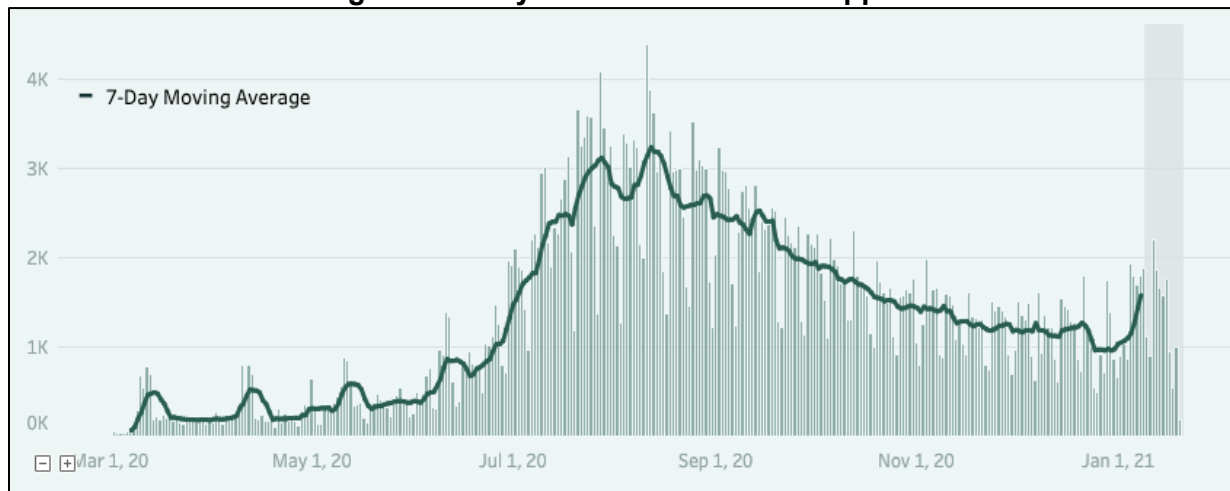


VACCINE NEEDS ASSESSMENT

1. **COVID-19 in the Philippines.** The first case of coronavirus disease (COVID-19) was reported on 30 January 2020, and the first case of local transmission was reported on 7 March 2020.¹ A State of Public Health Emergency was declared on 8 March 2020 through Proclamation No. 922 due to the threat of the virus to the national security, and the National Capital Region (NCR) was placed under general community quarantine (GCQ) on 15 March 2020.² This was further upgraded to “enhanced community quarantine (ECQ)” for the whole of Luzon on 16 March 2020 to mitigate the spread of the virus. On 16 May 2020, NCR, Laguna, and Cebu City were placed under a more relaxed type of quarantine, modified ECQ (MECQ), until 31 May 2020.³ With the observed stabilizing of the number of new cases, most places were placed under GCQ again on 1 June 2020. However, Cebu was put back under ECQ on 16 June 2020 because of a spike in cases. NCR, Bulacan, Cavite, Laguna, and Rizal were placed under MECQ on 4–18 August 2020 to ease the burden of the healthcare workers. Currently, daily reported cases are below 2,000. NCR, Batangas, Lanao Del Sur, Davao del Norte, Iloilo, Tacloban, Iligan, and Davao are on GCQ, while the rest of the country were under the most lenient modified GCQ until 31 December 2020.⁴ As of 20 January 2021, there were 505,939 total confirmed cases of COVID-19 in the country with 10,042 deaths.⁵ Figure 1 shows the daily number of confirmed cases nationwide. Figure 2 shows the COVID-19 trend in the Philippines with the important quarantine dates.

Figure 1: Daily new cases in the Philippines



Source: Department of Health.

¹ WHO. [COVID-19 in the Philippines](#) (accessed 15 December 2020).

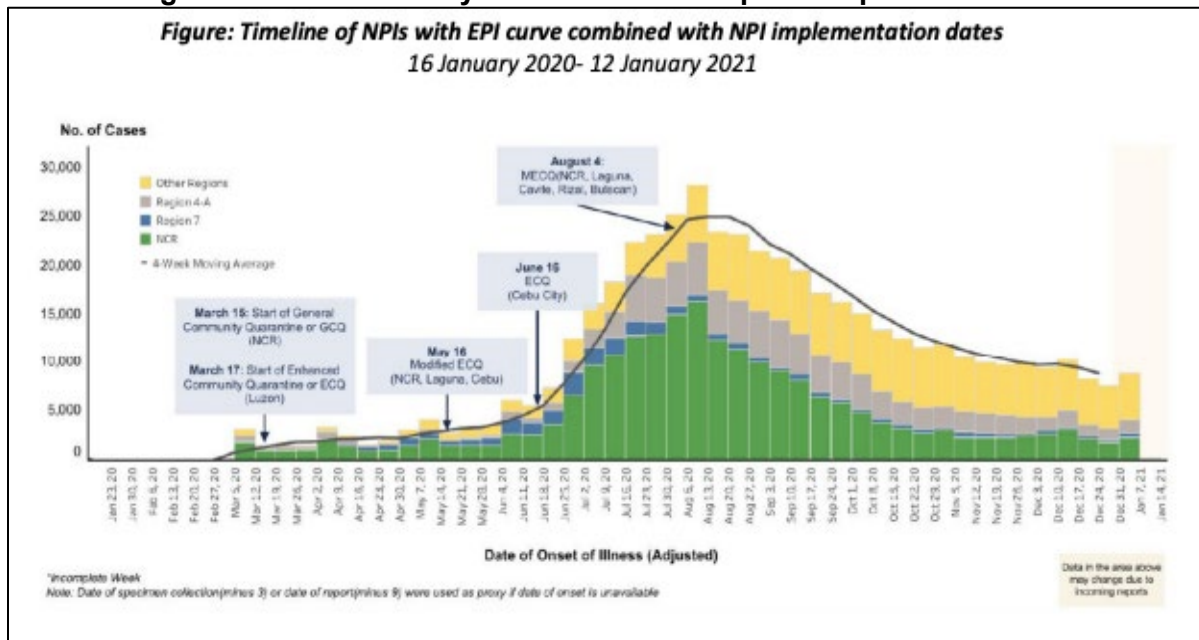
² Official Gazette. [Proclamation No. 922 s 2020](#) (accessed 21 January 2021).

³ D. Bautista and Lopez M. 2020. [Timeline: How the Philippines is handling COVID-19](#). *CNN Philippines*. 21 April.

⁴ G. Ong. 2020. [Metro Manila, 7 other areas under GCQ till December 31](#). *The Philippine Star*. 1 December.

⁵ DOH. [Beat COVID-19 Today: A COVID-19 Philippine Situationer, #269](#) (accessed 21 January 2021).

Figure 2: COVID-19 daily new cases with important quarantine dates



Source: WHO Philippines COVID-19 Situation Report #68, 12 January 2021.

2. **Government COVID-19 response.** On 24 March 2020, the “Bayanihan to Heal as One Act” (Republic Act No. 11469) was formalized to grant temporary emergency powers to the President to help address the COVID-19 crisis. The law mandated the immediate procurement and delivery of urgently-needed-emergency medical supplies and equipment for health facilities to increase the diagnostic capacity for severe acute respiratory syndrome coronavirus 2 (SARS-COV-2),⁶ enhance infection control measures in health facilities, expand treatment capacity for COVID-19 cases, mobilize financing for health care providers, and implement risk and communication interventions.⁷

3. The “Bayanihan to Recover as One Act” (Republic Act No. 11494) or Bayanihan Act 2 was signed on 11 September 2020 to continue strengthening the health system and the social services infrastructure.⁸ This new law prioritized financing for the improvement of the healthcare system and infrastructure, health care workers’ benefits, cash work program funds, COVID-19 vaccine procurement, and the delivery of an uninterrupted immunization program against vaccine preventable diseases, including a vaccine for COVID-19.⁹

4. The country has been able to enhance its national COVID-19 response with these measures. There are now 208 laboratories accredited for COVID-19 testing, capable of processing more than 40,000 test samples daily.¹⁰ The government has also increased the supply of personal protective equipment to the different health facilities (5,745,708 gowns, 27,720,679 facemasks and 6,409,369 KN95 masks).¹¹ The government also has hired 46,000 contact tracers, nearing the target of 50,000 to be deployed in various regions of the country.¹²

⁶ The coronavirus strain that causes COVID-19.

⁷ Official Gazette. [Republic Act 11469](#) (accessed 15 December 2020).

⁸ Official Gazette. [Republic Act 11494](#) (accessed 15 December 2020).

⁹ A. Malindog-Uy. 2020. [Philippines' Latest Response to the Pandemic](#). *The ASEAN Post*. 27 September 27.

¹⁰ DOH. [Beat COVID-19 Today: A COVID-19 Philippine Situationer #269](#) (accessed 21 January 2021).

¹¹ DOH. [Beat COVID-19 Today: A COVID-19 Philippine Situationer #230](#) (accessed 12 December 2020).

¹² WHO. [Philippines Coronavirus Disease 2019 Situation Report #62](#) (accessed 15 December 2020).

5. Nonpharmaceutical interventions (NPIs) were critical components of the government's response for the containment of COVID-19 pandemic, due to the lack of effective antiviral medications and vaccines. Without an existing vaccine and clinically approved medication to cure COVID-19 during the early stages of the pandemic, the government has implemented NPIs to mitigate the spread of SARS-COV-2 and prevent more people from getting COVID-19. NPIs include social distancing measures, facemask and face shield policies, proper hand hygiene, bans on public gatherings, school and workplace closures, transport/travel restrictions, enforcement of large-scale quarantines including stay/work-at-home orders, and national lockdowns.¹³

6. Vaccination is the only intervention that can protect the public by interrupting community transmission of the virus.¹⁴ Vaccination has made possible the eradication and near elimination of diseases such as smallpox and poliomyelitis.¹⁵ A safe and effective vaccine is an essential intervention and an important complement to existing NPIs to stop the transmission of SARS-COV-2 and to decrease cases of COVID-19 and deaths. The addition of vaccination to the current NPIs will be a critical part in helping revive the economy. Figure 3 shows the different scenarios of the impact of vaccination on the incidence of COVID-19, and the incidence of severe cases and immunity over time under various simulation scenarios. Panels A and B show the pessimistic and optimistic scenarios, respectively, without the vaccine, and panels C and D show the pessimistic and optimistic scenarios, respectively, with the vaccine. Comparing panel A with C or panel B with D shows that the future incidence of clinically severe cases will decline substantially with a vaccine across both scenarios, demonstrating the important role that even an imperfect vaccine could have on SARS-COV-2 dynamics.¹⁶

7. Unfortunately, the global roll out COVID-19 vaccination highlights the inequity between low- and high-income countries. High-income countries have reserved or already pre-purchased more than five billion doses of candidate vaccines, leaving fewer than 800 million doses for the world's poorest countries.¹⁷ High income countries with in-country vaccine development capacity were the first to secure large advance market commitments. They were able to negotiate purchases through the investment of large amounts of public funds into vaccine research and development.¹⁸

8. The COVID-19 Vaccines Global Access (COVAX) facility formed by the World Health Organization, the Coalition for Epidemic Preparedness Innovations, and the Global Alliance for Vaccines can help bring the COVID-19 vaccine to countries which cannot produce or purchase vaccines themselves. However, it can only provide up to 20% of the population of each of the 92 countries designated as funded COVAX countries. Further, the delivery dates are uncertain subject to funding requirements and supply agreements to be negotiated with different countries.

¹³ R. Esra et al. 2020. [Evaluating the impact of non-pharmaceutical Interventions for SARS-COV-2 on a Global Scale.](#) *medRxiv*. 2020.07.30.20164939.

¹⁴ D. Salisbury. 2020. [If you're planning your hopes on COVID vaccine, here's a dose of realism.](#) *The Guardian*. 21 October.

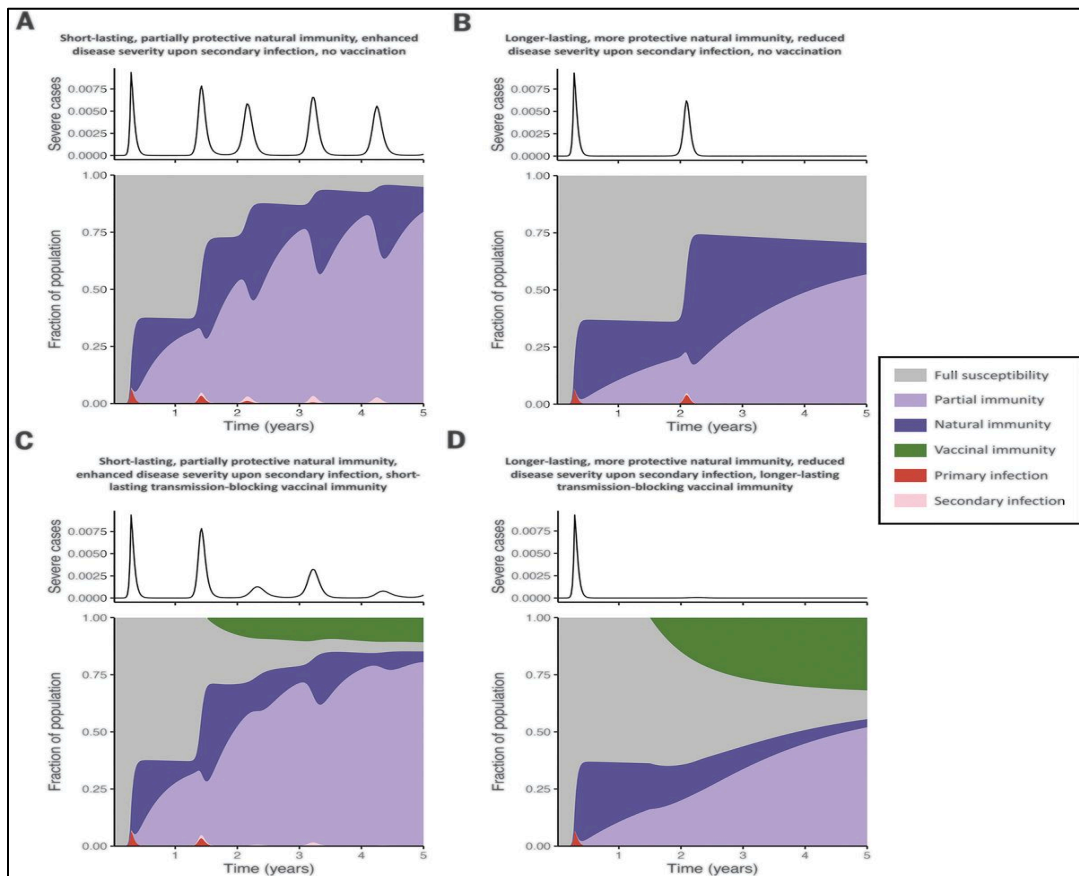
¹⁵ F. Andre et al. 2008 [Vaccination greatly reduces disease, disability, death and inequity worldwide.](#) *Bulletin of the World Health Organization*. 86 (2).

¹⁶ C. Saad-Roy et al. 2020. [Immune life history, vaccination, and the dynamics of SARS-COV-2 over the next 5 years.](#) *Science*. 370 (6518). pp. 811-818.

¹⁷ M. Doucleff. 2020. [Poor countries fall behind in race to reserve COVID-19 vaccine.](#) NPR. 5 November.

¹⁸ Launch and scale speedometer. [Mapping Covid-19 Vaccine Pre-Purchases Across the Globe](#) (15 December 2020).

Figure 3: View of the impact of COVID-19 vaccination and natural immunity



Source: C. Saad-Roy et al. 2020. [Immune life history, vaccination, and the dynamics of SARS-COV-2 over the next 5 years](#). *Science*. 370 (6518). pp. 811-818.

9. The constrained global vaccine supply partly due to the vaccine being reserved or pre-purchased by high income countries, the COVAX facility assuring vaccine doses for only up to 20% of the population, and uncertainty in delivery dates, have prompted the Philippines to exploit bilateral arrangements with several vaccine manufacturers. This is to secure additional vaccine doses beyond the COVAX-provided vaccines and ensure more firm delivery dates.

10. The COVID-19 Vaccine Cluster was organized on 5 November 2020 to design and lead the implementation of the Philippine National COVID-19 Vaccination Roadmap. The roadmap aims to vaccinate all Filipinos, but with the limited initial supply of vaccines, there is a need to identify priority groups in a strategically phased vaccine rollout, while continuing the enforcement of NPIs. Nonetheless, the roadmap notes that vaccinating 70% or more of a population is needed to achieve herd immunity.¹⁹

11. The vaccine cluster is headed by an appointed vaccine czar, and directly under the supervision of the National Task Force Against COVID-19.²⁰ The cluster has six task groups (TG): TG Vaccine Evaluation and Selection, TG Diplomatic Engagement and Negotiation, TG

¹⁹ D. Dowdy and G. D'Souza. 2020. [Early herd immunity against COVID-19: A Dangerous Misconception](#). John Hopkins University of Medicine.

²⁰ Official Gazette, Interagency Task Force for the Management of Emerging Infectious Diseases. 2020. [Resolution No. 83 Series of 2020](#). Manila.

Procurement and Finance, TG Vaccine Cold Chain and Logistics Management, TG COVID-19 Immunization Program, and TG Demand Generation and Communications, and employs a whole of government approach. There are seven stages identified in the roadmap with the TGs and/or various government assigned to address identified needs for implementing these stages. Needs identification is informed by the ongoing assessments done by the Department of Health (DOH) using the COVID-19 Vaccine Introduction Readiness Assessment Tool.

12. The first stage addresses the need for the appropriate scientific evaluation and selection of the COVID-19 vaccines that will be secured by the government. The DOH, Department of Science and Technology, the Vaccine Expert Panel, and the National Immunization Technical Advisory Group are the lead agencies in charge of choosing a safe, efficacious vaccine. However, the Food and Drug Administration of the Philippines will continue to have the final decision in authorizing the use of any COVID-19 vaccine in the country. It has been allowed to issue Emergency Use Authorizations, which it has granted for the vaccines of Pfizer/BioNTech and AstraZeneca/Oxford University.

13. The next two stages cover getting access to vaccine manufacturers and getting into procurement and supply agreements. This work is led by the Department of Finance, Department of Foreign Affairs, and the Department of Budget and Management. The national budget law included ₱70 billion of appropriations (around \$1.45 billion) but these were unprogrammed budgets that still required either government domestic borrowing or multilateral and/or bilateral loans. The need for financing the unprogrammed budget line item for vaccines will be addressed by this proposed loan, and other proposed loans from the Asian Infrastructure Investment Bank and the World Bank, and other bilateral loan arrangements. Negotiations are also ongoing with at least seven vaccine manufacturers namely AstraZeneca, Serum Institute of India for Novavax, Pfizer, Moderna, SinoVac, Gamaleya and Johnson&Johnson.

14. Concerns related to shipment and (cold chain) storage, and distribution will be managed by the TG Vaccine Cold Chain and Logistics Management. The lack of infrastructure to handle end-to-end temperature control and cold chain requirements of the various COVID-19 vaccines has been noted. Although the assessments at the regional and local government unit level are still being verified, the Research Institute for Tropical Medicine, the designated National Vaccines Storage Facility only have four cold rooms and one walk-in freezer.²¹ In addition, the government does not have the ultra-high cold chain storage (-60°C to -80 °C) needed for some COVID-19 vaccines.²² The private sector has been brought into this TG and various approaches of engaging the private sector logistics companies are now being studied. Terms of reference for contracting third party logistics firm have been finalized by the DOH and is being reviewed on how to rapidly implement the proposed procurement and contracting.

15. The nationwide vaccination is led by DOH and local government units (LGUs). With the LGUs expected to do most of actual vaccination similar to how they have administered all other government-procured and provided vaccines, the DOH is finalizing guidance notes for LGUs on developing LGU plans. Simulation exercises on the conduct of the vaccinations have also been done in several LGUs.

16. Recognizing that the vaccines will be delivered in batches, a prioritization roadmap of COVID-19 vaccines has been prepared by the DOH and the vaccine cluster. The roadmap follows

²¹ DOH. 2019. [DOH designates RITM as the National Vaccines Storage Facility](#). Manila.

²² J. Damicog. 2020. [PH no existing ultra-high cold chain storage for COVID-19 vaccines](#). *Manila Bulletin*. 19 November.

the WHO Strategic Advisory Group of Experts recommendations which identify the priority groups for vaccination based on the country's epidemiologic setting and vaccine supply situations. The country's prioritization for COVID-19 vaccines aims to reduce morbidity and mortality, maintain the most critical essential services, control disease transmission, and minimize disruption of social and economic functions. Frontline health workers are primarily prioritized because they have a high to very high risk of acquiring and transmitting SARS-COV-2. It will also help preserve the availability of the essential health services they provide.

Table 1: Target Groups, Prioritization, and Eligible Population

| Target Group | Prioritization | Eligible Population in 2021 ^a |
|----------------|--|--|
| 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 ^b |
| Group C | 12: Remaining Filipino citizens (other Filipino citizens not in Group A and Group B) | 36 million or 33% of the population |

^a Not all can receive vaccines in 2021.

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

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

17. The nationwide vaccination and tracking of adverse events demand the strengthening of vaccine registry for accurate recording of vaccination information. Ideally, the registry should be digitized to be able to pull up vaccine information, track adverse reactions to the vaccinations, and vaccination coverage in a timely manner. A digitized vaccine registry will also facilitate the convenience of data sharing between different government agencies. The country also needs to establish a robust pharmacovigilance system to monitor and report all adverse events from COVID-19 vaccinations, especially as these are novel vaccines designed using new vaccine technology. The procurement for the design, installation and roll out of an electronic vaccine information management system to support vaccination and pharmacovigilance is ongoing with a firm engaged by mid-February 2021.

18. A vaccine communications plan to support the nationwide vaccination to address issues such as vaccine hesitancy and addressing potential adverse events has also been designed and implemented by the government. Among the initial activities are townhalls and meetings with health care providers given the need to get their strong support for implementing the COVID-19 vaccine roadmap.

19. With regards to medical waste management, a Health Care Waste Management Framework and updated health care waste management manual in place with on-site management of immunization waste will be implemented. The DOH, with support from the Department of Environment and Natural Resources, will tap third-party logistics firm for transport, storage, and disposal service (using government funds).

20. COVID-19 vaccination provides an opportunity to strengthen vaccine delivery more generally in the country. This will deliver long term gains even after the COVID-19 pandemic is over, because if done correctly, it can increase the public's confidence in the national immunization program, and strengthen vaccine cold chain and logistics, vaccine information management system, pharmacovigilance, medical waste management, and vaccine communications.