprise of frontline health and social workers, indigent senior citizens, remaining senior citizens, indigent population, and uniformed personnel of the government. Profiling of this group may be done in close coordination with local governments, and using national government database such as the Listahan-based or Pantawid Pamilyang Pilipino Program (4Ps)⁵ database of the Department of Social Welfare and Development and senior citizens and other database of local governments. Other government employees and essential workers in health, education and social welfare sectors, other socio-demographic groups at significantly higher risk (e.g., persons with disabilities), Overseas Filipino Workers, and the remaining workforce will then take priority in 2022-23. Total estimated cost for vaccine procurement in 2021 alone is USD 800 million.

It is in this light that the Philippines welcomes the ADB Board's approval of the USD 9-billion Asia Pacific Vaccine Access Facility (APVAX) to support developing member-countries like the Philippines in the procurement of safe and efficacious COVID-19 vaccines which will enable the recovery of the economy. Specifically, the Philippines will benefit from the USD 25 million under the existing Health Systems Enhancement to Address and Limit (HEAL) COVID-19 project loan, and the requested additional financing of USD 400 million loan from the Bank, both of which will be used to finance the procurement of COVID-19 vaccines.

In this regard, the Philippines Government solidifies its commitment to implement its COVID-19 vaccination allocation plan, as embodied in the Roadmap. A copy of the Roadmap and a brief write-up on the same are attached (Attachments 1 and 1a).

⁵ 4Ps is a program of the national government implemented through the DSWD. It invests in the health and education of poor households primarily of aged 18 and below. Please see <https://www.officialgazette.gov.ph/programs/conditional-cash-transfer/>.

Allow us to note that the Philippine Government, through its Department of Health, has completed its needs assessment using the Vaccine Introduction Readiness Assessment Tool (VIRAT) developed by the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO). We commit to regularly update this assessment, and use the results to improve, and if necessary, adjust our Roadmap. A copy of the latest VIRAT results is attached (Attachment 2).

The Philippines Government is also fully cognizant of the effects a national vaccine deployment and immunization program can have on our environment. The Department of Health (DOH) and the Department of Environment and Natural Resources (DENR) have issued a series of guidelines on health care waste management in response to the COVID-19 pandemic. Building on the lessons learned from its recent polio vaccination campaign, DOH intends to implement a reverse logistics system whereby DENR-registered third party service providers will be engaged to collect the immunization wastes from regional hubs or collection points for treatment. A copy of the Waste Management Plan is attached (Attachment 3).

More importantly, the Government commits to fully comply with the Bank's vaccine eligibility criteria. We are simultaneously negotiating with at least 5 vaccine developers whose vaccines have the highest potential to meet the Bank's eligibility criteria. These are AstraZeneca, Janssen (Johnson and Johnson), Novavax/Covavax, Pfizer, and Moderna.

Logistical arrangements for vaccine delivery, distribution, and administration are also underway. Majority of the vaccines can be delivered, stored, distributed and administered using existing resources, cold storage facilities, and arrangements under the Philippine Vaccination program. But since some vaccines require ultra cold storage facilities, the Government plans to engage Third Party Providers to complement the Government's existing resources. A copy of the procurement arrangements supporting COVID-19 vaccination program is attached (Attachment 4).

At this point, it bears stressing that the Government is pursuing a whole-of-government approach in the implementation of the Roadmap. A National Task Force Against COVID-19 composed of multi-agency Task Groups from relevant agencies are in charge of specific activities under the Roadmap, such as Vaccine Evaluation and Selection, Procurement and Finance, and Cold Chain and Logistics Management. The Department of Finance chairs the Task Group

on Procurement and Finance, and is chiefly responsible for coordinating with our development partners including ADB, WHO, World Bank, UNICEF, and others to ensure a united approach. A description of the coordination mechanisms established is attached (Attachment 5).

In view of the foregoing, we are looking forward to the Bank's favorable consideration of our requests to –

- (a) Create a separate category for vaccines under the existing HEAL COVID-19 project loan, and reallocate \$25 million to this category; and
- (b) Approve additional financing of up to USD 400 million loan for vaccine procurement.

The availability of vaccines, through the assistance of the Bank, will not only help businesses resume normal operations and trigger consumer confidence, but will also save the lives of many Filipinos.

Very truly yours,



CARLOS G. DOMINGUEZ
Secretary of Finance

JAN 14 2021



Copy Furnished:

MR. PAUL G. DOMINGUEZ
Executive Director, ADB

[Major Change of Health System Enhancement to Address and Limit COVID-19 \(PHI 5417.1\)](#)

PH COVID-19 Vaccine Roadmap

*"Keeping Local Vigilance for Healthcare
Continuity"*

Secretary Carlito G. Galvez Jr.
10 December 2020

ULAP #beatCOVID19 Dialogue Series and Official
Launcing of "BIDAngLokal Forum"



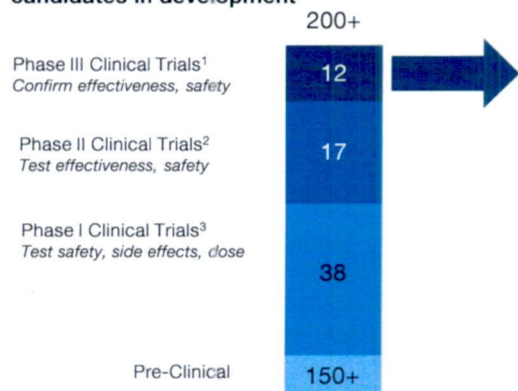
Purpose of the Presentation

- Discuss Global Status of Vaccine Development
- Present the PH COVID-19 National Vaccine Roadmap
- Public – Private Partnership

Where do we stand with vaccine development?

AS OF 24 NOV 2020

Many novel vaccine candidates in development



Eleven novel candidates currently in Phase III clinical trials, with four underway in US

1. BioNTech, Pfizer Dec 10/UK/ Canada Rollout
 2. Moderna, NIH Dec 17
 3. AstraZeneca, Oxford
 4. Johnson & Johnson
 5. Novavax (Phase III in UK, expected to start in US in Nov.)
 6. Medicargo, GSK (Phase III in Canada, expected to start in US pending FDA allowance)
 7. Sinovac (China) ★
 8. Sinopharm, Beijing Institute of Biological Products (China) ★
 9. Sinopharm, Wuhan Institute of Biological Products (China) ★
 10. CanSinoBio (China) ★
 11. Gamaleya - Sputnik V (Russia) ★
 12. Bharat Biotech (India) ★
- ★ Already approved for limited use⁴
- ✍ Vektor - EpiVacCorona⁵ (Russia) ★

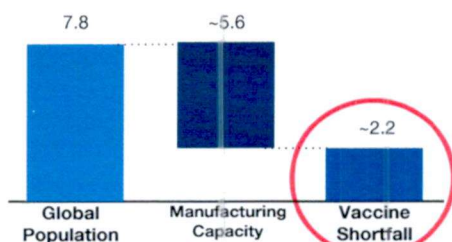
1. Phase III trials involve a larger population to test efficacy & safety of vaccine 2. Phase II trials involve larger number (e.g., ~100s) of subjects & are intended to provide preliminary information about a vaccine's ability to produce its desired effect 3. Phase I clinical studies involve initial testing in small numbers (e.g., 20) to test the properties of a vaccine 4. These vaccines are not yet validated by global health agencies; 5. One additional vaccine has received use authorization in Russia, yet it has not entered Phase III trials
Source: NYT, WHO, NIH, Press Search

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Significant vaccine shortfall likely during 2021

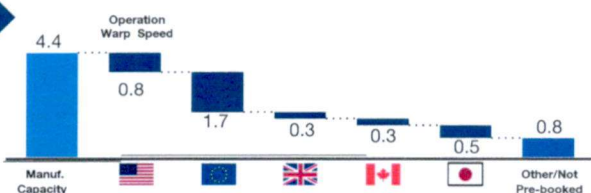
Shortfall of ~2 – 3B people based on current capacity estimates, even if all goes well

Projected global regimen supply by year-end 2021¹
11 Phase III clinical trial vaccine candidates²
(Billions)



~80% of capacity is pre-booked for ~15% of global population (excl. China/Russia/India)^{1,3}

Estimated pre-booked regimens Phase III US/UK vaccines³
(Billions, capacity through YE2021)



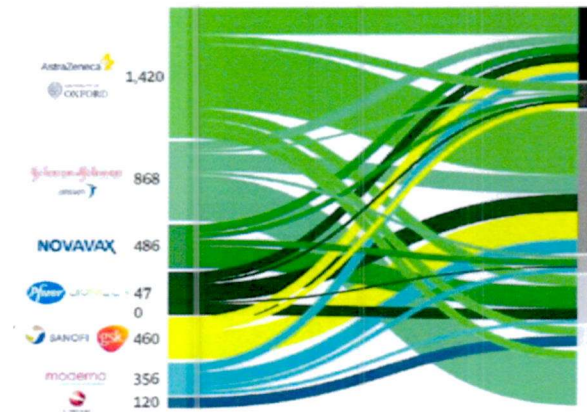
1. Includes options for additional purchases beyond original agreement. For vaccines that require two doses (Pfizer, Moderna, AstraZeneca, Novavax, Sinovac, Gamaleya, SinoPharm (x2), CanSinoBio, Bharat Biotech) manufacturing and pre-booked dose quantity halved to demonstrate number of individuals that may be vaccinated. Production figures for vaccines developed in China, India, and Russia are estimated based on public press. 2. Pfizer, Moderna, AstraZeneca, Johnson & Johnson, Novavax, Sinovac, CanSinoBio, Gamaleya, SinoPharm (x2), Bharat Biotech. 3. Due to data availability, the six vaccines developed in China, Russia, or India are excluded; included are Pfizer, Moderna, AstraZeneca, Johnson & Johnson, Novavax, Curevac. Source: Company press releases, Press Search, NYT, WSJ, BCG analysis

4

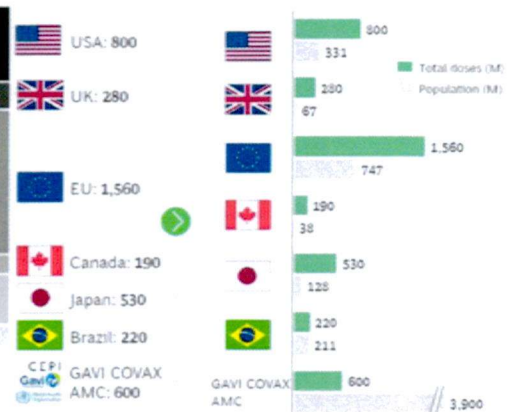
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Countries are racing to pre-purchase vaccine doses through bilateral and multilateral deals

Committed vaccine doses from public deals (Meals)



Total doses and population



Note:-Press research till 21st Sept; AZ -AstraZeneca; 1-300 by EU, 400 through Inclusive Vaccine Alliance


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5

Rest of Southeast Asia Vx are also actively planning



6



President's Guidance:

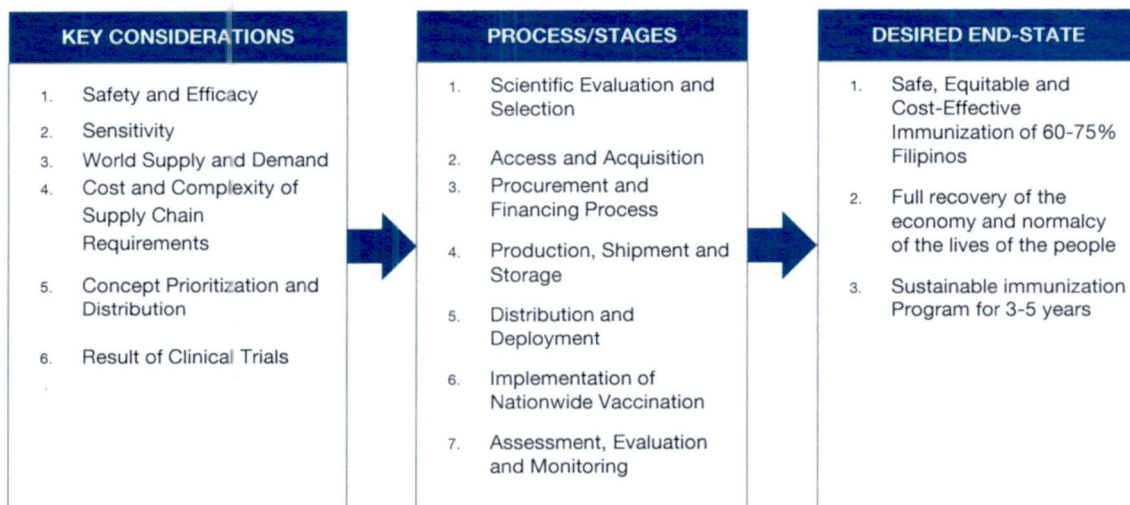
"The world is in the race to find a safe and effective vaccine. When the world finds that vaccine, access to it must not be denied nor withheld. It should be made available to all, rich and poor nations alike, as a matter of policy."

23 September 2020 United Nation Speech

"I have the money already for the vaccine but hahanap pa ako ng maraming pera (but I will look for more money) because you know there are now 130 million Filipinos and to me, ideally, all should have a vaccine, without exception."

15 October 2020 Talk to the People

Vaccine Roadmap Strategic Framework



8

Major Stages of the Roadmap

Stage 1: Scientific Evaluation and Selection (Most Critical)– DOST/DOH/VEP

Stage 2: Access and Acquisition (Guarantee of Access) – DFA /DOF/DBM/VEP

Stage 3: Procurement Process and Financing – PSDBM – DOF

Stage 4: Production, Shipment and Storage – PSDBM / TGRML

Stage 5: Distribution and Deployment – PSDBM / TGRML

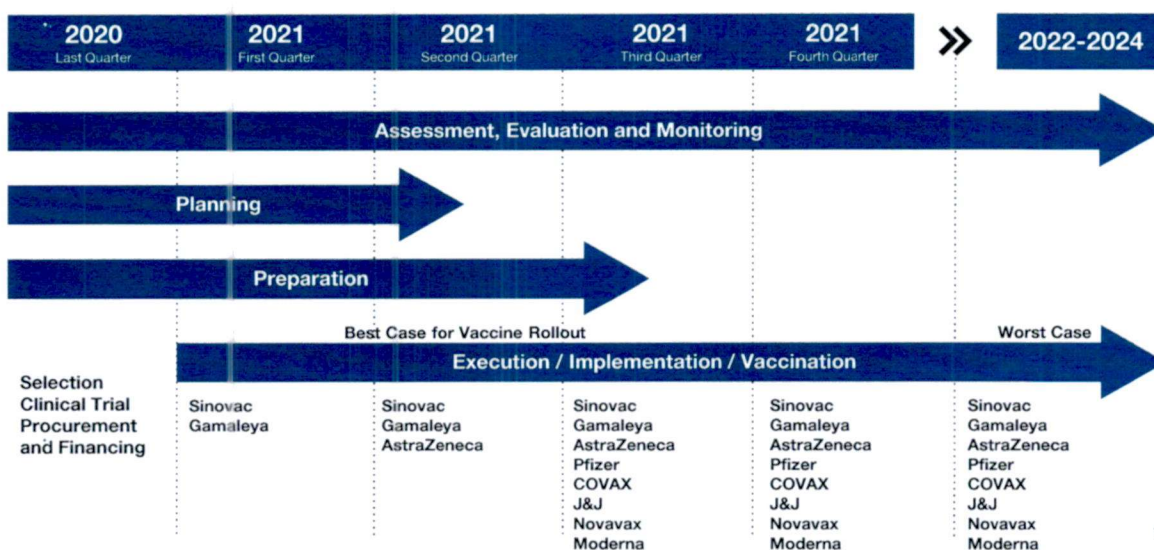
Stage 6: Implementation and Nationwide Vaccination –DOH /NGA's/ LGU/LGA's

Stage 7: Assessment, Evaluation and Monitoring – DOH-DOST – VEP

***VEP	–	Vaccine Expert Panel
***TGRML	–	TG Resource Management and Logistics
***PSDBM	–	Procurement Service – Department of Budget and Management
***NGA/LGA	–	National Government Agency / Local Government Agency

9

Phases of the Roadmap (Potential Roll-out)



10

Phases of the Roadmap / Critical Activities

ASSESSMENT	PLANNING	PREPARATION	EXECUTION
<ol style="list-style-type: none"> 1. Scientific Evaluation and Selection (Portfolio) 2. Identify Risks and Decision Points 3. Determine Critical Path 4. Determine Resources Needed 5. Determine the Supply Chain Requirements 	<ol style="list-style-type: none"> 1. Build the Roadmap 2. Plan and Organize 3. Line-up Critical Activities 4. Delineate Tasks / Responsibilities of Concerned Agencies 5. Organize Panel of Experts 	<ol style="list-style-type: none"> 1. Diplomatic Engagement 2. Negotiating and Contracting 3. Financing Scheme 4. Supply Chain 5. Personal Information System QR Codes 6. Strat Com (Prepare the LGU's/ People) 7. Distribution and Deployment Plan 	<ol style="list-style-type: none"> 1. Procurement Process 2. Production, Shipment and Storage 3. Distribution and Deployment 4. Implementation and Vaccination (1) 5. Redeployment and Vaccination (2) 6. Waste Disposal

11

Critical Timeline

NOVEMBER – DECEMBER 2020	JANUARY - MARCH 2021
<ol style="list-style-type: none"> 1. Roadmap Completed and Approved 2. National Cluster on COVID 19 Vaccination Fully Organized 3. Vaccine Panel of Experts Organized - Expanded 4. Vaccine Analyzed, Selected and Procured 5. Clinical Trials Started (December) 6. Bilateral and Multilateral Engagements and Arrangements Completed (December) 7. Immunization Logistics and Services Support Plan Completed 8. Stages 1, 2 and 3 are Completed 	<ol style="list-style-type: none"> 1. Procurement Process Completed 2. Production, Shipment and Storage 3. Early Planning on Distribution and Deployment with Vaccine Companies and Logistics 4. Implementation Plan Completed 5. Construction of Cold Chain Storage at Regional Hospitals Completed 6. Preparation for Roll-out Completed 7. Continuous Assessment, Evaluation and Monitoring

12

Priorities for Bilateral, Tripartite, Multilateral Arrangements

BILATERAL G-TO-G	TRIPARTITE	MULTILATERAL
1. Philippines – United Kingdom 2. Philippines – Australia 3. Philippines – China 4. Philippines – Russia 5. Philippines – South Korea 6. Philippines – India 7. Philippines – Israel 8. Philippines – Singapore 9. Philippines – Germany 10. Philippines – US	1. Philippines – United Kingdom – Business Sector 2. Government to Government – Vaccine Company 3. Philippines – Vaccine Company – Business Sector 4. Philippines – Indonesia – Vaccine Company 5. Philippines – United States – Vaccine Company	1. ASEAN Pooled 2. Philippines – Asian Development Bank – World Bank – World Health Organization – UNICEF, and Others

Aside from COVAX:
 - Doses for 20 million people assured

13

Concept of Deployment of the Vaccines

1. President's Guidance:

- Equitable Access for the Poor and Indigents
- Frontliners, Health Care Workers, Soldiers and Policemen, Servicemen, and Essential Services
- All Filipinos should have the vaccine, without exception

2. Strategy: (Geographical and Sectoral)

- Focused Areas – NCR, Region 4a, Region 3, Davao City, Cebu City, Cagayan De Oro, Baguio City, Bacolod, Ilo-Ilo, Zamboanga City, Tacloban City, General Santos City, and other affected areas.
- Prioritization – Health Care Workers, Vulnerable, Indigents and Poor Communities
- Multiple access – Public Private Partnership
 - Public – Concentrate on Priority Areas and Priority Sectors
 - Private – Workers, Consumers/Market, Donation

Immediately contain, provide consumer confidence and full economic recovery

14

Priority by Geographic Region

Regional case summary indicating 2 weeks growth rate of active cases as of 06 December 2020

NR	REGION	CONFIRMED CASES	DEATHS		RECOVERIES		ACTIVE CASES		2 WEEKS GROWTH RATE (ACTIVE CASES)	
		CONFIRMED CASES	DEATH	CRF (%)	RECOVERIES	RECOVERY RATE	CURRENT ACTIVE CASES	% (ACTIVE CASES RATE)	% CHANGE (22 NOV - 06 DEC)	NUMBERS
1	NCR	145,634	4,485	3.00%	142,459	95.20%	2,690	1.80%	15.60%	363.00%
2	CALABARZON	63,788	1,756	2.75%	56,281	88.23	5,751	9.02%	-24.00%	-1812.00%
3	REGION VII	24,301	1,393	5.73%	21,971	90.41%	937	3.86%	-28.80%	-379.00%
4	REGION III	23,975	928	3.87%	21,099	88.00%	1,948	8.13%	-10.20%	-222.00%
5	REGION VI	20,247	585	2.89%	17,875	88.28%	1,787	8.83%	0.60%	10.00%
6	REGION XI	9,923	385	3.88%	6,903	69.57%	2,635	26.55%	0.50%	12.00%
7	REGION VIII	8,949	195	1.06%	8,342	93.22%	512	5.72%	-15.20%	-92.00%
8	REGION X	6,720	197	2.93%	5,630	83.78%	893	13.29%	-22.40%	-258.00%
9	CAR	6,348	70	1.10%	5,429	85.52%	849	13.37%	97.00%	418.00%
10	REGION IX	4,776	196	4.10%	3,898	81.62%	682	14.28%	-17.70%	-147.00%
11	REGION XII	4,072	142	3.49%	3,562	87.48%	368	9.04%	-34.60%	-195.00%
12	REGION II	3,937	60	1.52%	3,498	88.85%	379	9.63%	20.70%	65.00%
13	CARAGA	3,819	181	4.74%	3,169	82.98%	469	12.28%	-2.70%	-13.00%
14	REGION I	3,544	133	3.75%	2,813	79.37%	598	16.87%	13.30%	70.00%
15	REGION V	3,260	143	4.39%	2,683	82.3	434	13.31%	-15.20%	-78.00%
16	BARMM	2,407	90	3.74%	2,151	89.36%	166	6.90%	34.90%	-89.00%
17	MIMAROPA	2,082	37	1.78%	1,813	87.08%	232	11.14%	139.20%	136.00%
TOTAL		341,782	10,876	3.18%	309,576	90.58%	21,330	6.24%	-9.40%	-2,212%

Prioritization of Vaccines

PRIORITIZATION

Primary Goal:

- Direct reduction of morbidity and mortality.
- Maintenance of most critical essential services.

Secondary Goal:

- Substantially control transmission
- Minimize disruption of social, economic and security functions.

Priority Eligible Groups (WHO SAGE)	No. of Eligible Population	Philippine Population (Percent)
1st Priority: Frontline Health Workers	1,762,994	1.6%
a) Public and private health facilities (Hospitals, TRCs and TMMFs)	612,975	0.57%
b) Public health workers (all RHU/CHO personnel; PHO, PDOHO, CHD and CO field workers) and LGU contact tracers	602,982	0.56%
c) Barangay Health Workers including BHERTS	414,640	0.38%
d) Other NGAs (DSWD, DepEd, DILG, BJMP & Bureau of Correction)	132,397	0.12%
2nd Priority: Indigent Senior Citizens	3,789,874	3.5%
3rd Priority: Remaining Senior Citizens	5,678,544	5.3%
4th Priority: Remaining Indigent Population	12,911,193	12.0%
5th Priority: Uniformed personnel (PNP, AFP, PCG, BFP, CAFGLU)	525,523	0.5%
TOTAL	24,668,128	22.8%

Note: Other target groups to be considered will depend on the development of scientific evidences are: Persons with comorbidities (due to their higher risk), disadvantaged populations (e.g. women & children, pregnant and lactating women). These groups can be ranked higher in the priority.

Prioritization of Vaccines

PRIORITIZATION

Primary Goal:

- Direct reduction of morbidity and mortality.
- Maintenance of most critical essential services.

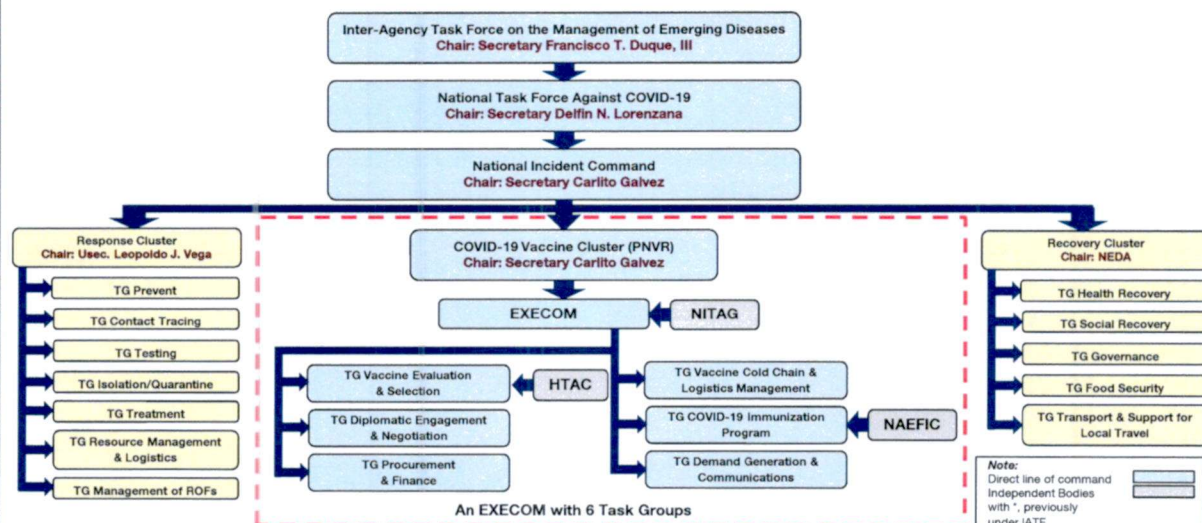
Secondary Goal:

- Substantially control transmission
- Minimize disruption of social, economic and security functions.

Priority Eligible Groups (WHO SAGE) 40% - 50%	No. of Eligible Population	Philippine Population (Percent)
Teachers, Social Workers	Public school teachers: 847,467 as of 2020 (Source: DepEd) Private school teachers: 300,170 as of 2019 (Source: Private Educational Assistance Committee) Human Health and Social Workers: 31,460 (Source: PSA) Total: 1,179,097	0.95%
Other Government Workers	1,728,641 as of 2019 (Source: CSC)	1.66%
Other essential workers outside health, education, social welfare sectors (e.g. agriculture, food industry, transportation, tourism)	1,690,206 as of 2016 (Source: PSA)	1.63%
Socio-demographic groups at significantly higher risk other than SCs and IPs (e.g. PDLs, PWDs, Filipinos living in high-density areas)	PWD: 1,570,000 as of 2010 (Source: National Council on Disability Affairs) PDL: 215,000 as of 2019 (Source: World Prison Brief) Total: 1,785,000	1.72%
Overseas Filipino Workers (OFWs)	1,728,641 as of 2018 (Source: PSA)	1.66%
Other Remaining Workforce	1,296,729 as of 2016 (Source: PSA)	1.25%
TOTAL	10,557,951	10.15%

<https://www.teacherph.com/dep-ed-basis-education-statistics-school-year-2019-2020>

Proposed Revised COVID-19 Vaccine Cluster Organizational Structure



Way Forward

19

Approved by the President

On 17 November 2020, President Rodrigo Roa Duterte approved the following:

1. Entering into **Advance Market Commitments (AMCs)** with **Private Vaccine Developers** and the release of **Advance Payments to them** with the Asian Development Bank as our Fund Manager and Procurement Agent;
→ Having a **portfolio of vaccines with different platforms from different countries.**
2. Various modes of financing including the **Private-Public Tripartite Agreements (Phil. Govt. Private Sector and Vaccine Company) with NO COST to the Government;**
3. Issuance Executive Order 121 giving the FDA authority to issue **Emergency Use Authority**

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COVID-19 Vaccine VEP Ranking

(based on data available online as of November 8, 2020 and from submitted CT Applications)

Rank	Candidate Vaccine Developer / Country	Platform / Storage Requirement	Advance Market Commitment*	Rank	Candidate Vaccine Developer / Country	Platform / Storage Requirement	Advance Market Commitment*
1	SINOVAC (China)	Inactivated (2-8°C)	Brazil, Indonesia	10	Israel Institute for Biological Research (Israel)	Virus Vector (-20°C)	
2	SINOPHARMA (China)	Inactivated (2-8°C)	Indonesia, Argentina	11	CANSINO (China)	mRNA (-20°C - -80°C)	Mexico, Indonesia
3	BHARAT BIOTECH (India)	Inactivated (2-8°C)		12	ARCTURUS (USA/Singapore)	mRNA (-20°C - -80°C)	Singapore, Israel
4	ANHUI ZHIFEI (China)	Protein Subunit (2-8°C)		13	PFIZER (USA)	mRNA (-20°C - -80°C)	EU, UK, US, Japan, Canada, Mexico
5	NOVAVAX	Protein Subunit (2-8°C)	EU, Japan, India, Canada, Australia, United Kingdom	14	MODERNA (USA)	mRNA (-20°C - -80°C)	EU, Japan, Qatar, Switzerland
6	FBRI SRC VEKTOR (Russia)	Protein Subunit (2-8°C)		15	CUREVAC (Germany)	mRNA (-20°C - -80°C)	EU
7	JANSSEN (USA)	Virus Vector (-20°C)	UK, EU, US, Canada	16	INOVIO (USA)	DNA (Room temperature -20°C)	
8	GAMALEYA (Russia)	Virus Vector (-20°C)	20 countries based on online reports from Russia but countries not disclosed	17	ANGES (Japan)	DNA (Room temperature -20°C)	
9	ASTRAZENECA (UK)	Virus Vector (2-8°C)	UK, EU, Europe's Inclusive Vaccine Alliance (IVA), Switzerland, Brazil, India, Canada, Australia, Japan, Mexico				

Clinical Trial Phase Legend: Phase III Phase II Phase I/II Phase I

*The Philippines may also consider having a portfolio of vaccines with different platforms similar to the strategy of other countries, as the vaccines have (i) different timelines and (ii) in consideration of the pros and cons some platforms for certain age groups or populations (e.g. those with comorbidities).

Modes of Vaccine Financing

1. Direct Procurement through Republic Act No. (R.A.) 9184 or the "Government Procurement Reform Act" and Republic Act No. (R.A.) 11494 or the "Bayanihan to Recover As One Act" (PSDBM)
2. Multilateral Loans (ADB-WB Project Loan for Vaccine) (DOF)
3. Bilateral Loans (UK/China) (DOF)
4. Private Sector Financing Through A Tripartite Agreement
 - National Government
 - Pharmaceutical Company
 - Private Sector Company

ADB = \$300 – 500
WB = \$300 – 500

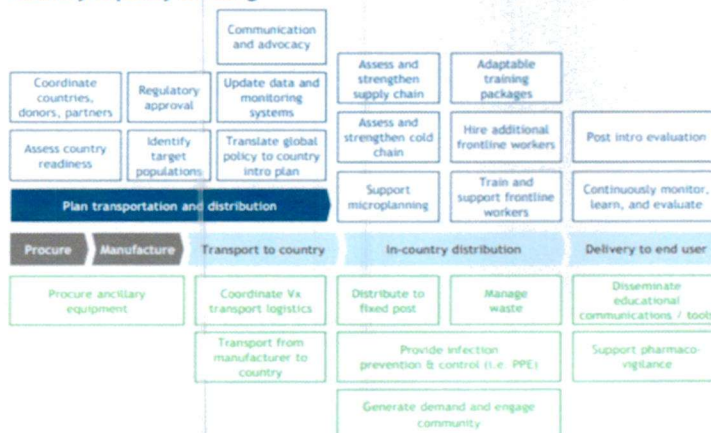
DOF = ₱ 73 BILLION
(DBP, LBP, GOCC)

22

Preparation for December 16 (Logistics Summit)

Distribution: Need to consider multiple components of the end-to-end distribution

Country capacity building



Several factors particularly important



Physical assets
Cold chain, security, bio-refrigerators



Data & Tech
Batch traceability, patient tracking



Communication
To eligible patients & push for 2nd dose

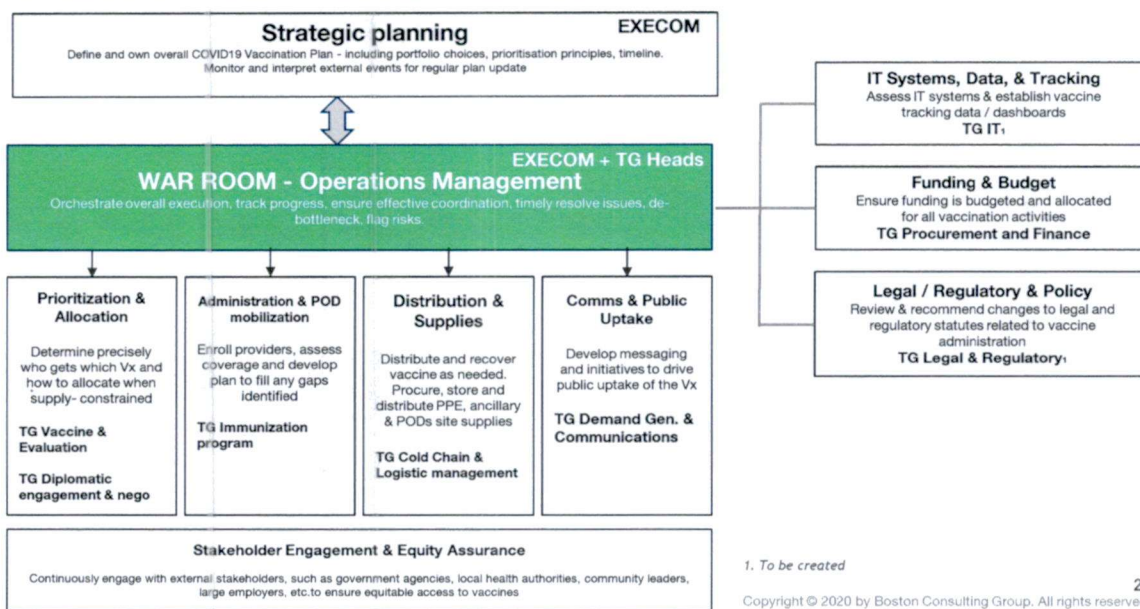


Frontliners
Including training of tools, adoption of Vx protocols

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23

Creation of the Vaccine War Room



1. To be created

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War Room Sub Groups become the primary decision body but relies on many other partners for implementation

Primary stakeholder	Supporting stakeholder	Not directly involved					
	War Room	War Room Sub Groups	DOH	Private sector manufacturers & distributors	Private sector administration sites	Private sector media partners	LGUs
Prioritization & Allocation	Sign off on key decisions, monitor overall progress, create interventions as needed	Set prioritization strategy, allocate Vx by group as well as implementation timing	Recommend prioritization based on profile of Vx portfolio and population groups				Identify prioritized individuals at local level
Distribution & Supplies		Designs end-to-end distribution plan to fit procured Vx and prioritization strategy - including reverse logistics and contingency plans. Secures distribution partners (fleet, storage), sets up inventory tracking technology	Ensure supplies are distributed according to need, provide distribution assets	Provide ancillary supplies, distribute kits to administration sites w/ necessary storage equipment			Provide additional support and equipment as needed, streamline movement of goods
Administration & POD mobilization		Designs administration strategy, secures administration partners (public and private), sets Vx administration and training protocol, licensure of sites, HCW recruitment campaign, sets up electronic patient record and systems for safety monitoring / detection of adverse effects	Provide training material for administration sites and HCW, track 2nd dosage requirements		Set up of additional administration sites with proper storage equipment and training of HCW		Support set up of ancillary sites if needed (e.g. schools), monitor patients health
Communication & Public Uptake		Designs communication strategy (e.g. Vx efficacy, prioritization rationale, roll out timing, adverse effect response plan), roll out communication campaign with LGUs, media partners	Support screening of information to ensure accuracy to health guidelines			Support set up of media activation campaign plans	Push communication and generate demand at local level

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"We are not safe until everyone is safe."

PRRD's Clarion Call for Global Equitable Access to the Vaccine

THANK YOU!





Republic of the Philippines
Department of Health
OFFICE OF THE SECRETARY

**NATIONAL COVID-19 VACCINE ROADMAP, DEPLOYMENT
AND IMMUNIZATION PLAN**

Since January 2020, the Philippines has been responding to the Coronavirus Disease 2019 (COVID-19) pandemic. With the identification of the country's first reported local transmission on 7 March 2020, and the recognition that SARS-CoV2 constituted a threat to national security, the President declared the whole country under a State of Public Health Emergency through Proclamation No. 922 on the 8th of March 2020. On the 16th of March, the President also signed Proclamation 929 declaring the whole country under a State of Calamity.

The Philippines has implemented numerous interventions in response to the pandemic, utilizing the Prevent-Detect-Isolate/Quarantine-Treat-Recovery/Reintegration (PDITR) strategy. Several months in its implementation, the Philippines is strategically exploring other interventions that will allow the country to hasten socio-economic recovery and transition to near normal.

The COVID-19 pandemic has already caused the loss of thousands of Filipino lives and disrupted the lives of millions more. In light of the absence of definitive treatment for COVID-19, it is expected that COVID-19 morbidity and mortality will continue to increase, hence the Philippine Government is exploring the use of COVID-19 vaccines to complement its existing measures to mitigate the increase of cases in the country.

The Philippine Government aims to save lives and mitigate the impact of the pandemic with its COVID-19 vaccine deployment and immunization program. The country envisions to launch a national immunization program against COVID-19 and provide free, effective and high-quality vaccines against SARS-CoV2 to all Filipinos, prioritizing the most-at-risk and most-vulnerable populations.

With the knowledge that the road in attaining the COVID-19 vaccines and ensuring the implementation of the immunization is complex, and requiring close coordination and synchronized activities between government agencies or units and organizations, the President appointed a Vaccine Czar in the person of Secretary Carlito Galvez to ensure the government's high-level commitment, and to implement a centralized command and coordination mechanism between all involved and implementing agencies, units and organizations.

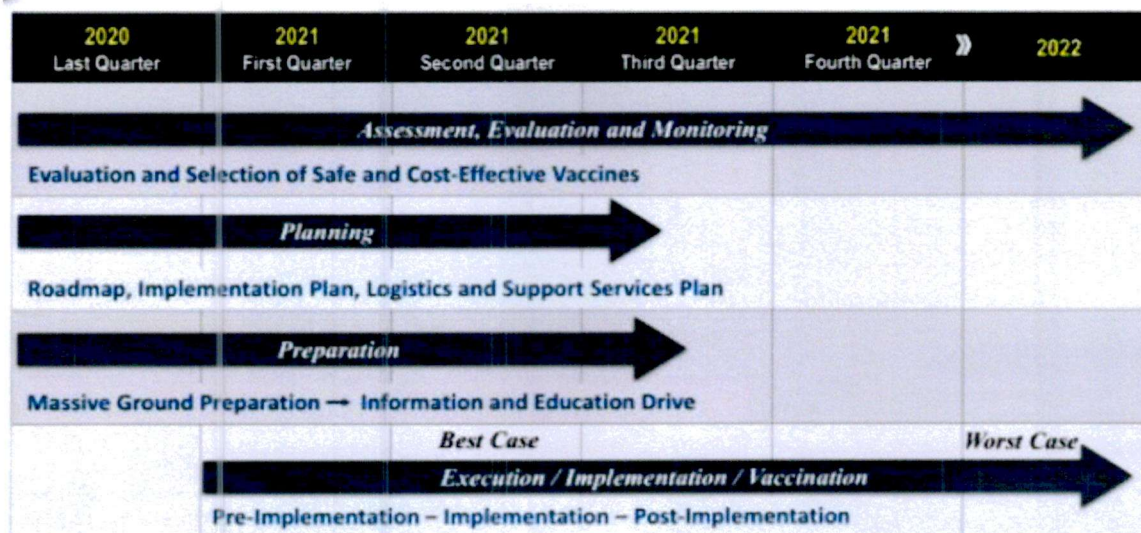
In order to ensure that an organizational structure is available, functional and responsive to the demands and required actions from the government, the COVID-19 Vaccine Cluster led by the Vaccine Czar was formed under the National Task Force Against COVID-19 using a whole-of-government approach with participation of various government agencies. The Cluster is directly

overseen by the Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF), the strategic and policy-making body for COVID-19 response.

Tackling this endeavor is novel and unprecedented for the country. And in order to respond efficiently to these challenges, the country established and institutionalized several bodies or panels who shall provide technical support to the COVID-19 Vaccine Cluster. These are: the Vaccine Expert Panel, who shall review and evaluate potential vaccines, the National Immunization Technical Advisory Group (NITAG), who shall review and recommend interventions and strategies related to the COVID-19 immunization and implementation, and the National Adverse Events Following Immunization Committee (NAEFIC), who shall review all reported serious and cluster of AEFI cases and ensure evidence-based causality assessment. All these structures are set in place to ensure stringent but appropriate processes and measures are available in ascertaining that the best options and actions are taken by decision-makers, however, cognizant, as well, of the need to ensure national equity and easy access to these vaccines by the Filipinos in a timely manner.

All initiatives related to the COVID-19 vaccines are guided by the National COVID-19 Vaccine Roadmap. The Roadmap has seven (7) major stages with two (2) cross-cutting interventions. The seven major stages are: 1) scientific evaluation and selection of COVID-19 vaccine, 2) vaccine access and acquisition, 3) vaccine procurement and financing, 4) vaccine production, shipment and storage (cold chain), 5) vaccine distribution and deployment, 6) immunization program implementation, and 7) assessment, evaluation and monitoring. In addition, the two cross-cutting interventions are: 1) demand generation and communications, and 2) data management and registry. Further, vaccine regulation will follow the usual Food and Drug Administration (FDA) process which shall be facilitated for the COVID-19 vaccine without compromising safety, efficacy and effectiveness.

Based on the Roadmap, the country is preparing to implement the COVID-19 immunization program as early as the first quarter of 2021 or as late as 2022. However, the implementation is largely dependent on how fast the country can access and procure the vaccines in the global market, and on the available resources of the country. The Philippines is foreseeing to vaccinate the desired eligible population from 2021-2025. As shown there are four overlapping phases of the Roadmap, namely a) assessment, evaluation and monitoring; b) planning; c) preparation; and d) immunization implementation:



Under each phase are identified critical activities. The critical activities under the assessment, monitoring and evaluation phase include evaluation and selection of scientific vaccines, identification of risks and decision points, determination of critical path between success or failure, and determination of resources needed. Critical activities under the planning phase are formulation of plans and policies, organization of structures and processes, prioritization of eligible population, line-up of critical activities, and the delineation of tasks and responsibilities of concerned agencies. Critical activities under preparation phase are diplomatic engagement, negotiation and determination of financial schemes, supply chain management, building cold chain capacities and data management systems, capacity building of vaccination and composite teams, and social preparation and mobilization. Critical activities under the execution phase are organization and building systems and processes, procurement, production, shipment, cold chain management, storage, distribution and deployment, implementation of the immunization program, waste disposal management, and AEFI and post-marketing surveillance.

To support the National COVID-19 Vaccine Roadmap, the country also drafted the COVID-19 Vaccine Deployment and Immunization Plan. This plan provides clear directions on COVID-19 vaccine planning and coordination, costing and funding, determination of the eligible population, vaccine delivery strategies, supply chain and management of healthcare waste, human resource management and capacity building, and vaccine acceptance and uptake.

With the directives from President Rodrigo Roa Duterte, the Philippine Government aims to vaccinate all Filipinos against SARS-CoV2. On the other hand, with the current situation where the global vaccine production and supply is not guaranteed to address the current global demand, prioritization of who will receive the vaccines is essential, taking in mind that 60-70% of the population is needed to have immunity to break the chain of transmission and, therefore, protect the rest of the population. The country's prioritization is guided by the WHO Strategic Advisory

Group of Experts (SAGE) recommendations and ethical principles of human well-being, global equity, reciprocity, equal respect, national equity and legitimacy; and anchored on the primary goal of vaccination which is to directly reduce morbidity and mortality while maintaining the most critical essential services. If the country has accomplished this goal, the next goal is to control transmission and minimize disruption of social and economic functions. The final determination of the priority eligible population shall be decided in consultation with the National Immunization Technical Advisory Group.

With these principles and the primary goal in mind, the country's priority group A includes the following:

- a) Frontline health workers (permanent, contractual and job-order employees/staff) composing of:
 - 1) All health workers from the private and public sector currently on active practice who are working in medical centers, hospitals, infirmaries, clinics, Temporary Treatment and Monitoring Facilities (TTMFs), and Treatment and Rehabilitation Centers (TRCs), or assigned in the triage areas, out-patient departments, emergency rooms, wards, intensive care units, operating rooms, delivery rooms, laboratory areas, and/or assigned as disinfection or decontamination teams, medical social workers, and security guards of the above-mentioned facilities,
 - 2) Workers currently in public health who are providing direct health services, including all health workers in public primary care facilities (Rural Health Units, City Health Offices) whether Local Government Unit (LGU) - hired or DOH-hired/deployed, all health workers employed/deployed/detailed in Provincial Health Offices, Centers for Health Development and Department of Health Central Office, and lastly, LGU-deployed/designated/hired contact tracers,
 - 3) Barangay Health Workers and Barangay Health Emergency Response Team members, and
 - 4) Social and health workers in government agencies such as those employed in the following: Department of Social Welfare and Development (DSWD) (those manning close-setting facilities and long-term care facilities e.g. orphanages, home for the aged, women's crisis centers among others), Department of Interior and Local Government (DILG) (those hired by agency for contact tracing), Bureau of Jail Management and Penology (BJMP) (those who are assigned in direct contact with Persons Deprived of Liberty (PDLs) such as jail officers, wardens and/or guards, and health workers), Bureau of Corrections (BuCor) (those who are assigned in direct contact with PDLs such as jail officers, wardens and/or guards, and health workers);
- b) All senior citizens;
- c) Indigent population as determined by the DSWD;

- d) All active enlisted uniformed personnel from the Philippine National Police, Armed Forces of the Philippines, Philippine Coast Guard, Bureau of Fire Protection, and Citizen Armed Force Geographical Unit.

However, priorities may change depending on newer developments and scientific evidence related to COVID-19 vaccine. The following may rank higher on the priority if updates on vaccine development will determine their inclusion: persons with comorbidities (due to their higher risk), and disadvantaged populations such as women especially those who are pregnant and lactating, and children. The priority group A accounts for 22.8% of the population or 24,668,128 Filipinos.

The country's priority group B will fulfill the secondary goal of controlling transmission and minimize disruption of social, economic and security functions. This includes a) teachers and school workers from both the public and private sector; b) all government workers from all levels of government (national and local), including those working in the health and social sector but were not included priority group A; c) essential workers in agriculture, food industry, transportation and tourism; d) those who belong in the sociodemographic groups with significant higher risk, other than the senior citizens and indigent population, such as the PDLs, PWDs, Filipinos living in high-density areas; e) Overseas Filipino Workers (OFWs), f) other remaining workforce; and g) students. The Philippine Government is currently determining the number of these population groups.

As part of the national COVID-19 response, the budget and funding for the COVID-19 vaccine shall be integrated and reflected in the national budgets of various agencies. However, it is essential that the budget for other essential health services, including the routine immunization budget, shall not be affected by the cost and funding requirements of the COVID-19 vaccine and its logistics. In addition, with the unparalleled need and the competing demand in the global market, the country is exploring other funding mechanisms such as multilateral bank arrangements, local bank-facilitated loans, and tapping of government-owned and controlled corporations, advance market commitments and bilateral negotiations with countries where vaccines are produced and manufactured.

The country is also exploring different options in accessing vaccines. The Philippines is closely collaborating with global partners to access the COVAX Facility, the vaccine pillar of the Access to COVID-19 Tools (ACT) Accelerator. The ACT Accelerator is a groundbreaking global collaboration to accelerate development, production, and equitable access to COVID-19 tests, treatments, and vaccines. The Philippines is part of the 92 low- and middle-income countries and economies supported by the COVAX Advance Market Commitment (AMC), making vaccines available to the country at a low and affordable price. The COVAX ensures vaccine doses for at least 20% of the country's population.

The country's COVID-19 Vaccine Deployment and Immunization Plan is anchored on the COVID-19 Immunization Framework. The Framework has three (3) identified phases, namely, pre-implementation, implementation and post-implementation. The pre-implementation phase

encompasses largely planning and preparation activities such as exemption of Phase IV clinical trials, health technology assessment (HTA) and product registration and certification, vaccine access, financing and procurement, policy development, cold chain and logistics management, registry, profiling, capacity development and social preparation. The implementation phase of the Immunization Framework shall be implemented in a phase approach, in which vaccination activities shall be conducted first in simulation areas before it will be fully rolled out nationwide. Simultaneous implementation of Adverse Events Following Immunization (AEFI) surveillance and response shall be conducted together with all vaccination activities. Simulation areas are identified priority localities with evidence of high infection and mortality rates (Attack Rate >1% and Case Fatality Rate >1%). The activities under the post-implementation phase includes program evaluation and review, as well as the post-marketing surveillance. Across these phases are two cross-cutting interventions namely, data management and registry, and demand generation and communications.

The country's COVID-19 vaccine service delivery strategies shall be tailored based on the vaccine characteristics, the risk-benefit assessment for different population groups, the amount and pace of vaccine supply, and in line with the current National Immunization Program systems, processes and context. The country has utilized a scenario-based strategy in analyzing and evaluating each vaccine candidate based on the country's current and available resources and systems while determining the readiness of the country's immunization systems and processes. The details on the vaccine schedule and administration will be defined once a COVID-19 vaccine product is registered for use by the Food and Drug Administration and based on the Health Technology Assessment Council's recommendations. Based on the approved vaccine, inclusion and exclusion criterias shall be determined, providing guidance on final identification of the eligible population. Learning from previous immunization experiences, a profiling and screening activity shall be conducted prior to the immunization implementation, in which the vaccinee's past and present medical history are determined and recorded. These data will help in determining population who shall be excluded from immunization depending on the type or specific vaccine. The profiling and screening activities shall be conducted utilizing a digital platform and data management system to ensure data privacy and for future utilization of the information to determine possible causality to an AEFI. As mentioned above, the implementation of the immunization program shall be done in a phase approach in which areas with high infection and mortality rates shall be prioritized. The identification of these areas shall be done on the nearest possible date of the implementation of the immunization, and shall determine the vaccine allocation and distribution. Vaccine administration activities shall be conducted in two approaches: 1) facility-based (such as in hospitals whether private or public), in which health workers and personnel of government agencies are catered, and 2) in fixed sites (such as RHUs and private clinics), in which local government employees and personnel, BHWs, BHERTs, senior citizens, indigent population, among others, are catered. The duration of the campaign shall be limited to seven (7) days. The short duration will ensure that for any eventuality of AEFI, the determination of causality is more accurate and resources are utilized cost-effectively. A post-marketing

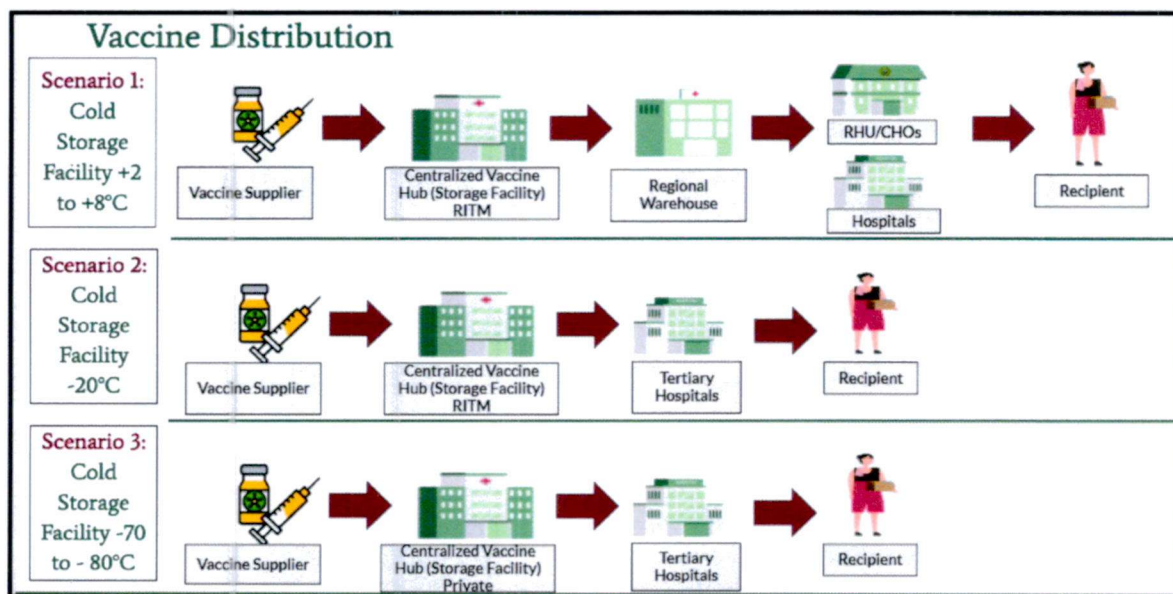
surveillance of all vaccinees shall be conducted for at least twelve (12) months following the immunization activity, utilizing both active and passive surveillance.

Information on COVID-19 vaccine is currently very dynamic and fast-evolving. As new scientific information develops and is made available to the country. Until such time when all these information are made accessible, the country's Roadmap and Plan will continue to evolve and change.

Annex A: Geographical distribution and estimation of number of doses needed.

Vaccine Access Mapping (Four-vaccine Program)			
Temperature Requirements	Regions	Eligible Population	No. of Doses
+2 - +8C	CAR, 2, 4B, 6, 8, 9, 10, 12, CARAGA, BARMM	11,435,250	22,870,500
-16C	7, 11	3,003,283	6,006,566
-20C	1, 4A, 5	5,618,422	11,236,844
-70C	NCR, III	4,611,173	9,222,346
Total		24,668,128	49,336,256

Annex B. Delivery and Logistics Plan



	2021		2022		2023	
Philippine Population	110,198,654		111,572,254		112,892,781	
Eligible Population	Eligible Population (No)	Eligible Population (%)	Eligible Population (No)	Eligible Population (%)	Eligible Population (No)	Eligible Population (%)
Covered Population	25,345,690	23	44,628,902	40	41,770,329	37
COVAX Facility	3,305,960	3	18,967,283	17	-	0
Balance	22,039,731	20	25,661,618	23	41,770,329	37

*2020-2025 Population Projection from Philippine Statistics Authority

*Balance may be through Bilateral Agreement: World Bank and Asian Development Bank

*No COVAX Facility by 2023

Computation for COVAX Facility

Total Population 110,198,654 111,572,254

	2021			2022		
	Target	Qty	Cost Php	Target	Qty	Cost Php
Vaccine	3,305,960	6,942,516	2,964,454,332.00	18,967,283	39,831,294	17,007,962,666.10

Computation on the Balance

Total Population 110,198,654 111,572,254 112,892,781

	2021			2022			2023		
	Target	Qty	Cost	Target	Qty	Cost	Target	Qty	Cost
> Astrazeneca (54%)	22,039,730	46,283,433	7,622,881,415.10	25,661,618	53,889,399	8,875,583,962.93	41,770,329	87,717,691	14,447,103,680.85
> Sinovac (19%)	11,901,454	24,993,054	15,958,643,406.98	13,857,274	29,100,275	18,581,199,389.05	22,555,978	47,367,553	30,245,279,094.82
> Pfizer (21%)	4,187,549	8,793,852	11,561,370,146.24	4,875,707	10,238,986	13,461,302,343.77	7,936,363	16,666,361	21,911,440,582.63
> Gamaleya (6%)	4,628,343.30	9,719,521	1,693,973,647.80	5,388,939.87	11,316,774	1,972,351,991.76	8,771,769	18,420,715	3,210,467,484.63
TOTAL (Php)	1,322,383.80	2,777,006	36,836,868,616.12	1,539,697.11	3,233,364	42,890,437,687.51	2,506,220	5,263,061	69,814,290,842.94
TOTAL COST (US\$)			736,737,372.32			857,808,753.75			1,396,285,816.86

	Cost per dose (USD)	Cost per Dose (PhP)	VAT 12% (PhP)	Wastage 10%	Total Cost per dose (PhP)
COVAX Facility	7.00	350	42	35	427
Astrazeneca	5.00	250	30	25	305
Sinovac	29.75	1487.5	178.5	148.75	1814.75
Pfizer	19.5	975	117	97.5	1189.50
Gamaleya	10	500	60	50	610

COVID-19 Vaccine Introduction Readiness Assessment Tool - National Level (Version 21 September 2020)

COUNTRY **Philippines**

	Name & Agency of staff completing review								
		Date of review	__/__/__	__/__/__	__/__/__				
	from	Pre-Planning activity	Oct-Nov 20	Dec 20-Jan 21	Feb-Mar 21	If activity not completed, give reason Provide any other comments, if needed	Action required	Deadline	Person responsible MOH & TA partners (as relevant)
A. PLANNING & COORDINATION	A.1 Establish (or engage an existing committee) a National Coordinating Committee (NCC) for COVID-19 vaccine introduction with terms of reference, roles and responsibilities and regular meetings		In progress			Will not form another committee but will utilize existing inter-agency task force (IATF)	Raise to IATF for resolution	2nd week of October	(Planning, Policy and Technical Support Team) DOH - Emerging and Re-Emerging Infectious Diseases (Program) - EREID Public Health Services Team (PHST) Undersecretary
	A.2 Establish (or engage an existing working group) a National Technical Working Group (NTWG) for COVID-19 vaccine introduction with terms of reference, roles and responsibilities and regular meetings		In progress			Will not form another TWG: reconstitute STWG on Vaccine Development and establish a TG as part of the National Task Force Against COVID-19; On-going internal coordination meetings	Incorporate in the presentation for Execom and IATF; present to the National Task Force Against COVID-19. Incorporation to the National Action Plan	2nd week of October	(Planning, Policy and Technical Support Team) DOH - EREID; PHST - Usec; coordinate with NTF Secretariat
	A.3 Establish or engage existing NTWG subcommittees, if required, to cover the following workstreams: 1) service delivery 2) vaccine, cold chain & logistics, 3) demand generation & communication (4) prioritization, targeting and COVID-19 surveillance, (5) Monitoring and Evaluation: determination and proof of eligibility, proof of vaccination, monitoring of coverage among at-risk groups, and monitoring of vaccine impact (6) Safety, including injury prevention and AEFI detection and		In progress			Will utilize identified inter-agency teams as STWGs as presented by DPCB.	1) Present to the NTF. End goal: Memorandum Circular. For DOH personnel: Draft a DPO to be signed by Secretary Duque.	2nd week of October	(Planning, Policy and Technical Support Team) DOH - Disease Prevention and Control Bureau (DPCB)- EREID; PHST - Usec; coordinate with NTF Secretariat
	A.4 Brief key ministries, NITAG, stakeholders and partners about COVID-19 vaccine introduction and their expected roles		In progress			Will utilize existing committees (NAEFIC); Establish the NITAG	Letter to Usec Vergeire for the rescindment of NIC - done; Sent letters for invitation as NITAG members	3rd week of October	(Planning, Policy and Technical Support Team) DPCB - National Immunization Program (NIP) ; with PHST - Usec
	A.5 Inform regularly & disseminate global and regional guidance (i.e. SAGE) with NITAGs & RITAGs and support NITAG working groups on COVID-19 vaccines					Same with A.4.	Same with A.4.	week of Oct	(Planning, Policy and Technical Support Team)
	A.6 Develop the National Deployment and Vaccination Plan (NDVP) with input from relevant bodies (National COVID-19 Response Coordinating Committee, CNCC, CTWG, NITAG, National Immunization Programme, National Regulatory Authority, AEFI committee and other relevant groups such as private sector). The NDVP should be in line with WHO guidance and SAGE recommendations (plan can be developed by adapting the Pandemic Influenza NDVP, if existing)					To start drafting of National Action Plan per STWGs	To fast track the creation of the subTWG and convene immediately once approved.	3rd-4th week of October	by STWGs; to be overseen by the DOH DPCB with PHST - Usec
	A.7 Identify and plan for the national vaccine access/procurement approach (e.g. COVAX Facility, bilateral purchase agreement, procurement through UN agency, self-procurement) and complete required paperwork. (Additional information to follow)		In progress			Start collaboration with the FMS and BIHC. To have collaboration meetings with these Offices as soon as possible	Meet with BIHC and ask for updates and development; Start meeting with the STWG finance, procurement and logistics management team	2nd week-4th week of October	(Finance, Procurement and Logistics Team) DPCB - OD III (Dr. Sudialcal) with EREID
	A.8 Review and prepare Government signature for legal agreement to receive Covid-19 vaccine (Additional information to follow)							October - November	(Health Regulations Team)
B. RESOURCES & FUNDING	B.1 Estimate financial and human resources needed (including surge capacity requirements) to conduct the deployment and vaccination operations in the designated points and in the required number of days		In progress			Estimate funding for vaccine procurement - done; Human and soft component resources will largely depend on available vaccine data (still awaiting for more information)	To do scenario building for all possible situation and project on the resource and funding requirements per scenario.	2nd -4th week of October	DOH - EREID and NIP; (Finance, Procurement and Logistics Team)
	B.2 Identify funding mechanisms in collaboration with relevant stakeholders including Inter-Agency Coordinating Committee (ICC), if available at country		In progress			BIHC currently consolidating possible funding mechanisms. DPCB OD III to closely coordinate with BIHC and FMS	Make a unified presentation. Determine processes and requirements to be undertaken for each funding mechanisms	2nd-3rd week of October	DOH - DPCB, Bureau of International Health Cooperation, Financial Management Service, and Procurement and Logistics Team
	B.3 Finalize the budgeted micro-plans for vaccination including plans for other relevant components such as demand generation, risk communications and safety surveillance								(Finance, Procurement and Logistics Team) DPCB - OD III (Dr. Sudialcal) with
	B.4 Ensure mechanism to release and distribute funds to lowest levels for operations						Review existing mechanisms, i.e. SPKP, MR-OPV SIA sub-allotment and timelines	First Quarter 2021	(Finance, Procurement and Logistics Team)
C. REGULATORY	C.1 Confirm to WHO the existence of any expedited regulatory pathway for approval of COVID-19 vaccines (i.e. emergency use authorization, exceptional approval/waiver mechanism based on reliance/recognition, abbreviated procedure, fast track, etc.). Time lines and maximum number of days should be mentioned. (expected timeline: maximum 15 working days)		In progress			To start conduct coordination with regulatory bodies: HTAC and FDA	Conduct coordination meetings with BIHC for WHO updates and HTAC and FDA	2nd week - 4th week of Oct	BIHC, FDA, Health Technology Assessment Council; DOH - DPCB
	C.2 Ensure the national regulator or authority has clarified the requirements and documents needed for regulatory approvals of COVID-19 vaccines						Coordinate and inquire from FDA if they have been on the loop on this subject matter.	2nd week of October	DPCB OD III & IV with FDA
	C.3 Identify the requirements and documents needed to import COVID-19 vaccines		In progress			DOH have existing processes for the procurement of vaccine internationally (UNICEF); will revise accordingly if newer policies and updates on the vaccines are available			DPCB NIP and Logistics Team; DPCB OD III and IV
	C.4 Confirm to WHO the existence of an expedited import approval/waiver from appropriate authorities. Time lines and maximum number of days should be mentioned. (expected timeline: maximum 5 working days)						Request updates from FDA and coordinate with BIHC	2nd - 3rd week of October	FDA, BIHC and NIP Logistics Team

		C.5 Ensure a system to waive local lot release testing based on review of summary protocols is in place. Identify the requirements and documents needed for NRA lot release or waiver of lot release for COVID-19 vaccines. Time lines and maximum number of days for lot release/waiver process should be mentioned. (expected timeline: maximum 2 days)					Request updates from FDA and coordinate with BIHC	2nd - 3rd week of October	FDA, BIHC and NIP Logistics Team
	D. PRIORITIZATION, TARGETING & COVID-19 SURVEILLANCE	D.1 Monitor progress of NITAG working groups on COVID-19 vaccines and interim recommendations focusing on prioritization and risk groups					(As mentioned above) Fast track reconstitution of NITAG	2nd - 3rd week of October	DOH - DPCB, NIP
		D.2 Estimate potential numbers of target populations that will be prioritized for access to vaccines stratified by target group and geographic location, i.e. prepare first to define, identify and estimate no. of HCWs	In progress			Identification of target population - done; Will revised accordingly when newer development about the vaccines is available			DOH - DPCB with NIP and EREID
		D.3 Coordinate with national COVID-19 disease surveillance group to ensure relevant epidemiological data will be collected to inform planning of subsequent rounds of COVAX vaccination, including outbreak responses	In progress			Request EB report for regularly reporting, FASSTER	Include EB as part of the STWG	October - November	Epidemiology Bureau (EB)
	E. SERVICE DELIVERY	E.1 Update protocols for infection prevention and control measures including adequate personal protection equipment (PPE) to minimize exposure risk during immunization sessions	In progress			Adaption of the MR-OPV SIA IPC protocols. Estimate the PPE requirements accordingly upon finalization of immunization guidelines. Adoption of US CDC and WHO US CDC Checklist of Best Practices for Vaccination Clinics Held at Satellite, Temporary, or Off-Site Locations	To do scenario building for all possible situations and project on the IPC resource and funding requirements per scenario.	October - November	DOH - DPCB NIP and EREID
		E.2 Identify potential COVID-19 vaccine delivery strategies leveraging both existing vaccination platforms and non-vaccination delivery approaches to best reach identified target groups	In progress			Broadly identified vaccine distribution scheme. (Use existing facilities. Partner with PNP/AFP on distribution) Started coordination with AFP	a) to start coordination meetings with all logistics partners; b) do scenario building on the needed logistics and distribution requirements c) conduct resource inventory	2nd - 3rd week of October	DOH - DPCB with NIP Logistics Team
		E.3 Identify and develop a master list and strategy of service providers who could effectively deliver COVID-19 vaccine to various target populations				Immediately to follow after tasks in E2 are done.		October - November	DOH - DPCB with NIP Logistics Team
		E.4 Ensure availability of plans to safeguard the security of staff (e.g. during an emergency or major campaign) as well as security at the central and/or regional storage facilities and for in-transit of products				Immediately to follow after tasks in E3 are done.		October - November	
	F. TRAINING & SUPERVISION	F.1 Develop a training plan to prepare for COVID-19 vaccine introduction that includes key groups of participants, content topic areas, key training partners and training methods (in-person or virtual). WHO will provide a template for guidance	In progress			Will adapt existing immunization training plans and modules. Will adapt accordingly as new information about the COVID-19 vaccine is available		October - November	DOH - DPCB with NIP and EREID
		F.2 Adapt and translate training materials developed by WHO and develop additional training materials as outlined in the training plan				Immediately to follow after tasks in F1 are done.		November - December	DOH - DPCB with NIP and EREID
		F.3 Conduct virtual and/or in person trainings as outlined in the training plan				Immediately to follow after tasks in F2 are done.		November - December	DOH - DPCB with NIP and EREID
	G. MONITORING & EVALUATION	G.1 Develop or adapt existing surveillance and monitoring framework with a set of recommended indicators (coverage, acceptability, disease surveillance etc...) for COVID-19 vaccine. Determine whether registration and reporting will be individual or aggregate, and to what extent existing tools and systems can be re-used	In progress			Will utilize the NAEFIC systems and processes. Ongoing reorganization of NAEFIC and RAEFIC	1. Reorganize the NAEFIC and RAEFIC	2nd - 3rd October	(Data Management Team, and Program Implementation and Monitoring Team)
		G.2 Develop or adapt necessary monitoring tools or adapt existing tools: vaccination card/certificate - facility-based nominal registers and/or tally sheets, vaccination reports (paper and/or electronic) and analytical tools to monitor progress and coverage among different at-risk categories	In progress			Adapt existing reporting formats of the the immunization program. Will adapt and use newer technologies to process data registry and data management.	1. Facilitate a meeting with KMITS	2nd-4th week October	(Data Management Team, and Program Implementation and Monitoring Team)
		G.3 Produce and distribute monitoring tools to eligible vaccination providers, develop, test and roll-out any changes to electronic systems, provide training for use of these tools and processes to traditional and new providers				Immediately to follow after tasks in G2 are done.		November - December	(Data Management Team, and Program Implementation and Monitoring Team)
	H. VACCINE, COLD CHAIN & LOGISTICS	H.1 Establish/strengthen the national logistics working group with appropriate terms of reference and standard operating procedures to coordinate COVID-19 vaccines and ancillary products deployment	In progress			As mentioned above, DPO to be drafted for the STWGs	Currently organizing (for DPO) as part of the STWG	2nd-3rd week of October	DOH - DPCB OD IV with NIP Logistics Team
		H.2 Map key roles and responsibilities needed for vaccine and ancillary products deployment; collect and confirm contact information for key personnel and facilities	In progress			As mentioned above, DPO to be drafted for the STWGs	Currently organizing (for DPO) as part of the STWG	2nd-3rd week of October	DOH - DPCB OD IV with NIP Logistics
		H.3 Map the potential port(s) of entry, points of storage (stores), and fallback facilities in the country with their respective cold chain storage (2-8C, -20C, -60/70C) and transportation capacity for vaccines and ancillary products	In progress			To do intensive resource inventory and mapping, including the logistical capacity of other government offices and possible private sector partners.	To do scenario building for all possible situations and resource mapping	2nd-3rd week of October	DOH - DPCB OD IV with NIP Logistics
		H.4 Assess dry storage and cold chain capacity at all levels with regards to the COVID-19 vaccines characteristics and fill the identified supply and logistics gaps				To do intensive resource inventory and mapping, including the logistical capacity of other government offices and possible private sector partners.	To do resource mapping	2nd-4th week of October	DOH - DPCB OD IV with NIP Logistics
		H.5 Establish contractual agreements to prepare for vaccine introduction (e.g., vaccine warehousing, transport, waste management, cold chain capacity, etc) where applicable				Immediately to follow after above tasks on logistics will be done; or when the other information about the vaccines are available		October - November	DOH - DPCB OD IV with NIP Logistics
		H.6 Provide standard operating procedures (SOPs) or guidelines for collection and disposal of medical waste to the relevant stakeholders				Will accomplish this sections once updated information on the vaccine is available		November - December	DOH - DPCB OD IV with NIP Logistics
		H.7 Update vaccine stock management tools and operating procedures to reflect the characteristics of COVID-19 vaccines (i.e. vial size, VVM,...)				Will accomplish this sections once updated information on the vaccine is available		November - December	DOH - DPCB OD IV with NIP Logistics

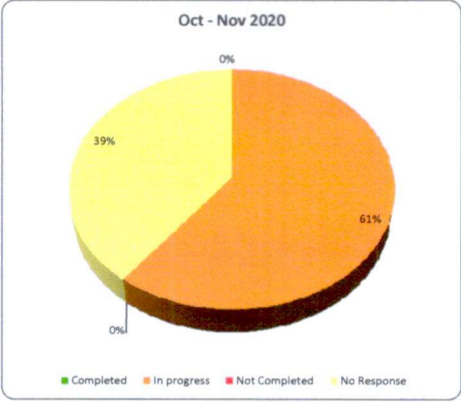
		H.8 Establish security arrangements to ensure the integrity of COVID-19 vaccines and ancillary products throughout the supply chain				Will accomplish this sections once updated information on the vaccine is available		November December	DOH - DPCB OD IV with NIP Logistics
	I. SAFETY SURVEILLANCE	I.1 Ensure that guidelines, documented procedures and tools for planning and conducting vaccine pharmacovigilance activities (i.e. AEFI reporting, investigation, causality assessment, risk communication and response) are available	In progress			Draft guidelines is currently being prepared. NAEFIC is currently being established. Risk Communication should start as early as possible. Modification of the guidelines will be done if updated information	1) Fast track the establishment of NAEFIC and RAEFIC	2nd-4th week October	DOH - DPCB with NIP and EREID, EB
		I.2 Assure competent and trained staff to perform vigilance activities				Immediately to follow after I.1 tasks are done		4th week of October	DOH - DPCB with NIP and EREID, EB
		I.3 Expedite training the AEFI committee to review COVID-19 Vaccine safety data (e.g., causality assessment of serious AEFI, clusters of AEFI, emerging safety concerns etc.)				Immediately to follow after I.2 tasks are done		November	DOH - DPCB with NIP and EREID, EB
		I.4 Identify provisions that require manufacturers to implement risk management plans and collect and report COVID-19 vaccine safety data to the NRA							FDA
		I.5 Plan active surveillance of specific COVID-19 vaccine related adverse events. If this is not possible, develop provisions that allow reliance on active surveillance data, decisions, and information from other countries or regional or international bodies							FDA
		I.6 Establish a coordination mechanism between relevant stakeholders (NRA, EPI, MAH, MOH, WHO and others) for exchange of COVID-19 Vaccine safety information	In progress			As part of the TWG functions (c/o NTF)	1.) Fast track NTF resolution	2nd-3rd week October	DOH - DPCB EREID
		I.7 Secure communication channels to share COVID-19 vaccine safety data and findings with relevant regional and international partners	In progress			As part of the TWG functions (c/o NTF)	1.) Fast track NTF resolution	2nd-3rd week October	DOH - DPCB EREID
	J. DEMAND GENERATION & COMMUNICATION	J.1 Design a demand plan (includes advocacy, communications, social mobilization, risk and safety comms, community engagement, and training) to generate confidence, acceptance and demand for COVID-19 vaccines. Must include a crisis communications preparedness planning	In progress			HPCS to draft a demand plan for demand generation	1) DPCB EREID and HPCS to meet as early as possible	2nd-3rd week October	Health Promotion Bureau
		J.2 Establish data collection systems, including 1) social media listening and rumor management, and 2) assessing behavioral and social data					Start drafting data collection systems	November December	Health Promotion Bureau
		J.3 Develop key messages and materials for public communications and advocacy, in alignment with demand plan					Start drafting communciation plan	November December	Health Promotion Bureau

Provide overall comment on progress/areas that need attention

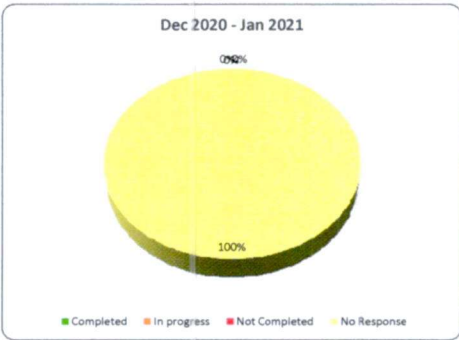
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I.4	#REF!
I.5	#REF!
J.1	#REF!
14	
Completed	0%
In progress	0%
Not Completed	0%
No Response	0%



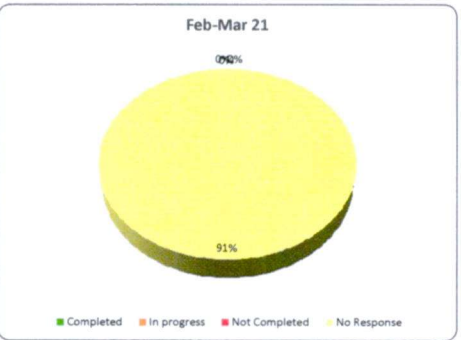
	Oct-Nov 20
A.1	In progress
A.2	In progress
A.3	In progress
A.4	In progress
A.5	0
A.6	0
A.7	In progress
A.8	0
B.1	In progress
B.2	In progress
C.1	In progress
C.2	0
C.3	In progress
C.4	0
C.5	0
D.1	0
D.2	In progress
D.3	In progress
E.1	In progress
E.2	In progress
E.3	0
E.4	0
F.1	In progress
G.1	In progress
G.2	In progress
H.1	In progress
H.2	In progress
H.3	In progress
H.4	0
H.5	0
I.1	In progress
I.2	0
I.3	0
I.4	0
I.5	0
I.6	In progress
I.7	In progress
J.1	In progress
38	
Completed	0%
In progress	61%
Not Completed	0%
No Response	39%



	Dec 20-Jan 21
A.3	0
A.4	0
A.5	0
A.6	0
A.7	0
A.8	0
B.1	0
B.2	0
C.2	0
C.3	0
C.4	0
C.5	0
D.1	0
D.2	0
D.3	0
E.2	0
E.3	0
E.4	0
F.2	0
G.2	0
G.3	0
H.2	0
H.3	0
H.4	0
H.5	0
H.6	0
H.7	0
I.6	0
I.7	0
J.2	0
J.3	0
31	
Completed	0%
In progress	0%
Not Completed	0%
No Response	100%

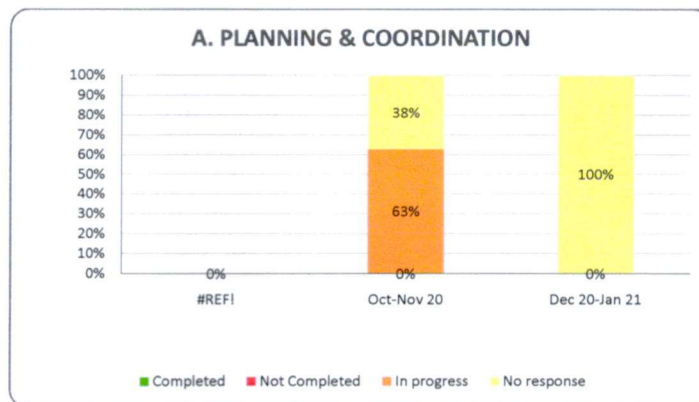


	Feb-Mar 21
A.5	0
B.3	0
B.4	0
F.2	0
F.3	0
G.3	0
H.6	0
H.7	0
H.8	0
J.2	0
J.3	0
11	
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In progress	0%
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No Response	91%



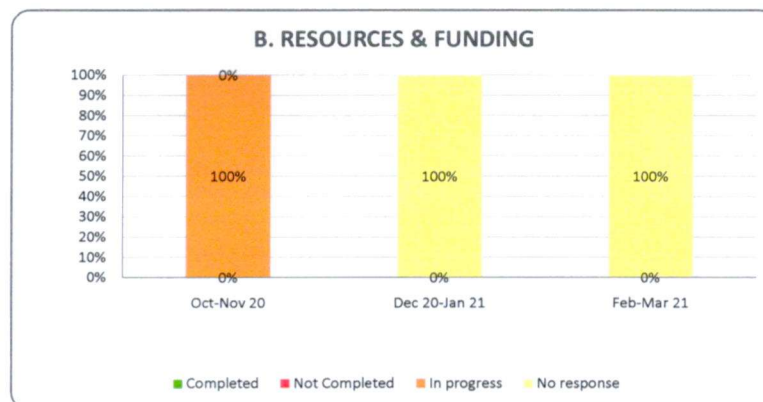
A. PLANNING & COORDINATION

	#REF!	Oct-Nov	Dec 20-
A.1	#REF!	In progress	
A.2	#REF!	In progress	
A.3		In progress	0
A.4		In progress	0
A.5		0	0
A.6		0	0
A.7		In progress	0
A.8		0	0
	2	8	6
Completed	0%	0%	0%
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In progress	0%	63%	0%
No response	0%	38%	100%



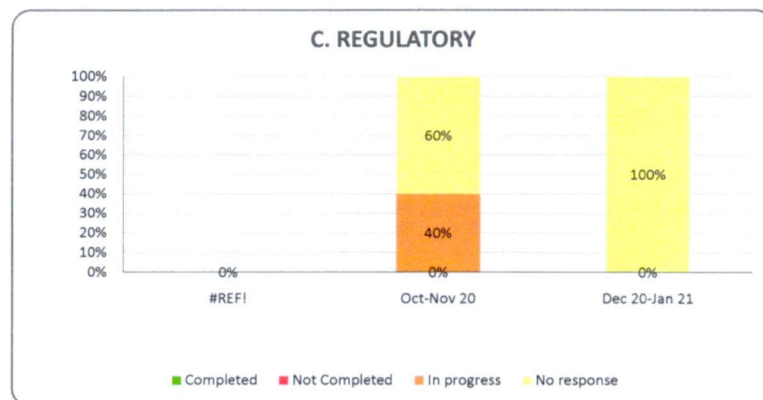
B. RESOURCES & FUNDING

	Oct-Nov	Dec 20-	Feb-Mar
B.1	In progress	0	
B.2	In progress	0	
B.3			0
B.4			0
	2	2	2
Completed	0%	0%	0%
Not Completed	0%	0%	0%
In progress	100%	0%	0%
No response	0%	100%	100%



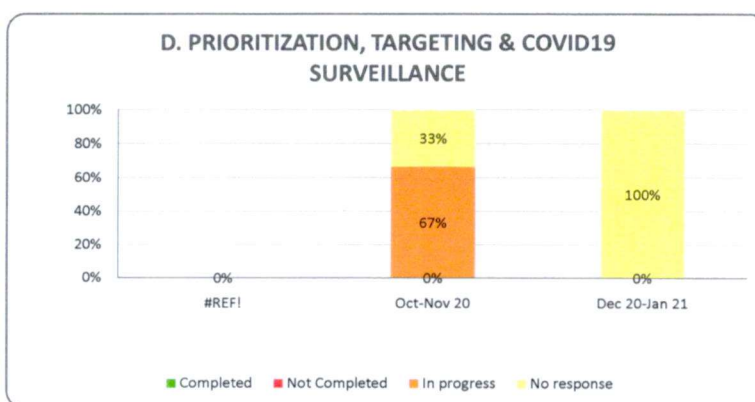
C. REGULATORY

	#REF!	Oct-Nov	Dec 20-
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C.3		In progress	0
C.4		0	0
C.5		0	0
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In progress	0%	40%	0%
No response	0%	60%	100%



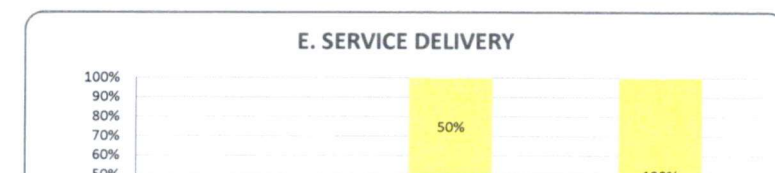
D. PRIORITIZATION, TARGETING & COVID19 SURVEILLANCE

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D.1	#REF!	0	0
D.2		In progress	0
D.3		In progress	0
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Completed	0%	0%	0%
Not Completed	0%	0%	0%
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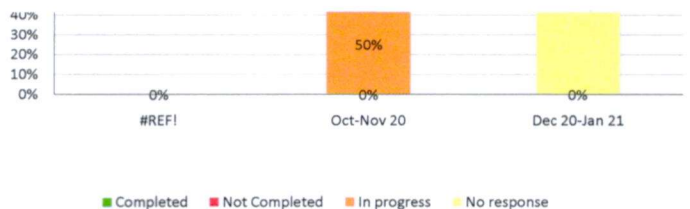


E. SERVICE DELIVERY

	#REF!	Oct-Nov	Dec 20-
E.1	#REF!	In progress	
E.2		In progress	0
E.3		0	0
E.4		0	0



	1	4	3
Completed	0%	0%	0%
Not Completed	0%	0%	0%
In progress	0%	50%	0%
No response	0%	50%	100%



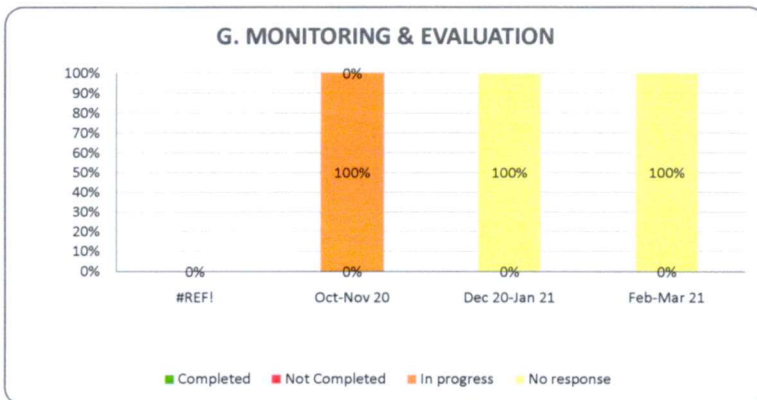
F. TRAINING & SUPERVISION

	#REF!	Oct-Nov	Dec 20-	Feb-Mar
F.1	#REF!	In progress		
F.2			0	0
F.3				0
	1	1	1	2
Completed	0%	0%	0%	0%
Not Completed	0%	0%	0%	0%
In progress	0%	100%	0%	0%
No response	0%	0%	100%	100%



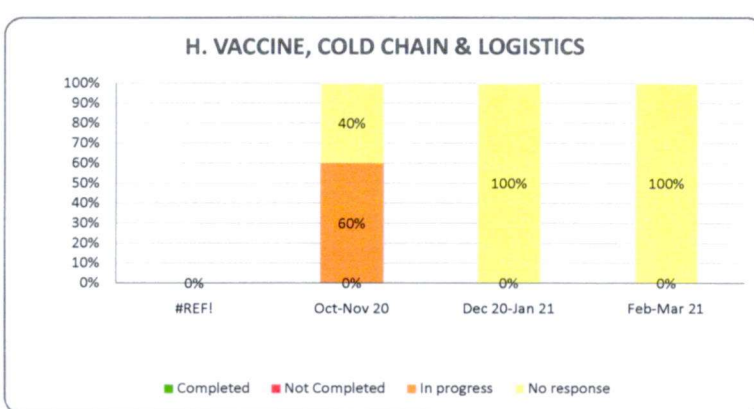
G. MONITORING & EVALUATION

	#REF!	Oct-Nov	Dec 20-	Feb-Mar
G.1	#REF!	In progress		
G.2		In progress	0	
G.3			0	0
	1	2	2	1
Completed	0%	0%	0%	0%
Not Completed	0%	0%	0%	0%
In progress	0%	100%	0%	0%
No response	0%	0%	100%	100%



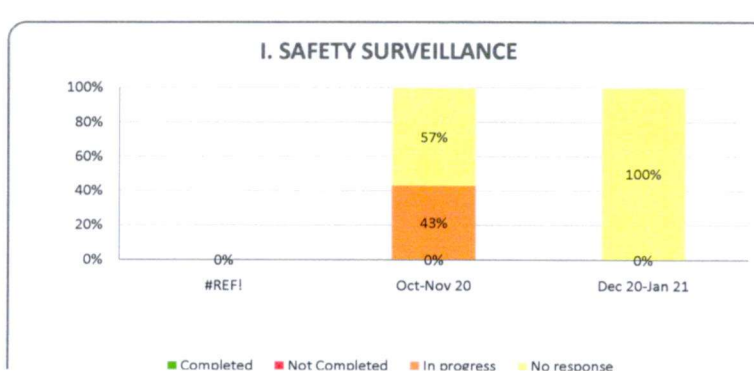
H. VACCINE, COLD CHAIN & LOGISTICS

	#REF!	Oct-Nov	Dec 20-	Feb-Mar
H.1	#REF!	In progress		
H.2		In progress	0	
H.3		In progress	0	
H.4		0	0	
H.5		0	0	
H.6			0	0
H.7			0	0
H.8				0
	1	5	6	3
Completed	0%	0%	0%	0%
Not Completed	0%	0%	0%	0%
In progress	0%	60%	0%	0%
No response	0%	40%	100%	100%



I. SAFETY SURVEILLANCE

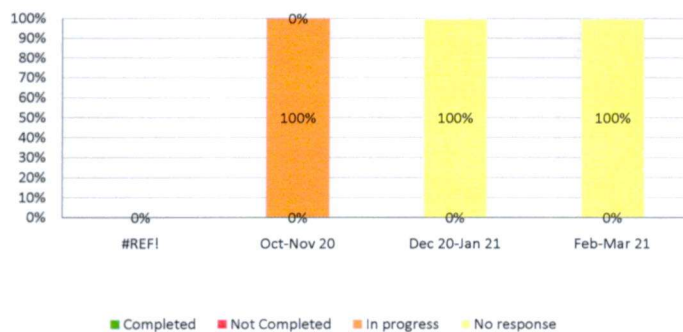
	#REF!	Oct-Nov	Dec 20-
I.1	#REF!	In progress	
I.2	#REF!	0	
I.3	#REF!	0	
I.4	#REF!	0	
I.5	#REF!	0	
I.6		In progress	0
I.7		In progress	0
	5	7	2
Completed	0%	0%	0%
Not Completed	0%	0%	0%
In progress	0%	43%	0%
No response	0%	57%	100%



J. DEMAND GENERATION & COMMUNICATION

	#REF!	Oct-Nov	Dec 20-	Feb-Mar
J.1	#REF!	In progress		
J.2			0	0
J.3			0	0
	1	1	2	2
Completed	0%	0%	0%	0%
Not Completed	0%	0%	0%	0%
In progress	0%	100%	0%	0%
No response	0%	0%	100%	100%

J. DEMAND GENERATION & COMMUNICATION



Inventory of immunization related documents during COVID19

Current 2 July 2020

Global guidance documents

Num	Title	Date	Link	Type	Description	Issuing Dept
1	Guiding principles for immunization activities during the COVID-19 pandemic	26-Mar-20	https://www.who.int/publications-detail/guiding-principles-for-immunization-activities-during-the-covid-19-pandemic-interim-guidance	Interim Guidance	This document provides guiding principles and considerations to support countries in their decision-making regarding provision of immunization services during the COVID-19 pandemic and is endorsed by the WHO's Strategic Advisory Group of Experts on Immunization. It is complemented by a range of WHO technical materials on response and mitigation measures for COVID-19	IVB
2	Polio Eradication Programme continuity planning measures to ensure continuity of operations in the context of the COVID-19 pandemic (May 2020)	May 2020 (update)	http://polioeradication.org/wp-content/uploads/2020/03/COVID-POL-programme-continuity-planning-20200325.pdf	Interim Guidance	The purpose of this document is to provide guidance to polio programme continuity planning in the context of the COVID-19 pandemic. Its intended users are the polio programme planners and managers in the GPEI target countries and regional offices. Considering the global nature of the polio eradication programme, it also provides recommendations for the areas of work relevant to the global level planning.	Polio
3	Bacille Calmette-Guérin (BCG) vaccination and COVID-19	12-Apr-20	https://www.who.int/publications-detail/bacille-calmette-gu%C3%A9rin-(bcg)-vaccination-and-covid-19	Scientific Brief	There is no evidence that the Bacille Calmette-Guérin vaccine (BCG) protects people against infection with COVID-19 virus. Two clinical trials addressing this question are underway, and WHO will evaluate the evidence when it is available. In the absence of evidence, WHO does not recommend BCG vaccination for the prevention of COVID-19. WHO continues to recommend neonatal BCG vaccination in countries or settings with a high incidence of tuberculosis.	IVB
4	FAQs: Immunization in the context of COVID-19 pandemic	16-Apr-20	https://www.who.int/publications-detail/immunization-in-the-context-of-covid-19-pandemic	FAQ	These FAQs accompany WHO's Guiding principles for immunization activities during the COVID-19 pandemic	IVB
5	Infection Prevention and Control guidance for Long-Term Care Facilities in the context of COVID-19	21-Mar-20	https://apps.who.int/iris/bitstream/handle/10665/331508/WHO-201911_01_IPC_Guide_LTCF_Final.pdf	Interim Guidance	Provide annual influenza vaccination and pneumococcal conjugate vaccines to employees and staff IPC/HQ	
6	Community-based health care, including outreach and campaigns, in the context of the COVID-19 pandemic	5-May-20	https://www.who.int/publications-detail/community-based-health-care-including-outreach-and-campaigns-in-the-context-of-the-covid-19-pandemic	Interim Guidance	Immunization module is a module (page 31), among other essential health services. This joint WHO, UNICEF and IFRC guidance addresses the role of community-based health care in the pandemic context. It includes practical recommendations for decision makers to help keep communities and health workers safe, to sustain essential services at the community level, and to ensure an effective response to COVID-19. Using this comprehensive and coordinated approach will help countries strengthen the resilience of community-based health services throughout the pandemic, into early recovery and beyond.	Integrated Health Services
7	Considerations for school-related public health measures in the context of COVID-19 Annex to Considerations in adjusting public health and social measures in the context of COVID-19	10-May-20	https://www.who.int/publications-detail/considerations-for-school-related-public-health-measures-in-the-context-of-covid-19	Annex to Considerations in adjusting public health and social measures in the context of COVID-19	Ensure that school entry immunization checks are in place. Check vaccination status for outbreak-prone vaccine preventable diseases (e.g. measles) and remind parents of the importance of ensuring their children are up to date with all eligible vaccinations. For school-based immunization programmes, ensure there is a plan for catch-up vaccination if needed.	MCA
8	WHO-UNICEF Joint Statement on Temperature-sensitive health products in the EPI cold chain: Interim update on COVID-19 response	15-May-20	https://www.technet-21.org/en/forums/discussions/temperature-sensitive-health-products-in-the-expanded-programme-on-immunization-cold-chain-interim-update-on-covid-19-response-15-may-2020-1 (pending publication to WHO website)	Interim Guidance	The WHO and United Nations Children's Fund (UNICEF), reiterate the value of safe, feasible, and cost-effective integration of temperature-sensitive health products into the Expanded Programme on Immunization (EPI) health supply chains. This interim guidance provides further clarity by highlighting integration as a practical solution and provides reference to planning tools to design and implement an integrated cold chain.	IVB
9	Framework for Decision-Making: Implementation of mass vaccination campaigns during the COVID-19 pandemic	20-May-20	https://www.who.int/publications-detail/framework-for-decision-making-implementation-of-mass-vaccination-campaigns-in-the-context-of-covid-19	Interim Guidance	In the context of the COVID-19 pandemic, this document: I. Outlines a common framework for decision-making for the conduct of preventive and outbreak response campaigns II. Offers principles to consider when deliberating the implementation of a mass vaccination campaigns for prevention of increased risk of VPD/HID among susceptible populations; III. Details risks and benefits of conducting outbreak-response vaccination campaigns to respond to VPD/HID outbreaks The guidance represents a shift from suspension to safe resumption, and encourages countries to look at how the campaigns can be an opportunity to deliver other health services, including other antigens, in response to community needs in the face of COVID-19. There is strong focus on joint planning and communications with national immunization programs, and this guidance in coordination with the release of the WHO "Framework for decision-making: Implementation of mass vaccination campaigns in the context of the COVID-19 pandemic decision" The guidance also recognizes that polio programme support will need to continue to the COVID-19 response, given the critical role that polio infrastructure and people have played in many controls in The COVID 19 Strategic Preparedness and Response Plan (SPRP) Monitoring and Evaluation Framework (COVID 19 M&E Framework) lists key public health and essential health services and systems indicators to monitor preparedness, response, and situations during the COVID 19 pandemic. Indicators have been grouped around nine pillars and one thematic area. Immunization indicators, in the ninth pillar - Maintaining essential health services and systems include (i) DTP3 vaccination coverage in children under 12 months of age (ii) Percentage of countries where at least one VPD-immunization campaign was affected (suspended or postponed partially or fully) by COVID-19	IVB
10	Polio Eradication in the context of the COVID-19 Pandemic - Updated urgent country and regional recommendations	21-May-20	http://polioeradication.org/news-post/global-polio-eradication-and-covid-19/	Interim Guidance		Polio
11	Monitoring and Evaluation Framework COVID-19 Strategic Preparedness and Response (SPRP)	22-May-20	https://www.who.int/publications-detail/monitoring-and-evaluation-framework	Guidelines		WHO Global

12	WHO Director-General's opening remarks at the media briefing on COVID-19	22-May-20	https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---22-may-2020	Media briefing	A key part of this 73rd World Health Assembly landmark resolution was that as well as fighting COVID-19, governments need to also ensure that essential health services are maintained. One of the most essential services that has been disrupted is routine childhood immunization. The joint media briefing was given by WHO DG, UNICEF Executive Director Henrietta Fore and Seth Berkley, CEO of GAVI. Initial analysis suggests the provision of routine immunization services is substantially hindered in at least 68 countries and is likely to affect approximately 80 million children under the age of 1 living in these countries.	IVB / Communications
13	Clinical management of COVID-19	27-May-20	https://www.who.int/publications-detail/clinical-management-of-covid-19	Interim Guidance	At the time of discharge, the patient's ongoing primary health care needs should be reviewed, including ensuring an up-to-date immunization status. This is especially important for children who may have missed immunizations. If needed, individuals should be offered referrals for immunization services.	Clinical Group /HQ
14	Maintaining essential health services in the COVID-19 context: Implementing the WHO operational guidance	1-Jun-20	https://www.who.int/publications/item/10665-332240	Interim Guidance	This document expands on the original operational guidance on maintaining essential health services.	Integrated Health Services
15	Interim Guidance for the Polio Surveillance Network in the context of Coronavirus (COVID 19)	4-Jun-20	https://www.who.int/publications/item/WHO-POLIO-20_04	Interim Guidance	The document aims to provide global guidance to Polio Surveillance activities in the context of the COVID-19 pandemic.	Polio
16	Interim Guidance for Frontline Workers on Safe Implementation of H-T-H Vaccination campaigns (COVID 19)	25-Jun-20	http://polioeradication.org/wp-content/uploads/2020/03/interim-guidelines-for-frontline-workers-on-safe-implementation-of-house-to-house-vaccination-campaigns.pdf	Interim Guidance	The purpose of this document is to provide specific guidance to national and sub-national program managers.	Polio
Regional guidance documents						
17	Immunization in the context of the SARS-CoV2 (COVID-19) pandemic Operational guidelines for National Immunization Programs in the WHO African Region IVD program, WHO AFRO	21-Apr-20	https://incc.global/wp-content/uploads/2020/05/WHO-AFRO-Operational-guidance-on-immunisation-in-the-context-of-the-COVID-19-pandemic_21-April-2020.pdf	Interim Guidance	These guidelines are intended to operationalize the global guidance on immunization during COVID-19 pandemic in the African Region and attempt to outline the key principles and the recommended activities for National Immunization Programs (NIP) to mitigate the risks posed by the COVID-19 pandemic. These guidelines will be regularly revised and updated as the epidemiological situation of COVID-19 evolves. The guidelines are expected to be used by NIP, local partners, and stakeholders involved in the planning, implementation and monitoring & evaluation of immunization and vaccine preventable disease control programs.	IVD/AFRO
18	Guidance on routine immunization services during COVID-19 pandemic in the WHO European Region	20-Mar-20	http://www.euro.who.int/en/health-topics/communicable-diseases/hepatitis/publications/2020/guidance-on-routine-immunization-services-during-covid-19-pandemic-in-the-who-european-region.-20-march-2020	Interim Guidance	The current COVID-19 situation and health system capacities vary widely across the WHO European Region, and this situation is rapidly evolving. Approaches to sustain high levels of routine immunization coverage will also vary among countries. In planning these measures, due consideration should be given to minimizing the excess risk of morbidity and mortality from vaccine-preventable diseases (VPDs) that would result if immunization services are disrupted. This guidance provides all possible efforts that should be made by the Ministry of Health to equitably sustain high population immunity.	EURO
19	Routine immunization services during the COVID-19 pandemic	13-Apr-20	https://apps.who.int/iris/handle/10665/331925	Interim Guidance	This document provides guidance to Member States on how to prioritize and adapt immunization services during the COVID-19 pandemic, and steps to mitigate the impact of the pandemic on vaccine-preventable diseases.	WPRO
20	The Immunization Program in the Context of the COVID-19 Pandemic. Version 1	26-Mar-20	https://www.paho.org/en/documents/immunization-program-context-covid-19-pandemic-march-2020	Interim Guidance	This document provides guidance regarding the operation of immunization programs in the context of the COVID-19 pandemic. It contains recommendations on vaccination and epidemiological surveillance for vaccine-preventable diseases (VPDs) in the context of the COVID-19 pandemic, in the Region of the Americas, which were consulted on by members of PAHO's Technical Advisory Group (TAG) on Vaccine-preventable Diseases, and are aligned with recommendations from WHO's Strategic Advisory Group of Experts (SAGE) on immunization.	PAHO
21	The Immunization Program in the Context of the COVID-19 Pandemic. Version 2	24-Apr-20	https://www.paho.org/en/documents/immunization-program-context-covid-19-pandemic-version-2-24-april-2020	Interim Guidance	Objective: Provide guidance regarding the operation of immunization programs in the context of the COVID-19 pandemic. This publication updates the previous publication from 26 March 2020.	PAHO
22	Vaccination of Newborns in the Context of the COVID-19 Pandemic	19-May-20	https://www.paho.org/en/documents/vaccination-newborns-context-covid-19-pandemic-19-may-2020	Interim Guidance	These preliminary recommendations provide guidance regarding vaccination of newborns with hepatitis B and BCG vaccines in the context of the COVID-19 pandemic, in order to maintain high vaccination coverage.	PAHO
23	Immunization throughout the Life Course at the Primary Care Level in the Context of the COVID-19 Pandemic	17-Jun-20	https://www.paho.org/en/documents/immunization-throughout-life-course-primary-care-level-context-covid-19-pandemic	Interim Guidance	Provide recommendations regarding vaccination as an essential service at the primary care level in the context of the COVID-19 pandemic.	PAHO

HEALTH CARE WASTE MANAGEMENT PLAN FOR COVID-19 VACCINES

I. LEGAL AND REGULATORY FRAMEWORK

The Philippines has a comprehensive and robust legal and policy framework, regulating and guiding health care waste management (HCWM). The Philippines is also signatory or member state to four key international agreements and conventions of relevance to HCWM, including (i) the Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal (1989); (ii) the Stockholm Convention on Persistent Organic Pollutants (2001); (iii) the Minamata Convention on Mercury (2013); and (iv) World Health Assembly Resolution on Water, Sanitation and Hygiene (WASH) in Health Care Facilities (2019). Relevant national regulations and requirements on HCWM are discussed in the succeeding sections:

A. Republic Act No. 4226 – Hospital Licensure Act

The Hospital Licensure Act (1965) requires the registration and licensure of all hospitals in the country. The law mandates the Department of Health (DOH) to provide guidelines for hospital technical standards as to personnel, equipment and physical facilities. Medical waste management planning is an integral part of the registration and licensure requirements for hospitals. These guidelines were issued through the following: (i) Manual on Technical Guidelines for Hospitals and Health facilities Planning and Design (1994), (ii) Health Facilities Maintenance Manual (1995), (iii) Safe Hospitals in Emergencies and Disasters (2011), (iv) National Standards in Infection Control for Healthcare Facilities (2009), and (v) Guidelines in the Planning and Design of a Hospital and other Health Facilities (DOH Administrative Order 2016-0042).

B. DOH Department Circular 2020-0191 – HCWM Manual (4th edition)

The DOH issued Department Circular 2020-0191 on 23 April 2020 to institutionalize the implementation of the fourth edition of the HCWM Manual.¹ The HCWM Manual serves as a comprehensive set of guidelines on the safe management of waste generated from health care activities in the country. It incorporates the requirements of all Philippine laws and regulations governing HCWM and is aligned with international good practice as recommended by the World Health Organization (WHO).² It is a comprehensive compilation of the latest and most relevant instruments and processes designed for effective implementation of HCWM in all types of health care facilities (HCF) whether in the urban or rural setting. It provides information and guidance regarding safety, environmental regulatory requirements, and environment-friendly treatment procedures attendant to the collection, handling, storage, transport, treatment and disposal of health care waste.

¹ The main document of the HCWM Manual 4th edition was prepared through the technical assistance of the WHO and the Australian Department of Foreign Affairs and Trade.

² WHO. 2014. *Safe Management of Wastes from Health Care Activities*. Geneva; and World Health Organization. 2019. *Overview of Technologies for the Treatment of Infectious and Sharp Waste from Health Care Facilities*. Geneva.

The manual classifies discarded items used in handling vaccines such as vials, or boxes with residues, gloves, and masks as pharmaceutical wastes. The manual is intended and designed for use of individuals, establishments, and other entities involved in the segregation, collection, handling, storage, treatment, and disposal of waste generated. The manual advocates the implementation of the waste management hierarchy by adopting methods of waste minimization, safe re-use, recycling and recovery, and the implementation of proper treatment and disposal for residuals. The manual also advocates the "duty of care" principle whereby every health care facility has the ethical responsibility of ensuring that there are no adverse health effects and environmental consequences resulting from the handling, collection, storage, treatment, and disposal of HCW.

Other DOH orders and circulars related to HCW which are still in effect and whose regulations are mentioned in the HCWM Manual are the following:

- DOH Administrative Order No. 2007-0014 or the Guidelines on the Issuance of Certificate of Product Registration for Equipment or Devices used for Treating Sharps, Pathological and Infectious Wastes;
- DOH Circular No. 156-C, series of 1993 – providing guidelines for the segregation, treatment, collection and disposal of hospital waste; and Classification: INTERNAL
- DOH Department Memorandum No. 1, series of 2001 – requiring the DOH Central Office Centers for Health Development and all concerned hospitals to practice proper solid waste management.

DOH Administrative Order 2007-0014 applies to the licensing of devices and equipment such as autoclaves which are included in the regulated medical devices based on the Bureau of Food and Drug (BFAD) Memorandum Circular No. 7 dated 24 April 1992. The Bureau of Health Devices and Technology (BHDT) of the DOH serves as the technical arm and recommending office for approval of the Certificate of Product Registration (CPR).

C. Republic Act (RA) 6969 – Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990

The RA 6969 restricts or prohibits the disposal of chemical substances and wastes that present unreasonable risk and/or injury to health and the environment. The legal and technical requirements on hazardous waste management are defined in the implementing rules and regulations in Department of Environment and Natural Resources (DENR) Administrative Order 1992-29 (Title III). The regulations require the registration of hazardous waste generators, transporters, and treaters with the DENR-Environmental Management Bureau (DENR-EMB). The administrative order was further strengthened by virtue of DENR Administrative Order 36, series of 2004 and DENR Administrative Order 2013-22. The updated orders further clarified and streamlined the procedures and requirements on hazardous waste management in light of recent developments. Hazardous wastes are required to be segregated, labeled, kept in proper storage facility, transported, treated and disposed through DENR-licensed facilities.

Under the requirements of the RA 6969 and the DENR administrative orders, health care wastes from hospitals, medical centers and clinics such as pathological wastes (tissues, organs, fetuses, bloods and body fluids), infectious wastes and sharps are categorized as M501 or pathological or infectious wastes. Expired pharmaceuticals and drugs stocked at producers and retailers' facilities are classified as M503 wastes.

Health care facilities (HCFs) such as hospitals, medical centers and health clinics are regarded as hazardous waste generators and are required to register with the DENR-EMB and to designate a Pollution Control Officer (PCO). All health care wastes are to be collected and stored in designated areas onsite. The off-site disposal of health care wastes is permitted only through DENR-registered transporters and treaters that will issue a certification of confirmation of completion of treatment and disposal to the HCF.

Transporter, storage and disposal (TSD) facilities are required to have an Environmental Compliance Certificate in accordance with the requirements of Presidential Decree 1586 and registration as TSD facility based on RA 6969. Operation of the TSD facilities should conform with the emission and effluent standards of RA 8749 (Clean Air Act) and RA 9275 (Clean Water Act).

D. DENR-DOH Joint Administrative Order No., 02, series of 2005 – Policies and Guidelines on Effective and Proper Handling, Collection, Transport, Treatment, Storage and Disposal of Health Care Wastes

The provisions of the HWCM Manual anchors on the DENR-DOH Joint Administrative Order (JAO) No. 02, series of 2005 which clarifies the jurisdiction, authority, and responsibilities of the DENR and the DOH with regard to HCW management. The JAO provides the guidelines to generators, transporters and operators/owners of TSD facilities on proper handling, collection, transport, storage, treatment and disposal of HCW and harmonizes the efforts of the DENR and the DOH on HCW management.

HCW such as sharps waste, infectious waste, pathological and anatomical waste, pharmaceutical waste, genotoxic including cytotoxic waste, chemical waste and radioactive waste are classified as hazardous wastes and are regulated by the DENR by virtue of RA 6969 ("Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990") and DAO 2013-22 (Revised Procedures and Standards for the Management of Hazardous Wastes). These wastes are to be segregated, properly labelled, and stored in designated areas within the premises of the medical facility until they are transported for off-site treatment through a DENR-licensed hazardous waste transporter and treater. Permits for storage, transport and disposal are required based on the requirements of RA 6969.

E. Republic Act 8749 - Philippine Clean Air Act

Treatment options for infectious wastes are in principle limited to non-burn technologies as provided by Section 20 of RA 8749. The allowed non-burn technologies in the destruction of HCW must comply with the criteria and emission standards provided in Rule 28 of DAO 2000-81.

The provisions of RA 8749 were clarified by a DENR Memorandum Circular (DMC-2002-05) which: (i) states that RA 8749 does not prohibit incineration of wastes except those burning processes which emit poisonous and toxic fumes; (ii) recognizes that appropriate disposal techniques for medical and bio-medical wastes are limited; and (iii) incineration of these wastes is only permitted in state-of-the-art facilities which are proven to emit minimal air pollutants with concentrations meeting RA 8749 criteria. The phasing out of bio-medical incinerators contemplated under RA 8749 was deemed impracticable due to lack of affordable best available technology.

F. Republic Act 9003 – Ecological Solid Waste Management Act

The Act establishes the mechanisms for waste minimization, resource recovery, appropriate collection, transport services, environmentally sound treatment, and disposal of garbage. It also provides mandatory segregation of waste at households, commercial establishments, industries, institutions, hospitals, etc. However, solid waste excludes infectious wastes from hospitals such as equipment, utensils, laboratory wastes, pathological specimens, disposable fomites, and similar materials in accordance with Section 3(2), Article 2, and Section I of DAO 2001-34.

The collection and transport of segregated general wastes or non-infectious wastes are covered by RA 9003 and may be brought to a landfill for disposal. The collection and transport of infectious biomedical wastes or hazardous wastes are governed by RA 6969 and cannot be disposed in open dumps or landfill. The infectious wastes, once disinfected, may be treated similar to a general waste.

G. Interim Guidelines on Health Care Waste Management during COVID-19 Pandemic

In response to the COVID-19 pandemic, series of interim guidelines on HCWM were issued by DOH and the DENR.

- DOH Memorandum 2020-0072 – DOH Interim Guidelines for 2019 Novel Coronavirus Acute Respiratory Disease Response in Hospitals and other Health Facilities (https://drive.google.com/file/d/1zmXeJt_3kmlOzyJyt9laVXTfk6JKJsbT/preview);
- DOH Memorandum No. 2020-0170 – DOH Interim Guidelines on the Management of Health Care Waste in Health Facilities, Community Quarantine Units and Temporary Treatment and Monitoring Facilities with cases of Coronavirus Disease 2019 (COVID-19) (<https://doh.gov.ph/node/21257>);
- EMB Memorandum Circular No. 2020-14 – Interim Guidelines on Issuance of Special Permit to Transport (SPTT) for the Transport of Hazardous Waste Within the Community Quarantine Period (<https://emb.gov.ph/wp-content/uploads/2020/03/EMB-MC-2020-14-Interim-Guidelines-on-issuance-of-Special-Permit-to-Transport-SPTT-for-the-Transport-of-Hazardous-Waste-within-the-Community-Quarantine-Period-1.pdf>);
- EMB Memorandum Circular No. 2020-15 – Addendum to the Interim Guidelines on Issuance of SPTT for the Transportation of Hazardous Wastes within the Community Quarantine Period (<https://emb.gov.ph/wp-content/uploads/2020/03/EMB-MC-2020-15-Addendum-to-the-Interim-Guidelines-on-Issuance-of-Special-Permit-to-Transport-SPTT-for-the-Transportation-of-Hazardous-Wastes-within-the-Community-Quarantine-Period.pdf>);
- EMB Memorandum Circular 2020-16 – Amendment of the Interim Guidelines on Issuance of SPTT for the Transportation of Hazardous Wastes within the Community Quarantine Period (<https://emb.gov.ph/wp-content/uploads/2020/04/EMB-MC-2020-16.png>); and

- EMB Memorandum Circular 2020-20 - Provisional Guidelines on the Hazardous Wastes Management During the Extended Enhanced Community Quarantine Period (<https://emb.gov.ph/wp-content/uploads/2020/05/EMB-MC-2020-20.pdf>).

DOH Memorandum No. 2020-0170 requires all health facilities, community quarantine facilities, and temporary treatment and monitoring facilities to follow a waste management plan for COVID-19 health care wastes. The plan includes the proper segregation of all infectious wastes generated from the treatment of suspected, probable or confirmed COVID-19 patients such as PPEs, shoe cover, apron, long-sleeved gown, gloves, masks and goggles or face shield, other solid and liquid wastes (e.g. urine, blood, and other body fluids) using appropriate receptacles (yellow plastic bags, waste bins, sharp containers). The DOH memorandum also prescribes the requirements regarding labelling, disinfection, cleaning and allowable storage periods at the central storage of infectious wastes. Transport and off-site disposal of the infectious wastes must conform to the rules and regulations of the DENR-EMB.

DOH Memorandum 2020-0072 provides interim guidelines for all health facilities on the necessary precautions, preparations of health facilities and management of suspect, probable and confirmed cases of COVID-19. All hospitals and health facilities are required to maintain an Infection Prevention and Control Committee in the health facility and to follow the National Standards in Infection Control for Healthcare Facilities (2009 edition). The memorandum includes the requirements on provision of appropriate PPE, implementation of universal precautionary measures, patient screening, isolation of patients with COVID-19 systems, notification, and clinical management.

DENR memorandum circulars 2020-14, 2020-15, 2020-16, and 2020-20 were issued to protect public health and safety due to the COVID-19 situation in the island of Luzon and to implement unhampered transportation of hazardous waste coming from healthcare facilities to TSD facilities due to the COVID-19 emergency. The guidelines apply to registered transporters and TSD facilities which haul, treat, and dispose HCW. The DENR-EMB requires the use of the online registration system to simplify the procedures in the issuance of Permit to Transport for HCW. Transporters are required to implement the health and environmental plan and to submit a report of compliance and completion of transport of the HCW to DENR-EMB within 24 hours after delivery to the TSD facility. Transporters with valid permits are allowed to pass-thru checkpoints to deliver HCW at TSD facilities.

H. Draft Administrative Orders and Guidelines on Waste Management

The following presents draft guidelines and administrative orders that have been prepared by DOH/DENR to improve existing policies on waste management.

1. Supplemental COVID-19 Waste Management Operations Manual

The DOH, with support from the World Bank Philippines Office, has initiated a supplemental update to the HCWM Manual that includes additional guidance on COVID-19 related waste management including immunization waste management. The additional guidance will also include a tool for HCF to conduct a compliance self-assessment and audit. It has been designed for HCF to determine what systems and procedures have been implemented to specifically manage COVID-19 related waste and to determine if the HCWM systems comply with regulatory requirements and adheres to international good practice.³ DOH

expects the additional guidance to be issued as an Administrative Order in 2021.

2. Amendments to DENR Administrative Order 2013-22 – Revised Procedures and Standards for the Management of Hazardous Wastes

The proposed amendments include the use of mobile equipment or treatment equipment for the recycling, recovery, regeneration, reclaiming or treatment of hazardous waste. There is also a proposed provision that allows waste generators with multiple installations at various locations and regions to transport hazardous waste for consolidation purposes in a designated clustered TSD facility subject to certain conditions.

3. Amendments to DAO 2010-06 – Guidelines on the Use of Alternative Fuels and Raw Materials in Cement Kilns

The DENR-EMB is now in the process of introducing amendments to DAO 2010-06 to allow non-pathological wastes such as PPEs, aprons, dextrose, and other similar wastes to be used as alternative fuels and raw materials for clinker for cement production provided that the procedures comply with the procedures on waste segregation at source, waste delivery control, occupational health and safety, emission limits, documentation and reporting. Used syringes and vials are still not allowed in cement kilns as raw materials.

II. CURRENT PRACTICES IN MEDICAL WASTE MANAGEMENT

The COVID-19 pandemic resulted in an increase in waste generation from hospitals, laboratories and other health facilities. Wastes generally consist of the PPEs used by medical frontliners and their patients. A complete PPE set includes coveralls, a N95 mask, gloves, head cover, shoe covers, goggles, a surgical mask, and a surgical gown. The ADB reported that Metro Manila alone would generate 280 metric tons of medical waste per day of additional waste due to the surge of COVID-19 cases.⁴ Before the COVID-19 pandemic, Metro Manila produces only 47 metric tons per day of medical waste, with about 26% tons considered as potentially infectious.

A. On-site Management of Health Care Waste

DOH confirmed that vaccines are to be provided through hospitals and rural health units (RHUs) but not at community level clinics because of the preservation requirements of the vaccines. Cold storage is to be administered at hospitals only.

The DOH requires the waste segregation and packaging of wastes such as sharps and infectious non-sharp wastes (vials, bottles, residues, gloves, masks) from immunization activities. The following procedures should be observed by the HCF:

- Segregation of sharps from non-sharps;
- Discarding of syringe with needle into a safety box after use (exclude the recapping needles);
- Placing of safety boxes into plastic bags that are closed hermetically when full to avoid

³ The self-assessment and compliance audit tool has been piloted by DOH and the World Bank in seven hospitals in Metro Manila in 2020, and be applied to additional 100 HCFs in Q1 2021 under the World Bank-financed Philippine COVID-19 Emergency Response Project.

⁴ ADB. 2020. *Managing Infectious Medical Waste during the COVID-19 Pandemic*. Manila.

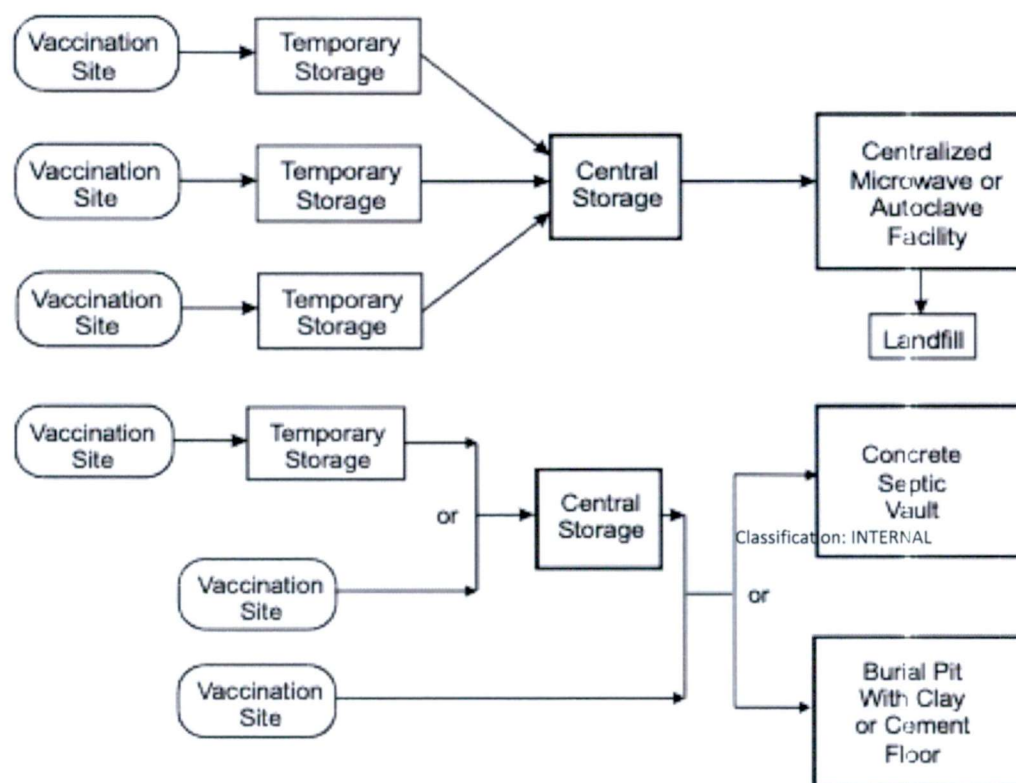
- any leakage during transportation; plastic bags should be clearly labelled; and
- Placing empty vials into clearly marked and sealed waste containers with plastic lining to avoid leakage.

In the Philippines Follow-up Measles Elimination Campaign in 2004, an estimated 19.5 million syringes were collected in 162,000 safety boxes, amounting to about 810,000 liters or 130,000 kilograms (kg) of sharps wastes. There were also about 740,000 liters of 72,000 kg of empty vaccine vials and ampoules, syringe wrappers, empty vitamin capsules, cotton swabs, syringe caps, and packaging.⁵ Storage safety boxes were used to collect used auto-disabled syringes. Filled safety boxes were sealed and labelled at the end of each day. There was little or no problems encountered regarding the implementation of the process on storage of safety boxes, as well as in the transport to the temporary storage areas or central storage facilities. From several vaccination locations, the filled safety boxes were transported to a central storage site, either hand-carried or using bicycles/motorcycles, jeeps, vans, trucks, boats, horses, cars, ambulances, and other vehicles used to deliver vaccination supplies. HCFs with access to autoclaves or microwaves sterilize the sharps to destroy the pathogens. Many rural and coastal areas used concrete vaults either built inside the premises of health facilities, in landfills or in cemeteries. The concrete vaults and waste pits have cement floor or bottom clay layers to minimize groundwater contamination. There were some communities that decided to dispose of their safety boxes in communal latrine/septic tanks.⁶

Figure 1: Waste Treatment and Disposal System Used during the Philippines Follow-up Measles Elimination Campaign in 2004

⁵ Joint Report by Health Care Without Harm and the Philippine Department of Health. *Joint Report by Health Care Without Harm and the Philippine Department of Health During the Philippine Follow-up Measles Campaign*. Manila, 2004.

⁶ WHO, West Pacific Region. 2015. *Status of Measles Elimination in the Western Pacific Region, 2008-2013*. Manila.



Source: Joint Report by Health Care Without Harm and the Department of Health. 2004. *Waste Management and Disposal During the Philippine Follow-up Measles Campaign*. Manila.

In general, HCWM capacities in DOH-hospitals and larger private hospitals are adequate. In such facilities, HCW is segregated, and a management and administrative system exists. In urban areas, licensed waste disposal companies are available that are collecting, treating and disposing of HCW (footnote 6). HCWM remains a systemic issue in primary health care services. A survey conducted in 2014 by the World Bank concluded that a quarter of RHUs did not have the infrastructure in place for storage and safe disposal of sharps, and 35% of RHUs were unable to safely dispose of infectious materials, with no significant disparities between regions.⁷

The DOH allows on-site burial within the HCFs for treated infectious waste, sharps, pathological and anatomical waste, small quantities of encapsulated/inertized solid chemical and pharmaceutical wastes. The HCWM Manual recommends safe burial as a transitional, interim solution only and is allowed if the HCF is (i) located in a remote and far-flung area; (ii) does not have access to TSD facilities; (iii) located in a local government unit (LGU) with an income classification of 5th or 6th class; (iv) located in 1st to 4th class LGU with available area within the HCF premises but only pathological, anatomical, expired drugs and sharps waste can be buried; and (v) safe burial within the premises is the only viable option such as in temporary camps.

⁷ World Bank Philippines. 2014. *Supply-side Readiness of Primary Health Care in the Philippines*. Manila.

In the more recent monovalent oral poliovirus vaccination campaign of the DOH, there has been significant improvement in the system to manage immunization wastes. The hospitals and RHUs implement the on-site management of immunization wastes in accordance with the requirements of the HCWM Manual on proper waste segregation and packaging, labelling, and safe storage in septic vaults. The reverse logistics system was implemented whereby DENR-registered third party service providers were commissioned by DOH collect the immunization wastes from regional hubs or collection points of the DOH for treatment. These regional collection points are where the RHUs transport the safety boxes containing the immunization wastes.

An assessment conducted by the Health Care Without Harm Southeast Asia in 2009 for Baguio City, covering five tertiary and two secondary hospitals, confirmed the following:⁸

- All hospitals had their respective Waste Management Committee that plans, identifies different programs, and makes decisions on the implementation of policies and procedures on HCWM. Majority of the hospitals follow the standard color-coded trash liners and bins for segregation of their wastes.
- The Waste Management Committee also sets policies on accident reporting specifically injuries due to improper waste disposal of sharps. The hospitals referred to the DOH's HCWM Manual for the standard guidelines in setting up their waste management system.
- All hospitals had designated waste storage areas for temporary storage of biodegradable, non-biodegradable and infectious wastes.
- Each hospital had an effective inventory system employing the "first in, first out" policy for both pharmaceutical and medical supplies. All hospitals have a "return policy" stipulated in the bidding and purchasing contract for both pharmaceutical and medical supplies. Distributors and manufacturers took back the nearly expiring supplies and either replaced it with new ones or deducted the value of the old expiring supplies from the new purchase order.

Classification: INTERNAL

An assessment is currently ongoing through the World Bank-financed Philippine COVID-19 Emergency Response Project to evaluate the existing health care waste management system in 100 HCFs covered by the project. This is being done using COVID-19 waste management self-audit tools developed by DOH with World Bank support. The World Bank also provided support to DOH in developing the draft operations manual and training design on the self-audit tools to determine gaps and needs of HCFs on the management of wastes. It is expected that the training and self-audit tools will provide better information for DOH on the gaps and resources needed by the HCFs towards the effective implementation of the HCWM manual and in ensuring safe disposal of wastes.

B. Off-Site Transport and Disposal of Health Care Waste

As of January 2020, there are a total 48 TSD facilities nationwide that are registered by the DENR-EMB to treat M501 and M503 wastes. Central Luzon or Region 3 has the highest number of HCW TSDs with 18, followed by Region IVA with 11. Luzon Island has the greatest

⁸ Health Care Without Harm - Southeast Asia. 2009. [*Health Care Waste Assessment Project: A partnership between the Local Government Unit of Baguio, Tertiary Hospitals in Baguio City and Health Care Without Harm-Southeast Asia*](#). Manila.

number of TSDs, but these are primarily located in Metro Manila, Central Luzon, and CALABARZON. In Visayas, there are four TSDs on HCW in the provinces of Cebu and Leyte. There are also four registered TSDs for HCW in Iligan City, Misamis Oriental, Davao City, and Surigao del Norte. Six regions are without TSDs, namely, (i) Region 2, (ii) Region 5, (iii) Region 6, (iv) Region 9, (v) Region 12, and (vi) BARMM.

Table 1: Registered TSD Facilities for Health Care Wastes as of January 2020

Region	Number of TSDs
Cordillera Administrative Region	1
National Capital Region or Metro Manila	8
Ilocos (Region 1)	1
Cagayan Valley (Region 2)	-
Central Luzon (Region 3)	18
CALABARZON (Region 4A)	11
MIMAROPA (Region 4B)	1
Bicol (Region 5)	-
Western Visayas (Region 6)	-
Central Visayas (Region 7)	3
Eastern Visayas (Region 8)	1
Zamboanga Peninsula (Region 9)	-
Northern Mindanao (Region 10)	2
Davao (Region 11)	1
SOCCSKSARGEN (Region 12)	-
CARAGA (Region 13)	1
BARMM	-
TOTAL	48

BARMM = Bangsamoro Autonomous Region in Muslim Mindanao; CALABARZON = Batangas, Cavite, Laguna, Quezon and Rizal; CARAGA = Agusan del Norte, Agusan del Sur, Dinagat Islands, Surigao del Sur; MIMAROPA = Marinduque, Occidental Mindoro, Oriental Mindoro, Palawan, Romblon; SOCCSKSARGEN = Sarangani, South Cotabato, Sultan Kudarat, Cotabato; TSD = transporter, storage and disposal.

Source: DENR-EMB. 2020. [List of Registered TSD Facilities](#). Manila.

There are 15 TSDs that are able to treat both M501 and M503 HCW. Majority of the 24 TSDs cater only to M503 wastes, while the rest (9) treat only M501 wastes. Based on the list of registered TSDs for HCW, majority fall under Category B and uses thermal treatment for HCW such as pyrolysis. The TSD is evaluated and monitored by EMB to check compliance with the requirements of DMC-2002-05. There are also three cement kilns and two steel mills that are able to treat M503 wastes. Table 2 presents the DENR category of TSDs and the number of TSDs for HCW per DENR category.

Table 2: Category and Method of Treatment of Health Care Waste TSD Facilities

Category	Description of Treatment Method	Number of TSDs on HCW
A	Onsite treatment and disposal facilities	5
B	Thermal treatment facilities (either burn or non-burn) such as pyrolysis, autoclave (hydroclave/pyroclave) for M501, thermal decomposition (thermolysis), thermal evaporation	26
C	Disposal facilities (sanitary landfill, surface impoundments) that accept only inert or treated hazardous wastes for final disposal in a dedicated cell, hazardous wastes for final disposal such as	3

	solidified, encapsulated wastes	
D	Recycling facilities that recover valuable materials (i.e. used or waste oil, solvents, acids, alkalis, metals, etc.), use hazardous wastes as input materials or alternative fuel for industrial processes, remediate contaminated soil thru physical, chemical or biological treatment.	8
E	Chemical treatment facilities that accept and treat hazardous wastes, which are not generated or produced at the facility using chemical immobilization, polymeric filtration, chemical decomposition, solvent extraction	17
F	Storage facilities for hazardous wastes, which were not generated from the facility awaiting transport for treatment, disposal or export such as Material Recovery Facilities, Buildings that store containers, vessels, or tanks containing hazardous wastes, and Built tanks that store liquid hazardous wastes	2

TSD = transporter, storage and disposal.

Note: A TSD may employ more than one type of treatment methods.

Source: DENR-EMB. 2020. [List of Registered TSD Facilities](#). Manila.

Classification: INTERNAL

The DENR confirms that there is a surge in the volume of HCW since the start of the COVID-19 pandemic. The DENR is able to monitor activities of the transporters and treaters through the permitting system that is established for every movement of wastes from generators. Most of the wastes are treated in the TSD facilities located in the more urban areas in Luzon, but the other regions still lack these treatment services. The DENR suggests the opening of opportunities for more investments for the establishment of HCW treatment facilities in other regions. The regulations are already in place, and the DENR continues to use the online system of registration to help facilitate the movement of HCW until its safe treatment and disposal at TSD facilities.

In order to manage and help address the increase in HCW wastes, the EMB has drafted the administrative order that will open opportunities on waste-to-energy treatment systems in cement kilns as an additional option for destruction of non-pathological HCW. The order has been subjected to review and consultations to seek comments from various stakeholders. The DENR hopes to issue the amendment of DAO 2010-06 in the first quarter of 2021.

C. Monitoring of Health Care Wastes

The movement of wastes once removed from the HCF's facility follows a rigorous system of monitoring through the DENR's Hazardous Waste Manifest system as stipulated in RA 6969 and its implementing rules and regulations. Only DENR-registered transporters are allowed to collect hazardous waste from a generator. As required by the DENR-EMB, the transporter should have an emergency and contingency plan and drivers and helpers should be certified on waste management and emergency preparedness and response. The transport vehicle should have warning signs and markings on the waste identification, classification, and symbols, and safety data sheet. Workers transporting the wastes are required to wear personal protective equipment. The requirements are also outlined in the DOH's HCWM Manual which follows the Technical Guidelines on Transport of Infectious Clinical Wastes (UN 3291).

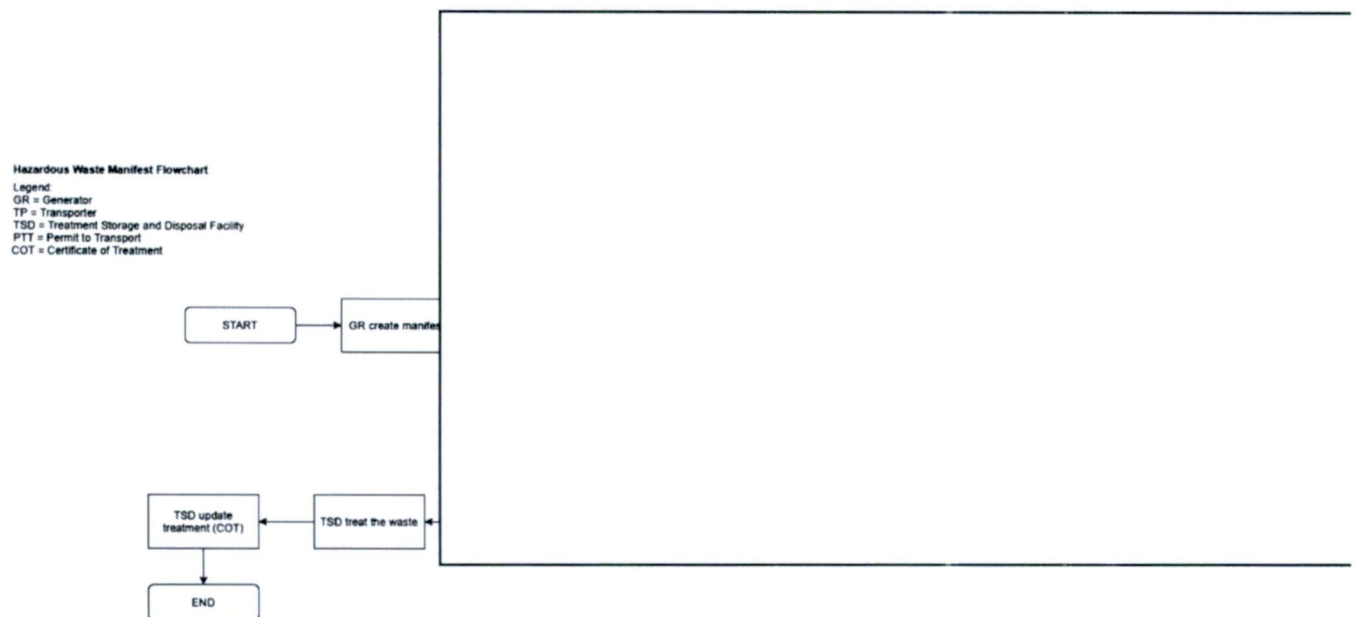
The manifest is first prepared by the waste generator and is forwarded to the transporter and then the treater until a Certificate of Treatment (COT) is issued by the treater ascertaining

the safe treatment and disposal of the wastes. This process follows the “cradle to grave” concept on waste management as required in the implementing rules and regulations of RA 6969 (Figure 2).

The DENR-EMB is able to monitor the quantities of health care waste transported through the approved Permit to Transport that are issued from the EMB regional offices. Reports from the EMB regional offices are sent on a daily basis to the EMB central office and then submitted to the Inter-Agency Task Force for the Management of Emerging Infectious Diseases.

Figure 2: Hazardous Waste Manifest System

Classification: INTERNAL



Source: DENR-EMB.

D. Regulatory Compliance of Hospitals and RHUs

In terms of regulatory compliance, the health sector is still faced with challenges in complying with the requirements of the DENR with regards to the off-site treatment and disposal of health care waste. According to DENR-EMB, most of the RHUs are still not registered with the bureau as waste generators in accordance with the requirements of RA 6969. Without the waste generator registration, it becomes illegal for HCFs to transport health care waste off-site. As such, the options left for HCFs is to disinfect wastes and then bury the infectious wastes within the HCF site in septic vaults.

III. GOVERNMENT'S PLAN TO ADDRESS GAPS

The following presents the plans and programs of the DOH to strengthen the management of health care wastes by HCFs:

The DOH plans to deliver the training program for hospitals and RHUs on the updated HCWM manual in 2021. The supplemental operations manual on COVID-19 waste management and the self-audit screening tool will help DOH and the HCFs in determining further needs to manage wastes properly.

Classification: INTERNAL

The DOH, with support from the United Nations Children's Fund (UNICEF) and the WHO, developed the COVID-19 Vaccine Introduction Readiness Assessment Tool (VIRAT) in November 2020 which looks at four core activities: (i) planning and management; (ii) supply and distribution; (iii) program delivery; and (iv) supporting systems and infrastructure. The VIRAT will be updated monthly, and assessments will feed into the country's COVID-19 vaccine roadmap. In the first VIRAT results, key indicators related to the management of wastes from the immunization program are captured. The VIRAT assessment includes criteria on: (i) waste management protocols for COVID-19 vaccination, both hazardous and non-hazardous, including development and dissemination of practices and guidelines for disposal routes, (ii) appropriate waste management systems in all relevant sites, and adequately trained human resources, and (iii) properly-licensed waste management providers (especially hazardous waste storage, transportation and disposal) are identified and will be mobilized.

As part of the licensing process, HCFs are required to formulate a policy formalizing the HCF commitment to properly manage its waste; establish a formal HCWM management plan and a HCWM Committee; appoint a Waste Management Officer to supervise and coordinate HCWM planning and its subsequent implementation; and ensure compliance with the HCWM manual. DOH confirmed that all HCFs in principle comply with these requirements but acknowledges that the COVID-19 vaccination campaign may result in temporary HCWM capacity gaps at HCF.

Following the lessons and experience from past vaccination programs, the DOH will implement an on-site management of immunization wastes by implementing the provisions of the HCWM Manual on proper waste segregation and packaging, labelling, and safe storage in septic vaults. The HCWM manual is currently being used for routine and regular immunization programs in terms of managing health care waste in various types of HCF in the country. Septic vaults are more common in remote areas.

Where on-site septic vaults are not enough, the services of third-party TSD facilities that are registered by the DENR will be employed for the off-site treatment and disposal of immunization waste. This is practiced in urban areas where there are available DENR-

registered TSD facilities. In the recent DOH immunization program for monovalent oral poliovirus vaccine, the DOH commissioned the services of Integrated Waste Management Incorporated (IWMI), a private company that is registered with DENR, to pick-up used vials in regions for treatment and disposal at its TSD facility in Cavite. For the COVID-19 immunization program, the DOH already requested the vaccine czar on the allocation of budget in 2021 for waste management.

The vaccine procurement program of DOH will also seek to apply the concept of Extended Producer Responsibility (EPR) as a green procurement approach in managing vaccine wastes.⁹

IV. CONCLUSION

The Philippines has established a comprehensive and robust policy framework in regulating health care waste management through laws and regulations that are being implemented by the DOH and the DENR. The 4th edition of the Health Care Waste Management Manual of the DOH presents a comprehensive set of guidelines on the safe management of waste generated from health care activities in the country. The manual incorporates the requirements of all Philippine laws and regulations governing HCWM, including immunization waste, and is aligned with international good practice as recommended by the WHO.¹⁰ The VIRAT assessment that includes the aspects on HCWM will be useful to assess the readiness of the HCFs to address issues of waste management.

The DOH's proposed plan of action confirm the government's commitment to ensure that incremental immunization waste will be managed by the HCFs through the "duty of care" policy. As the COVID-19 vaccination program may add to the increase in health care waste to be managed by the HCFs onsite, the following strategies are proposed to further strengthen capacities in the management of medical wastes:

- Encourage more investments in health care waste treatment in regions without available TSD facilities. The availability of more TSD facilities in regions would reduce cost for transporting and treating wastes;
- Improve capacities of RHUs in complying with the requirements of the DENR on waste generator registration and reporting;
- Ensure that sufficient budget is provided to the RHUs for the implementation of the provisions of the HCWM Manual such as for waste segregation bins, disinfection systems and septic vaults; and
- Explore the adoption of the EPR or similar scheme as part of Green Procurement Program of the government under Executive Order 301. The EPR or return-back condition in the contract agreement with the vaccine supplier or distributor may be applied in areas with limited capacities for safe onsite disposal or in areas with no available third-party hazardous waste treatment facilities.

⁹ The draft agreement for the advance purchase of vaccine in the Philippines between DOH and a potential supplier reviewed by ADB defines waste management responsibilities of DOH and the supplier, including responsibilities for disposal of damaged and defective vaccines.

¹⁰ World Health Organization. 2014. *Safe Management of Wastes from Health-care Activities*. Geneva; and World Health Organization. 2019. *Overview of Technologies for the Treatment of Infectious and Sharp Waste from Health Care Facilities*. Geneva.

Appendix A: Regional distribution of registered TSD Facilities for Health Care Waste (HCW) in the Philippines

Region	Name of TSD Facility	Location	Type of HCW	TSD Category
CAR	Lepanto Consolidated Mining Co.	Lepanto, Paco, Mankayan, Benguet	M501	A
NCR	Eco Safe Hazmat Treatment Inc.	Novaliches, Quezon City	M501 M503	E E
NCR	Integrated Waste Management, Inc.	Lung Center of the Philippines Compound, Quezon City	M501	B
NCR	Maya Med Waste Corporation	Bagbaguin, Valenzuela City	M501, M503	B
NCR	Green Planet Management Inc.	Punturin, Valenzuela City	M503	E
NCR	JM Ecotech Solutions, Inc.	Kaybiga, Caloocan City	M503	E
NCR	Trame Oil & Environmental Specialist, Inc.	Valenzuela City	M503	E
NCR	Intercontinental Waste Disposal Systems, Inc.	Bagumbayan, Taguig City	M503	B
NCR	Udenna Environmental Services, Inc.	Bagumbayan, Taguig City	M501 M503	E E
1	Servo-Treat Philippines, Inc.	Urdaneta City, Pangasinan	M501 M503	B D
3	Udenna Environmental Services, Inc.	Hermosa, Bataan	M501 M503	F B
3	Holcim Philippines, Inc.	Norzagaray, Bulacan	M503	A, B, D
3	All Waste Services, Inc.	Guiguinto, Bulacan	M503	E
3	Republic Cement & Building Materials, Inc.	Norzagaray, Bulacan	M503	B, D
3	Total Organic Environmental Solutions, Inc.	Pulilan, Bulacan	M501	B
3	Globaltec Waste Management, Inc.	Marilao, Bulacan	M503	E
3	Far East Fuel Corporation	San Ildefonso, Bulacan	M501, M503	B
3	Asia United Oil Industry Corporation	Meycauayan, Bulacan	M503	B
3	Wacuman Incorporation	Norzagaray, Bulacan	M503	C
3	Recyclephil Inc.	Bocaue, Bulacan	M503	E
3	Glochem Marketing & Recycling Corp.	San Isidro, Nueva Ecija	M501 M503	B B, E
3	Dolomatrix Philippines, Inc.	Bacolor, Pampanga	M503	E
3	VAG General Merchandise	Floridablanca, Pampanga	M503	E
3	RMS Petroleum Technology & Wastre Management Corp.	Mexico, Pampanga	M503	B
3	Joechem Environmental Corporation	Capas, Tarlac	M503	E

3	Metro Clark Waste Management Corporation	Capas, Tarlac	M501, M503	C
3	Cleanway Environmental Management Solutions, Inc.	Capas, Tarlac	M501	B
3	Clean Leaf International Corporation	Bamban, Tarlac	M501, M503	B
4A	Republic Cement & Building Materials, Inc.	Taysan, Batangas	M503	A/D
4A	Cleanway Environmental Management Solutions, Inc.	Silang, Cavite	M501, M503	B/F, C/F
4A	Green Eco Techwin, Inc.	Gen. Trias, Cavite	M501, M503	B
4A	Integrated Waste Management, Inc.	Trece Martirez City, Cavite	M501	B
4A	Jorm Trading Corporation	General Trias, Cavite	M503	D/E
4A	Solvtech Consultancy Resources	Silang, Cavite	M503	E
4A	Green Horizon Environmental Management Inc.	Bacoor City, Cavite	M503	E
4A	Integrated Waste Management, Inc.	Trece Martirez City, Cavite	M501, M503	B
4A	August-10 Enterprise Co.	Biñan, Laguna	M503	B
4A	Green Resource & Environmental Management Solutions, Inc.	San Pedro City, Laguna	M503	E
4A	Hazchem, Inc.	Calamba City, Laguna	M501, M503	B, B/E
4B	Pollution Abatement Systems Specialists, Inc.	Puerto Princesa City, Palawan	M501	B
7	Pollution Abatement Systems Specialists, Inc.	Cebu City, Cebu	M501	B
7	Medclean Management Solutions, Inc.	Cabancalan, Mandaue City	M501	B
7	Enviro-Q Trends Corporation	Carmen, Cebu	M503	D/E
8	Cleanaway Philippines, Inc.	Isabel, Leyte	M503	D/E
10	Republic Cement Iligan, Inc.	Kiwalan, Iligan City	M503	B/D
10	Philippine Sinter Corporation	Villanueva, Misamis Oriental	M501	A
11	Maya Med Waste Corporation	Tugbok District, Davao City	M501, M503	B
13	Taganito HPAL Nickel Corporation	Claver, Surigao del Norte	M501, M503	A

CAR = Cordillera Administrative Region, NCR = National Capital Region, TSD = treatment, storage and disposal.
Source: DENR-EMB, 2020. [List of Registered TSD Facilities](#), Manila.

PROCUREMENT ARRANGEMENTS

A. Coordinated, Multi-Pronged Approach

The Government of the Philippines has signified its intention to vaccinate all of its citizens in accordance with the National Vaccine Roadmap, a three-year program that targets a projected total population of over 112 million between 2021 and 2023. The activities under the roadmap run in multiple, parallel fronts, coordinated under an Inter-Agency Task Force headed by the Secretary of Health. These activities are undertaken by Multi-agency Task Groups headed by senior agency officials, but may be lumped into the Vaccine Evaluation and Selection Group, the Cold Chain and Logistics Management Group, and Procurement and Finance Group.

a. Vaccine Selection, Procurement and Deployment

Organizationally, the National Task Force Against coronavirus disease (COVID-19) with Chief Implementer and Vaccine Czar Secretary Carlito Galvez leads this cluster together with the Department of Health (DOH). The Task Group for Procurement and Finance, composed of the Department of Finance, the Department of Budget and Management and the DOH, focuses on negotiating directly with the vaccine companies to screen the options and get the best arrangement in terms of cost, volume, time of delivery, and draft supply agreements. The objective is to meet the Vaccine Allocation Plan developed by DOH (see Table 1 below), with whichever vaccine can meet the production and three-year deployment requirements and fit within available financing options.

Table 1: Vaccine Allocation Plan

	2021		2022		2023	
Philippine Population	110,198,654		111,572,254		112,892,781	
Target Eligible Population	Eligible Population (No)	Eligible Population (%)	Eligible Population (No)	Eligible Population (%)	Eligible Population (No)	Eligible Population (%)
Covered Population	25,345,690	23	44,628,902	40	41,770,329	37
COVAX Facility	3,305,960	3	18,967,283	17	-	0
Bilateral Agreement	22,039,731	20	25,661,618	23	41,770,329	37

COVAX = COVID-19 Vaccines Global Access

*2020-2025 Population Projection by Department of Health Epidemiology Bureau.

*Balance may be through Bilateral Agreement: World Bank and Asian Development Bank.

*2023: No COVAX Facility Assistance.

Source: Asian Development Bank.

b. Financing

The plan for financing the roadmap is summarized below:

- (i) Supply agreements for vaccines, which may include advance purchase commitments or agreements, with private vaccine manufacturers as well as through the COVID-19

Vaccines Global Access (COVAX) facility may be financed through loans from multilateral development partners. To supplement the financing requirements under multilateral facilities, the government may consider loans with bilateral partners.

- (ii) The funds available under the General Appropriations Act 2021 will cover logistics, distribution, and monitoring costs for the project.
- (iii) Other sources of funds may include contractual joint venture or private sector joint venture.

B. Status as of December 2020

a. Discussions with Vaccine Manufacturers

The government is in discussion with six vaccine developers (three in advanced discussions, two in discussions on agreements, and one on-going discussion). The government expects to sign bilateral agreements and provide advance payments to a few vaccine developers by January 2021. With those agreements, the expected earliest possible shipment of vaccines will be around June 2021. The Philippine vaccine options are described below in Table 2.

Table 2: Philippine vaccine options
(as of 23 December 2020)

Vaccine Developer / Manufacturer	Vaccine Platform	Phase 3 trial results/ Regulatory Approval status	No. of Doses	Storage Temp	Estimated Unit Cost*	Estimated cost per person (2 doses per person except for Janssen)
AstraZeneca	Viral Vector	70% efficacy undergoing UK MHRA review	2	+2°C to +8°C	₱250 to ₱305*	₱500 to ₱610
Janssen (Johnson and Johnson)	Viral Vector	Phase 3 trials	1	+2°C to +8°C	₱500	₱500
Novavax	Protein Subunit	In Phase 3 trials	2	+2°C to +8°C	₱150 to ₱800**	₱300 to ₱1600
Pfizer	mRNA	Approved by UK MHRA and US FDA	2	-70°C to -80°C	₱950	₱1,900
Sinovac	Inactivated Virus	In Phase 3 trials	2	+2°C to +8°C	₱1,400	₱2,800
Moderna	mRNA	US FDA approved	2	-20°C (10 months shelf life) -70°C to -80°C (2 years shelf life)	₱1,200 to ₱1,850***	₱2,400 to ₱3,700
Sinopharm	Inactivated Virus	In Phase 3 trials	2	+2°C to +8°C	₱3,500	₱7,000

UK MHRA = United Kingdom Medicines and Healthcare Products Regulatory Agency, US FDA = United States Food and Drug Administration.

*Based on price range being discussed with AstraZeneca.

**Low end is priced offered to COVAX while high end is reported price of Novavax for its agreement with the US.

***Range of unit costs based on different prices agreed in contracts with US, EU and other countries.

Source: Asian Development Bank. The prices are estimated by the Asian Care Group as of 21 December 2020.

b. Financing

COVAX. The Philippines has signed up with the COVAX Advance Market Commitment to secure fully subsidized vaccines for up to 20% of its population deemed as priority.

Asian Development Bank (ADB)-financing/Asia Pacific Vaccine Access Facility (APVAX). The current situation of meeting vaccine eligibility criteria for ADB funding is described in Table 3 below.

Table 3: Vaccine candidates for ADB support

Vaccine Candidates	Likely to meet eligibility criteria	Expected first delivery timeline
Pfizer/BioNTech BNT162b2	Possibly COVAX/WHO PQ/SRA (US)	Early 2021
Moderna mRNA-1273	WHO PQ/SRA (US)	Early 2021
AstraZeneca AZD1222	COVAX/WHO PQ/SRA (UK, EU)	Early 2021
Johnson&Johnson Ad26.COV2.S	SRA (US)	Q1 2021
Novavax NVX-CoV2373	COVAX/WHO PQ/SRA (US)	Q2 2021
Sinovac/BioPharma	Possibly COVAX	Early 2021
Beijing Institute of Biological Products/SinoPharm	Possibly COVAX	2021
Wuhan Institute of Biological products/SinoPharm	Possibly COVAX	2021

COVAX = COVID-19 Vaccines Global Access, EU = European Union, SRA = Stringent Regulatory Authority, US = United States, WHO PQ = World Health Organization Prequalification.

Source: Asian Development Bank.

The Task Group for Procurement and Finance is in charge of discussing contract conditions related to finance sources, payments, liabilities, etc. Advanced discussions with AstraZeneca may provide a template for agreements with other suppliers.

c. Leading Options

Based on the information in Tables 1 and 2, AstraZeneca ChAdOx1-S provides the best match for ADB financing mainly because of the following reasons:

- (i) Lowest cost estimated at ₱250 equivalent to \$5.0 per dose;
- (ii) Storage temperature of +2°C to +8°C which will not require special freezer trucks and storage facilities, e.g., Pfizer vaccines needs to be stored at minus 70°C to minus 80°C; and
- (iii) the vaccine met ADB APVAX criteria (Stringent Regulatory Authority by United Kingdom, European Union).

In November, the Philippine private sector with the government as co-signatory signed an agreement with AstraZeneca to secure supply for a reported 2.6 million doses for delivery in 2021. The private sector's donations are expected to vaccinate more than 1.5 million Filipinos in 2021.

Based on the information, AstraZeneca ChAdOx1-S can be transported and stored at domestic freezer temperature of +2°C to +8°C which means that the vaccine can be easily distributed using the government's existing medical facilities. Once approved by the Food and Drug Administration (FDA) for use in the Philippines, this allows the vaccine to be deployed very rapidly similar to the arrangements under the Philippine Vaccination Program. Note that the Pfizer and Moderna vaccines require ultra-low temperature storage that may present difficulties in deploying the vaccines, or at least limit the deployment to areas accessible within a very short time period from the delivery point.

However, given the fast moving vaccine market situation, the government may have the option of selecting alternative or additional vaccine(s) that substantially matches the current information on AstraZeneca ChAdOx1-S as to price per dose, storage requirements, and timely compliance to ADB APVAX criteria. Moreover, it plans to engage a Third Party Provider which can provide ultra storage facilities for other vaccines with -70°C to -80° storage requirements.

C. Vaccine Delivery and Distribution Plan

The Task Group for Cold Chain and Logistics Management is in charge of the storage, distribution and deployment of the COVID-19 vaccines. This group is composed of DOH, the Department of Budget and Management, the Department of Interior and Local Government (Philippine National Police), the Department of National Defense (Armed Forces of the Philippines), the Department of Transportation, and the Department of Information and Communications Technology. The Department of Finance's Bureau of Customs may also be added as a member in the future.

1. Arrangements for international logistics and any other costs shall be included in the overall provision of vaccines (e.g., transport insurance and perhaps inspection services) as indicated in discussions for the AstraZeneca vaccine and/or another vaccine manufacturer(s).
 - Philippine FDA to process Emergency Use Authorization for the use of the vaccine upon application by the vaccine manufacturer(s).
 - Based on the total volume to be agreed with vaccine manufacturer(s) and the COVID-19 vaccine road map target, a suitable delivery schedule will be agreed.
 - The basis of price for the contract should be Carriage and Insurance Paid To (under Incoterms 2020), Ninoy Aquino International Airport, which should be until the vaccine manufacturer(s) designated warehouse.
 - Immediately upon arrival at the airport, documentations will be handled by the coordinated efforts of the members in the Task Group for Cold Chain and Logistics Management in order to expediently clear the vaccines through customs. The Task Group shall arrange customs clearances including exemption from import taxes and duties of the vaccines, if applicable.
 - Inspection arrangement for the vaccines will be undertaken by DOH / FDA / Research Institute for Tropical Medicine (RITM) either at the vaccine manufacturer(s) designated warehouse or at the RITM facility.
2. Arrangements for local transport and administration of vaccines.
 - The Task Group for Cold Chain and Logistics Management shall also be in charge of handling local transport from the vaccine manufacturer(s) designated warehouse to the RITM facility and thereafter to the health facilities where the vaccines will be administered

- DOH shall engage Third Party Provider(s) (3PLs) to assist and complement its resources in the arrival, warehousing/storage, transport and distribution of vaccines. Terms of reference for 3PL which includes storage (central, major island group, regional and local levels) and fleet requirements, reverse logistics, health care waste management, and tracking and tracing are currently being finalized. Target procurement launch date is January 2021.
- 3PLs should have resources for cold and ultra-cold storage facilities considering the differing temperature requirement of the vaccines. Based on a market study undertaken by DOH, there are three firms with capacity to provide ultra-cold storage facilities.
- 3PLs will handle transport of the COVID-19 vaccines to the targeted regional hospitals, provincial, city, and/or municipal facilities. Storage capacity at these levels will be complemented with freezer vans.
- A logistic hub shall be established on major island groups, and pilot testing or simulation on the warehousing and distribution of vaccine will be done.
- Arrangements for vaccine administration shall reasonably follow the protocols and procedures currently in place by the DOH in its Philippine Immunization Program, with adjustments on targeting in line with the COVID-19 vaccine road map target. As a prior activity for the vaccination, the government is already profiling the target population, and is preparing a counseling program to help the target population in making an informed decision for agreeing to be vaccinated. It is planned that the government will tap the services of the private sector health service providers, e.g., St. Lukes Hospital, University of Sto. Tomas Hospital, etc. to administer the vaccines within its area of operation.

DEVELOPMENT PARTNER COORDINATION MECHANISM

Development partners coordination on the coronavirus disease (COVID-19) vaccination has been established, with the Asian Development Bank (ADB) expected to provide both financing of the procurement of vaccines and other needed investments for vaccine delivery; and technical assistance for a broad area of support from cold chain, vaccine communications, and planning.

The coordination mechanism is composed of regular coordination meetings of development partners, and coordinated work on various aspects of accessing and delivering safe and effective COVID-19 vaccines.

The development partners' coordination meetings include (i) the Department of Health (DOH)-led Health Partners Meetings (bi-weekly); (ii) regular "multi-donors only" meeting (lead convenor is United States Agency for International Development [USAID]-Philippines); (iii) regular bilateral meetings with country offices of the World Bank, the United Nations Children Fund (UNICEF) and World Health Organization (WHO); and (iv) joint meetings of ADB and COVID-19 Vaccines Global Access (COVAX) and regional offices of WHO and UNICEF.

Coordinated work at the country level include the following:

- Assessments on Vaccine Delivery Readiness (led by WHO and UNICEF);
- Vaccine Risk Communications (with United States Agency for International Development [USAID]);
- Vaccine Financing Support (with the World Bank);
- Training of Health Workers (with WHO, Japan International Cooperation Agency, and USAID);
- Logistics Systems (with UNICEF and private sector); and
- Information Systems (with WHO).

ADB is expected to provide financing of the procurement of vaccines and other needed investments for vaccine delivery, and the technical assistance for cold chain, vaccine communications, planning, and others. ADB's technical support will be done through both individual consultants, and through collaborative work with WHO and UNICEF.

Specifically, ADB is working with the WHO-Western Pacific Region Office and the UNICEF-East Asia and Pacific Office for the provision of ADB's technical support including contracting and management of individual consultants. ADB will also work with WHO and UNICEF to support the conduct of the Vaccine Readiness Assessment Tool at the subnational level, and identify area-based capacity needs at the regional, provincial, and city, municipality, and community levels. Consequently, the support to strengthen the institutional capacity for COVID-19 vaccination program should complement efforts to improve the country's health system and National Immunization Program.