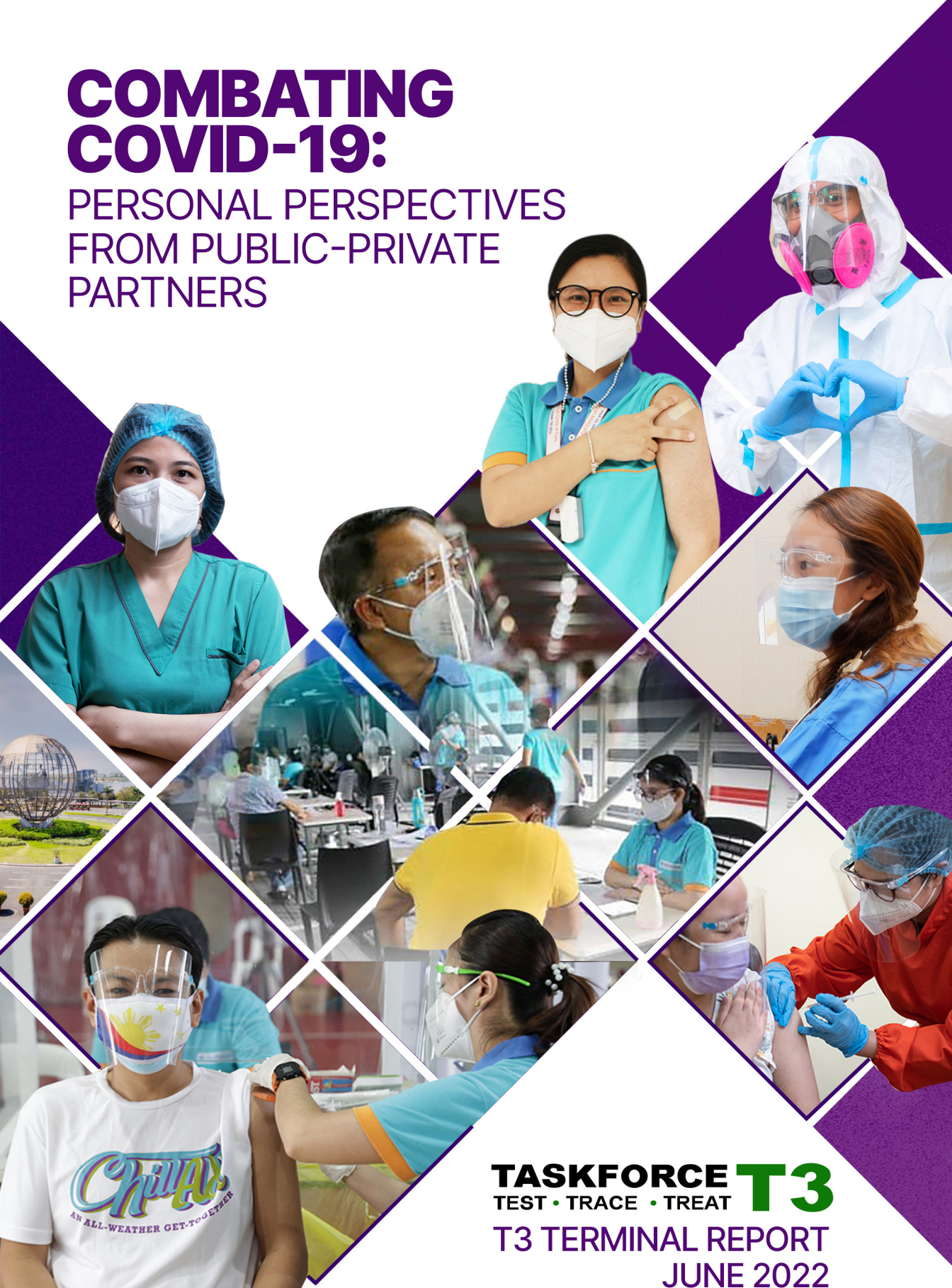
COMBATING COVID-19:

PERSONAL PERSPECTIVES FROM PUBLIC-PRIVATE PARTNERS



TASKFORCE T3
TEST • TRACE • TREAT

T3 TERMINAL REPORT
JUNE 2022

COMBATING COVID-19:
PERSONAL PERSPECTIVES FROM PUBLIC-PRIVATE PARTNERS

Edited by:

Manuel M. Dayrit, MD, MSc
Guillermo M. Luz
Jeremy E. Gorospe, MSc, DIH, RPh

Dedicated to our healthcare frontliners, especially to those who lost their lives so that they may save others.

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TEST • TRACE • TREAT

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ABBREVIATIONS

ADB	Asian Development Bank
ADOH	A Dose of Hope
AEFI	Adverse Event Following Immunization
AEG	All Expert Group
AESI	Adverse Event of Special Interest
AFMT	Administration and Finance Management Team
AFP	Armed Forces of the Philippines
AOP	Annual Operating Plans
API	Application Program Interface
APMC	Association of Philippine Medical Colleges
ASEAN	Association of Southeast Asian Nations
ARK	Antigen Rapid test Kits
AZ	AstraZeneca
BBB	Build Build Build
BBL	Bakuna Benefits Live
BCDA	Bases Conversion and Development Authority
BCG	Boston Consulting Group
BDO	Banco de Oro
BGC	Bonifacio Global City
BHERTs	Barangay Health Emergency Response Teams
BJMP	Bureau of Jail Management and Penology
BOQ	Bureau of Quarantine
BOT	Build-Operate-Transfer
BPO	Business Process Outsourcing
BRRP	Business Recovery and Resiliency Plan
BSL	Biosafety Level
BuCor	Bureau of Corrections
CBCP	Catholic Bishops' Conference of the Philippines
CBCR	COVID Bakuna Certificate of Registration
CCT	Conditional Cash Transfer
CDRS	COVID-19 Documents Repository System
CEIR	COVID-19 Electronic Immunization Registry
CEO	Chief Executive Officer
CESU	City Epidemiology Surveillance Unit
CHD	Center for Health Development
CHO	City Health Office
CIOMS	Council for International Organizations of Medical Sciences
CONWEP	Confederation of Wearable Exporters of the Philippines
COVID-19	Coronavirus Disease 2019
CPG	Clinical Practice Guidelines
CPMP	Coalition of Philippine Manufacturers of Personal Protective Equipment
CPR	Certificate of Product of Registration
CSO	Civil Society Organization
CSR	Corporate Social Responsibility
DBM	Department of Budget and Management
DDB	DDB Worldwide Communications Group LLC
DDC:VS	Digital Documentation of COVID-19 Certificates: Vaccination Status
DENR	Department of Environment and Natural Resources
DepEd	Department of Education
DFA	Department of Foreign Affairs
DICT	Department of Information and Communications Technology

ABBREVIATIONS

DILG	Department of Interior and Local Government
DMCI	D.M. Consunji, Inc.
DND	Department of National Defense
DOF	Department of Finance
DOF-SERG	Department of Finance - Strategy, Economics, and Results Group
DOH	Department of Health
DOH-HPB	Department of Health - Health Promotion Bureau
DOJ	Department of Justice
DOLE	Department of Labor and Employment
DOST	Department of Science and Technology
DOTr	Department of Transportation
DPA	Data Privacy Act
DPCB	Disease Prevention and Control Bureau
DPWH	Department of Public Works and Highway
DSWD	Department of Social Welfare and Development
DTI	Department of Trade and Industry
DVAS	Digital Vaccination Administration System
ECQ	Enhanced Community Quarantine
EMPOWER PH	Enhance Manufacturing of Protective Wear and Equipment for COVID-19 Response in the Philippines
EO	Executive Order
ERP	Enterprise Resource Planning
ESC	Education Service Contracting
ESU	Epidemiology and Surveillance Unit
EU	European Union
EU DCC	European Union Digital COVID Certificate
EUA	Emergency Use Authorization
EXECOM	Executive Committee
FASSSTER	Feasibility Analysis of Syndromic Surveillance using Spatio-Temporal Epidemiological Modeler
FBDC	Fort Bonifacio Development Corporation
FDA	Food and Drug Administration
FDI	Foreign Direct Investment
FEF	Foundation for Economic Freedom
FEU-NRMF	Far Eastern University - Dr. Nicanor Reyes Medical Foundation, Inc.
FINEX	Financial Executives Institute of the Philippines
FPH	First Philippine Holdings
FSP	Foreign Service Post
G2G	Government to Government
GAA	General Appropriations Act
GAVI	GAVI, the Vaccine Alliance
GCQ	General Community Quarantine
GDP	Gross Domestic Product
GFI	Government Financial Institutions
GOCC	Government-owned and Controlled Corporation
H1N1	Influenza A virus subtype H1N1
HCP	Health Care Provider
HCS	Healthcare System
HCW	Health Care Worker
HCWM	Health Care Waste Management
HEI	Higher Education Institution
HEMB	Health Emergency Management Bureau
HIS	Health Information System

HPB	Health Promotion Bureau
HPDPB	Health Policy Development and Planning Bureau
HRH	Human Resources for Health
HSP	Health Service Provider
HTAC	Health Technology Assessment Council
HUC	Highly Urbanized Cities
IATA	International Air Transport Association
IATF-EID	Inter-Agency Task Force for the Management of Emerging Infectious Diseases
ICAO	International Civil Aviation Organization
ICC	Independent Component Cities
ICONN	iCONNect Convergence, Inc.
ICT	Information and Communication Technology
ICTSI	International Container Terminal Services, Inc.
ICU	Intensive Care Unit
ICVP	International Certification of Vaccination and Prophylaxis
IHR	International Health Regulation
IPC	Infection Prevention Control
IT	Information Technology
IT-BPM	Information Technology and Business Process Management
JV	Joint Venture
KMITS	Knowledge Management and Information Technology Service
KPI	Key Performance Indicators
LCE	Local Chief Executive
LIPH	Local Investment Plan for Health
LGU	Local Government Unit
MAGA	Material Adverse Government Action
MAP	Management Association of the Philippines
MBC	Makati Business Club
MECQ	Modified Enhanced Community Quarantine
Medtecs	Medtecs International Corporation Limited
MERS-CoV	Middle East Respiratory Syndrome Coronavirus
MMDA	Metropolitan Manila Development Authority
LRT	Light Rail Transit
MOH	Ministry of Health
MOH-BARMM	Ministry of Health - Bangsamoro Autonomous Region of Muslim Mindanao
MPIC	Metro Pacific Investments Corporation
MR-OPV SIA	Measles-Rubella Oral Polio Vaccine Supplemental Immunization Activity
MSMEs	Micro, Small and Medium Enterprises
NAEFIC	National Adverse Events Following Immunization Committee
NAP	National Action Plan
NART	National AEFI Response Team
NCC	New Clark City
NCCC	New City Commercial Corporation
NCDA	National Council on Disability Affairs
nCOV	Novel Coronavirus
NCR	National Capital Region
NCR-CHD	National Capital Region - Center for Health Development
NDA	Non-Disclosure Agreement
NDC	National Development Company
NDVP	National Deployment and Vaccination Plan
NEDA	National Economic Development Authority
NEC	National Ethics Committee
NGA	National Government Agencies

NGO	Non-Government Organization
NIP	National Immunization Program
NITAG	National Immunization Technical Advisory Group
NPC	National Privacy Commission
NPNRC	National Patient Navigation and Referral Center
NPS	Nasopharyngeal Swab
NRA	National Regulatory Authority
NTC	National Telecommunications Commission
NTF	National Task Force
NVDP	National Vaccine Deployment Program
NVOC	National Vaccination Operations Center
OCD	Office of Civil Defense
OCPLC	Office of the Chief Presidential Legal Counsel
ODA	Official Development Assistance
OFWs	Overseas Filipino Workers
OHCC	One Hospital Command Center
OHCS	One Hospital Command System
OIC	Officer in Charge
OP	Office of the President
OPS	Oropharyngeal swab
PAGCOR	Philippine Amusement and Gaming Corporation
PAISD	Public Affairs and Information Services Department
PASP	Philippine Association of Speech Pathologists
PBEd	Philippine Business for Education
PBSP	Philippine Business for Social Progress
PCG	Philippine Coast Guard
PCCI	Philippine Commercial Capital, Inc.
PCHRD	Philippine Council for Health Research and Development
PCOO	Presidential Communications Operations Office
P/CWHS	Province-wide and City-wide Health Systems
PDITR	Prevent, Detect, Isolate, Treat, Reintegrate
PDL	Persons Deprived of Liberty
PDOHO	Provincial Department of Health Office
PDRF	Philippine Disaster Resilience Foundation
PHAP	Pharmaceutical & Healthcare Association of the Philippines
PHEIC	Public Health Emergency of International Concern
PhilHealth	Philippine Health Insurance Corporation
PHO	Provincial Health Office
PHREB	Philippine Health Research and Ethics Board
PIA	Philippine Information Agency
PIC	Personal Information Controllers
PICC	Philippine International Convention Center
PIDSR	Philippine Integrated Disease Surveillance and Response
PIP	Personal Information Processors
PISA	Programme for International Student Assessment
PLDT Inc.	Philippine Long Distance Telephone Inc.
PMA	Philippine Medical Association
PNA	Philippine Nurses Association
PNP	Philippine National Police
PSAAI	Philippine Society for Asthma, Allergy and Immunology
PSMID	Philippine Society for Microbiology and Infectious Disease
PSRC	Philippines Survey and Research Center

PPCI	Philippine Chamber of Commerce and Industry
PPE	Personal Protective Equipment
PPP	Public-Private Partnership
PPTA	Philippine Physical Therapy Association
PWBC	Patient-ward-bedside-care
PWD	Persons with Disabilities
QCHD	Quezon City Health Department
QCPD	Quezon City Police District
RHU	Rural Health Unit
RITM	Research Institute for Tropical Medicine
RMP	Risk Management Plan
RT-PCR	Reverse Transcriptase-Polymerase Chain Reaction
rVSV-ZEBOV	Recombinant Vesicular Stomatitis Virus-Zaire Ebola Virus
RVOC	Regional Vaccination Operation Centers
SARS-CoV-2	Severe Acute Respiratory Syndrome Coronavirus 2
SAGE	Strategic Advisory Group of Experts
SCB	Safety Collector Boxes
SCMS	Supply Chain Management Services
SEA-PLM	Southeast Asia Primary Learning Metrics
SGV	SyCip, Gorres, Velayo, and Co.
SHF	Special Health Fund
SHS	Senior High School
SII	Serum Institute India
SJRB	Single Joint Review Board
SJREB	Single Joint Research Ethics Board
SKU	Stock Keeping Units
SOP	Standard Operating Procedure
STG	Sub-Task Group
SWOT	Strengths, Weaknesses, Opportunities and Threats
SWS	Social Weather Stations
Task Force T3	Task Force Test, Trace, and Treat
TB	Tuberculosis
TG	Task Group
TG-VES	Task Group for Vaccine Evaluation and Selection
TGRML	Task Group Resource Management and Logistics
TIMSS	Trends in International Mathematics and Science Study
TTMF	Temporary Treatment and Monitoring Facility
UHC	Universal Health Care
ULF	Ultra Low Freezer
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNILAB	United Laboratories
USAID	United States Agency for International Development
VAL	Vaccination Administration Location
VAS	Vaccination Administration System
VDS	Visual Digital Seal
VEP	Vaccine Expert Panel
VIMS	Vaccine Information Management System
VIRAT	Vaccine Introduction Readiness Assessment Tool
VOC	Vaccination Operation Center
VORS	Vaccination Operations Reporting System
WHO	World Health Organization
ZED	ZED Philippines, Inc.

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COMBATING COVID-19: PERSONAL PERSPECTIVES FROM PUBLIC–PRIVATE PARTNERSHIPS

PREFACE

Jaime Augusto Zobel de Ayala, Chairman, Ayala Corporation Co-Chairman, Philippine Disaster Resilience Foundation Inc. (PDRF)

When the World Health Organization declared COVID-19 a global pandemic in March 2020 and the Philippines declared its own national health emergency and enhanced community quarantine in the same month, we did not yet fully realize the extent of the problem nor its potential duration. However, our instinct told us we should act fast and at scale in order to help our fellow Filipinos. It was a time that demanded cooperation and unity of intent. We felt that the government and business community should act in close coordination with each other to marshal resources to help those in need.

Our immediate concern was that many of our marginalized daily wage earners would be without incomes – and eventually without food – if the lockdown were to extend to over one month. Within days of the lockdown announcement, under the leadership of my brother Fernando, the business community launched a community feeding program which became known as Project Ugnayan. Working together with the Philippine Disaster Resilience Foundation Inc., Caritas Manila, and around 280 companies, Project Ugnayan started distributing grocery gift certificates to the economically-disadvantaged families in the Greater Metro Manila area to enable them to buy food. Eventually, we combined efforts with ABS-CBN, Jollibee's FoodAID project, and the Asian Development Bank to serve over 2.8 million families and 14.3 million individuals over the course of six to eight weeks after the lockdown was declared. This was a precursor to the consortium approach we later used for the larger COVID-19 response. After Project Ugnayan, the next set of public-private partnerships was catalyzed by Finance Secretary Carlos Dominguez III, who called me on April 22 to ask if we could help organize more private sector support for the IATF (Inter-Agency Task Force for the Management of Emerging Infectious Diseases) in its war against COVID-19.

Specifically, he asked for help on two fronts: First, set up regular IATF-private sector consultations on how to deal with the economic impact of COVID-19; and second, rally the private sector around the testing, tracing, and treating efforts being led by National Task Force Chief Implementer Secretary Carlito Galvez, Jr.

We agreed to engage and help. We have always recognized the need to take a whole-of-nation approach, and support national objectives wherever possible. During an unprecedented crisis like COVID-19, the need to cooperate and organize quickly and imaginatively becomes urgent and compelling.

Things moved very quickly after that. On the same day that Secretary Dominguez called, April 22, Fred Ayala and I set up a Zoom meeting with the Asian Development Bank's Director Paul Dominguez and Principal Health Specialist Eduardo Banzon, Foundation for Economic Freedom Vice Chairman Romeo Bernardo and former Secretary of Health Manuel Dayrit, to discuss how the private sector could help the IATF on both fronts.

The following day, Eduardo Banzon organized an exploratory meeting with the Department of Health (DOH), Asian Development Bank (ADB), AC Health, led by its President Paolo Borromeo, and Philippine Disaster Resilience Foundation Inc., which is heavily supported by the business community, represented by its Chief Resilience Officer Guillermo Luz.

On the very next day, April 24, T3 was launched, the private sector group (which now included the Metro Pacific Hospitals of the MVP Group, Unilab, and Zuellig Pharma) and the IATF, represented by Chief Implementer Galvez, Deputy Chief Implementer Vince Dizon, DOH Undersecretary Rosette Vergeire, and DOH Consultant Dr. Marife Yap publicly launched **Task Force T3**, a name coined by Chief Implementer Galvez for **Test, Trace, Treat**.

T3 started as a government-private sector partnership whose original goal was to help increase the country's rated capacity for RT-PCR (Reverse Transcriptase-Polymerase Chain Reaction) testing from approximately 4,500 tests per day at the time of launch, to 30,000 tests per day by May 30, as this was deemed to be one of the top priorities.

Over time, T3's scope expanded greatly to include the full range of the fight against COVID-19, spanning prevention, testing, tracing, isolation, treatment (One Hospital Command), data management, analysis and insights, LGU playbooks and training, PPEs and funding, and eventually the critical roll out of the vaccine program. And its membership grew to include virtually all the leading companies in the country, working closely with the lead executive branches of the government.

On April 24, in parallel with the T3 launch, Fred Ayala and Romeo Bernardo initiated their dialogue with Paul Dominguez and IATF Co-Chair and Cabinet Secretary Karlo Nograles, on how best to start the second battle front; regular consultations between the government and private sector on the most urgent economic policy matters.

From the beginning, we knew we had to create a seamless and transparent public-private partnership model, agile enough to quickly solve problems, and flexible enough to shift strategy and tactics in a very fluid situation. Above all, we needed to build a chemistry among partners that would keep communication channels open and honest and avoid conflict and disharmony.

Fortunately, an undertaking of such magnitude had its share of leaders to help assemble the required alliance. For instance, Paul Dominguez and Eduardo Banzon of the Asian Development Bank were instrumental at the inception, introducing key people to each other and recommending who should get involved in the task force. The various leaderships of Secretaries Carlito Galvez, Jr. and Vince Dizon were the glue that kept everybody aligned to the same vision and goals. The medical expertise of former Secretary of Health Manuel Dayrit and molecular biologist Father Nicanor Austriaco provided the strong scientific basis upon which key decisions were made. The economic team – led by Finance Secretary Carlos Dominguez, National Economic Development Authority Secretary Karl Chua, Trade and Industry Secretary Ramon Lopez, and Labor Secretary Sylvestre Bello – kept tight watch over the economy and, more importantly, secured the funds to procure the vaccines. The strong coordination with local governments was led by Interior and Local Government Secretary Eduardo Año, Metro Manila Development Authority Chairman Benjamin Abalos, Jr., and the Metro Manila Mayors.

And finally, the expertise provided by Kristine Romano, Jon Canto and their McKinsey team, and Anthony Oundjian and his Boston Consulting Group (BCG) team, provided us the international perspective and benchmarks to measure our policies against other countries.

There were countless others involved – too many to name – but in all cases there was a special chemistry among the work teams that enabled a free flow of ideas and, more importantly, the identification of solutions. Public private partnerships, when united around a common objective, has the power to provide transformative results, especially coming after such an extended emergency and prolonged economic downturn. In addition, this was a partnership built on trust, transparency, vision, and a shared goal for the common good. It is also a partnership that we should consider for future emergencies and to address present-day societal challenges - including improved and more resilient health and education systems, the fight against hunger and malnutrition, and to solve the challenges of climate change. This model of partnership created momentum and results by uniting all players around a common goal of civic engagement to address a critical societal pain point.

It has been a pleasure and privilege to have been a part of this important and successful initiative.

FOREWORD

Secretary Carlito Galvez, Jr., Chief Implementer, National Task Force Against COVID-19 Vaccine Czar, Inter-Agency Task Force for the Management on Emerging Infectious Diseases

When the COVID-19 pandemic broke out in 2020, the Philippine government realized the need to develop strong partnerships with local and international stakeholders, particularly with the private sector, in addressing the challenges of the health crisis. As the National Task Force (NTF) Against COVID-19 Chief Implementer, and Vaccine Czar, I have witnessed the invaluable contributions of the private sector-led Taskforce T3 (Test, Trace, Treat) in our pandemic efforts.

The T3 brought together all concerned public and private organizations and institutions to craft sound solutions and policies to mitigate the impact of the pandemic.

Among the most crucial contributions of T3 is its efficient resource mobilization that enabled us to procure sufficient supplies of Personal Protective Equipment (PPE) for our frontline health workers. This development significantly reduced the number of health workers who got infected with the virus. The government's partnership with the private sector also led to the expansion of the country's COVID-19 testing capacity. T3 worked closely with the NTF to provide much-needed assistance to establish new testing laboratories, mega swabbing facilities and isolation centers nationwide, as well as purchase more testing kits.

The T3 has also been an indispensable partner of the national government in the implementation of the vaccination program. Together with the Boston Consulting Group (BCG), T3 helped the government not only with the logistics preparations for our vaccine supply, but also with providing us the global context on the current pandemic situation. Our monthly and weekly fora with BCG and T3 were very productive in crafting policies to combat the health crisis. Through multi-party agreements forged with the private sector, we were also able to continuously expand our vaccine inventory. The private sector also shared its expertise in managing the vaccine supply chain. And with the additional vaccines donated by the private sector, the government was able to redirect some of the supply to the nation's most vulnerable sectors.

Moreover, the private sector also provided much-needed support in the administration of the vaccines, particularly by offering private establishments such as malls, pharmacies and clinics as vaccination sites, which made vaccines more accessible to the public. We also recognize the private hospitals which participated in our vaccination program and contributed in our mission to ramp up our overall throughput.

T3 also spearheaded the Ingat Angat Tayong Lahat campaign, which helped instill a culture of compliance for minimum public health standards among private establishments. Most private businesses offered incentives to encourage more Filipinos to get the COVID-19 jab and consequently, address the issue of vaccine hesitancy. This innovative communications strategy proved to be successful in ramping up public uptake and demand generation for the vaccines.

I would therefore like to extend my deepest gratitude to all the companies, organizations and agencies that comprise our Task Force T3. To Asian Development Bank for their support to address and mitigate COVID-19. Our strong collaboration has enabled us to significantly scale up our pandemic response efforts, save more lives, and breathe life into our economy.

In the pages of this report, you will learn how the government and the private sector have worked together over the past two years to enable the nation to overcome the pandemic and move on to the new normal.

May we continue to work together so we can fully recover from this health crisis, fast track the nation's economic recovery, and build a pandemic-resilient Philippines.

Maraming salamat at mabuhay po tayong lahat!

INTRODUCTION

Guillermo M. Luz, Chief Resilience Officer, Philippine Disaster Resilience Foundation Inc. (PDRF)

Reflections on Public-Private Partnership

When Task Force T3 (Test, Trace, Treat) was created in April 2020, none of us knew exactly how this would play out or for how long. There was so little we knew about this novel coronavirus except that it was spreading fast across the globe and causing deaths. Just one month earlier, the World Health Organization had declared a global pandemic and the Philippines had issued its first Enhanced Community Quarantine (ECQ) and national economic lockdown. At the government's invitation, we assembled this task force composed of private sector executives and professionals to work hand-in-hand with the government to address this pandemic and develop a coordinated response. Our mission was to manage both a public health emergency as well as an economic crisis. The task presented many challenges. At the outset, the enemy was invisible – a virus which was new and whose behavior and characteristics we had to learn as we worked.

Moreover, an economic lockdown and restrictions on mobility forced everyone to work remotely and virtually, meeting daily on laptop screens rather than face-to-face in meeting rooms. Working under these conditions, this public-private partnership between Task Force T3 and the Government focused on the problems, developed solutions, and a strategy designed to limit cases and eventually open up the economy.

Our first projects were to expand Reverse Transcriptase-Polymerase Chain Reaction (RT-PCR) testing capacity across the country and to build up an inventory of Personal Protective Equipment (PPEs) for the hospital system. We invited major private corporations who could help solve these problems while the government brought in all the relevant agencies.

As we began to solve these two initial challenges, we learned more about COVID-19 and discovered new challenges ahead of us. These new challenges spawned new workstreams and before we knew it, we had almost 10 working groups running on Data, Serosurveillance, Contact Tracing, Pooled Testing, One Hospital Command, Healthcare Worker Recruitment, Communications, and others. Eventually all this work focused on National Vaccine Deployment.

This report pulls together a series of articles written by the people who played a role in this great endeavor. We thought it would be important to document the experience and reflect on this unique public-private partnership. More importantly, we thought we should draw lessons learned along the way. Knowing what we know now, what would we do differently and what moves would we repeat in the event of a future pandemic? And if a future pandemic were to occur, would we be ready to respond? As we move from a pandemic state to an endemic one, what should our public health posture be? What did we learn about our public health system and how can we improve it?

For most of us, this pandemic was a unique experience. None of us had ever gone through anything remotely close to this. COVID-19 is the most significant public health crisis that we have faced thus far. If there's one lesson we all learned along the way, it was that a large-scale public-private partnership was so critical in resolving this crisis. The articles you will read in this report capture parts of this journey we had all just passed through.

TIMELINE OF KEY EVENTS

December 31, 2019 - March 8, 2020

December 31, 2019
A novel coronavirus discovered in Wuhan. [3]

January 28, 2020
Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF-EID)was activated. [32]

January 30, 2020
First case of 2019-nCOV reported in the Philippines. [2]

January 31, 2020
WHO declares 2019-nCOV outbreak a public health emergency of international concern. [2]

February 1, 2020
First coronavirus death in the Philippines reported; husband of the first confirmed case in the country. [23]

March 7, 2020
First locally transmitted infection recorded. [2]

March 8, 2020
Government declares state of public health emergency. [2]

March 11, 2020 - July 14, 2020

March 11, 2020
WHO declares COVID-19 outbreak a pandemic. [24]

March 15, 2020
Metro Manila was placed on lockdown. [44]

April 1, 2020
Around 15,000 sets of PPEs arrived in the country; part of the 1st installment of DOH's purchase of 1 million PPEs to be distributed in NCR. [40]

April 2, 2020
PICC Forum Halls, World Trade Center, and Rizal Memorial Sports Complex converted to quarantine centers. [14]

April 24, 2020
Taskforce T3 launched to expand RT-PCR testing for COVID-19 [19]

May 18, 2020
T3 reached goal of raising national capacity to 34,000 RT-PCR tests in a day from 4,500 tests per day in April. [35]

July 14, 2020
Secretary Carlito Galvez, Jr. was appointed as the Chief Implementer of the National Task Force for COVID-19. [33]

July 24, 2020 - January 13, 2021

July 24, 2020
The Philippines joins COVAX Facility to make COVID-19 vaccines. [2]

August 2, 2020
Total COVID-19 infections reaches 100,000 cases. [13]

August 6, 2020
The Philippines has highest number of total infections in Southeast Asia with 119,460 cases. [2]

August 6, 2020
One Hospital Command Center launched at MMDA Arena, Makati City. [17]

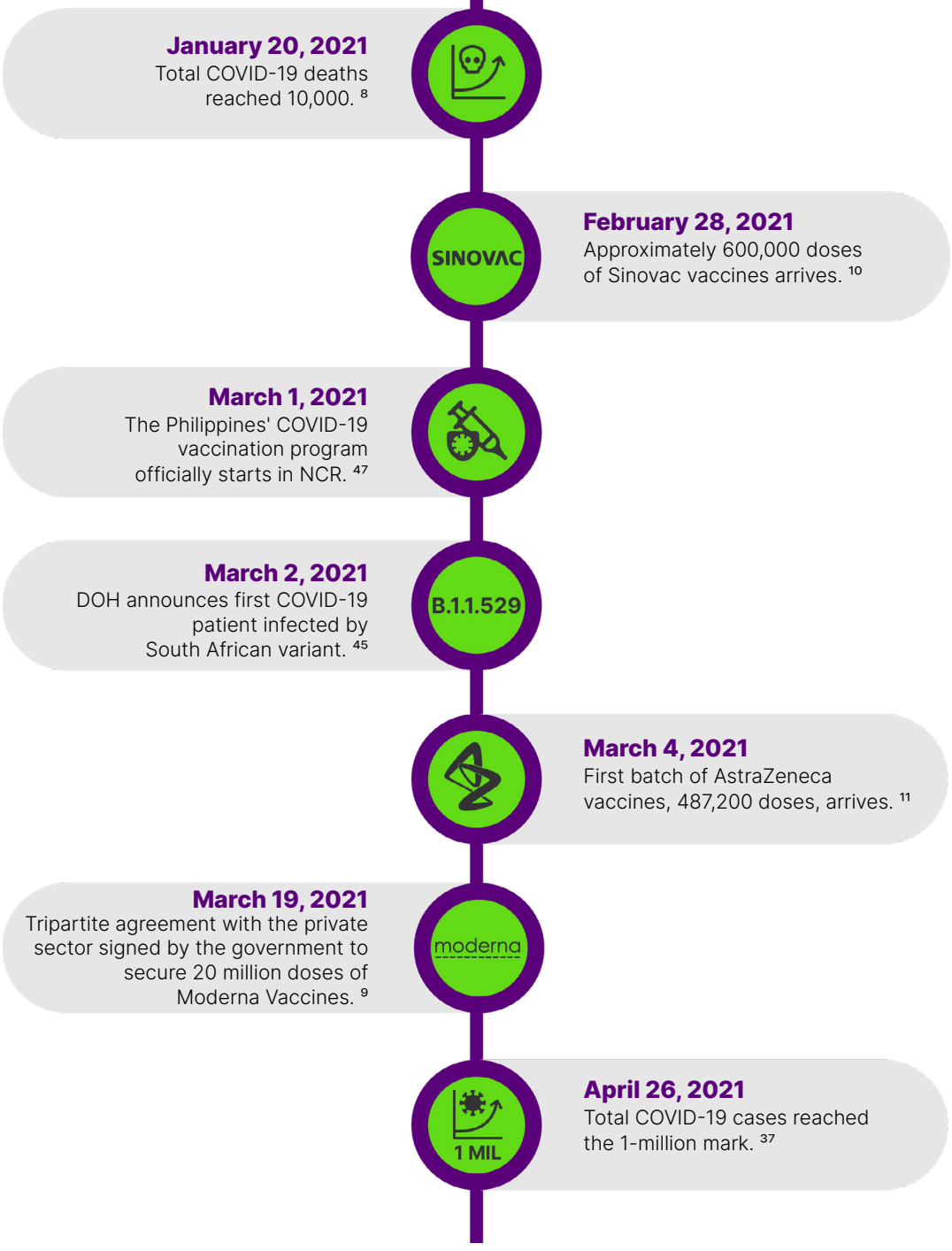
October 24, 2020
Ingat Angat Tayong Lahat campaign launched. [25]

November 2, 2020
Secretary Carlito Galvez Jr. appointed by the President as the vaccine czar. [7]

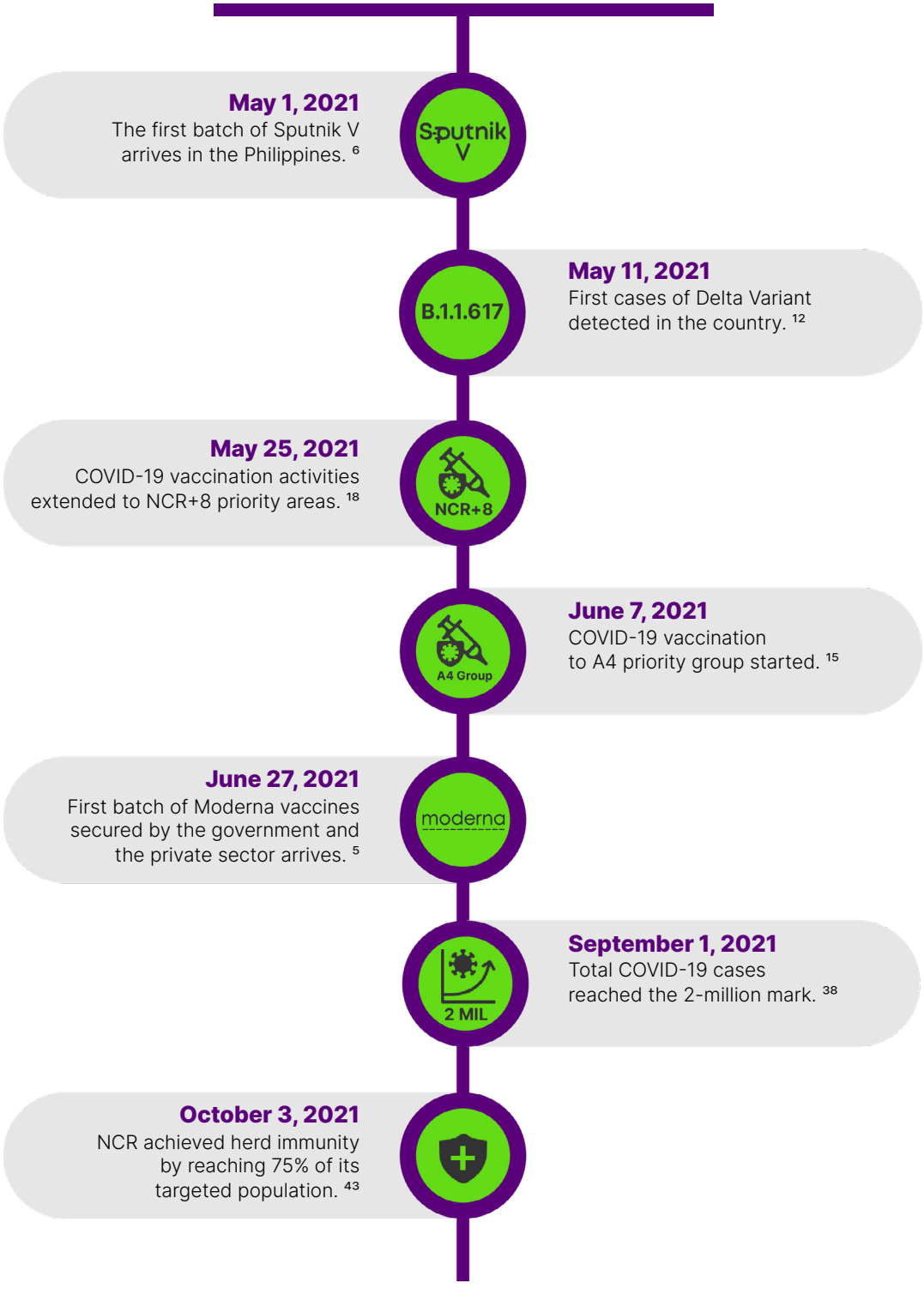
December 16-17, 2020
COVID-19 Vaccine Logistics Summit held online. [41]

January 13, 2021
"UK Variant" (B.1.1.7 SARS-CoV-2 variant) detected in the Philippines. [34]

January 20, 2021 - April 26, 2021



May 1, 2021 - October 3, 2021



October 9, 2021 - December 15, 2021

October 9, 2021
DOH and PDRF launch Bakunado Panalo incentive program for getting COVID-19 shots. [16]

October 15, 2021
Pediatric vaccination for COVID-19 starts [1] for 12 to 17-year olds.

November 16, 2021
COVID-19 booster shots start for the A1 priority group. [21]

November 19, 2021
Booster doses extended to senior citizens and individuals with co-morbidities. [20]

Nov. 29 to Dec. 1, 2021
10.2 million shots administered through first National Vaccination Days. [4]

December 3, 2021
First booster shots were offered to all fully vaccinated adults. [50]

December 15, 2021
Omicron variant detected in the Philippines. [51]

January 11, 2022 - May 18, 2022

January 11, 2022
Total COVID-19 cases reached the 3-million mark. [46]

February 7, 2022
COVID-19 pediatric coverage extended to children aged 5 to 11 years old. [36]

April 22, 2022
Second booster shots offered to immunocompromised individuals. [22]

May 11 to 20, 2022
Special Vaccination Days were conducted in BARMM. [42]

May 18, 2022
Second boosters of Pfizer/Moderna for A1s, A2s, allowed. [39]

DATA TIMELINE

Philippine COVID-19 Summary Metrics Infographic

Philippine COVID-19 Nationwide Vaccine Coverage Infographic

Data Timeline Chart 1

Data Timeline Chart 2

Data Timeline Chart 3

DATA TIMELINE

Philippine COVID-19 Summary Metrics

Data as of June 30, 2022
Source: Department of Health

TOTAL COVID CASES 3,704,407	RECOVERED 3,635,981
ACTIVE COVID CASES 7,871	RECOVERY RATE 98.15%
DECEASED 60,555	MORTALITY RATE 1.63%
1ST DOSE COVERAGE (%) 59.96%	TOTAL JABS 154,117,005
FULL DOSE COVERAGE (%) 63.56%	BOOSTER COVERAGE (%) 20.02%

Philippine COVID-19 Nationwide Vaccine Coverage

Data as of June 30, 2022
Source: Department of Health

TOTAL DOSES ADMINISTERED 152,011,338	FIRST DOSE 68,323,212	SECOND DOSE 63,798,648
SINGLE DOSES 7,119,059	BOOSTER DOSE 15,098,295	TOTAL POPULATION 111,572,254

Philippine COVID-19 Nationwide Vaccine Coverage

Data as of June 30, 2022
Source: Department of Health

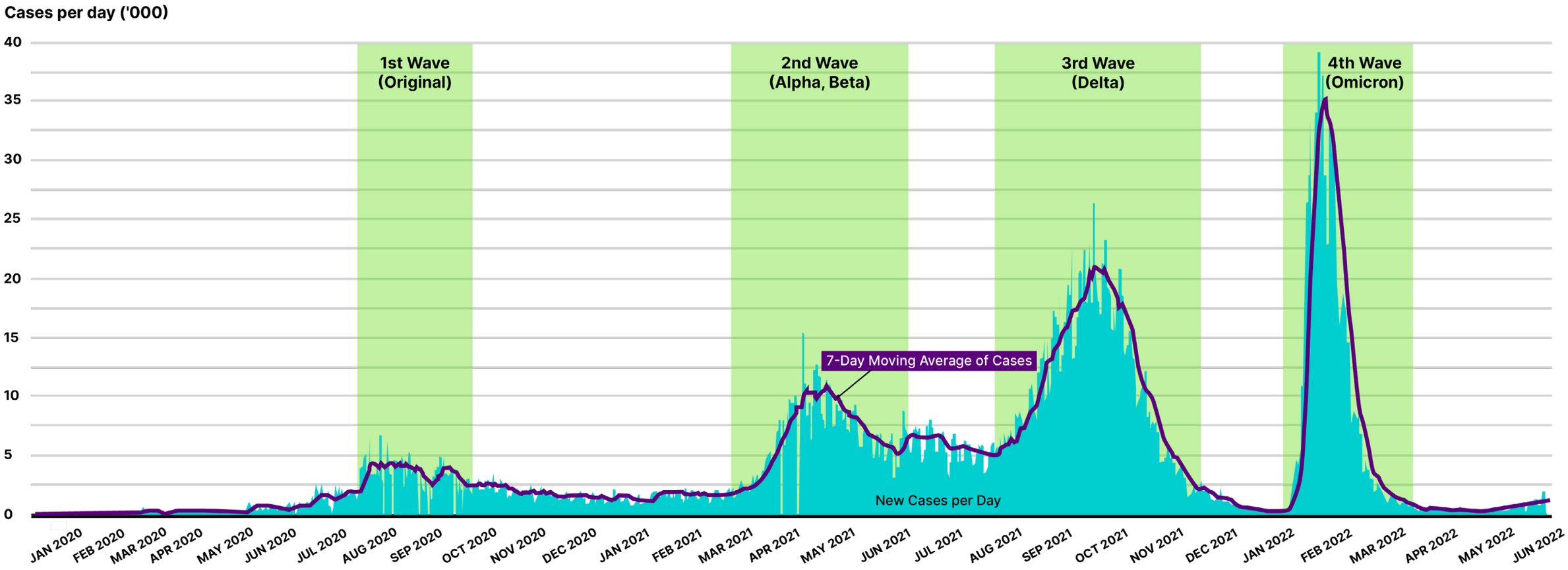
POPULATION (2022)	TOTAL POPULATION	TARGET POPULATION
PARTIALLY VACCINATED (%)	56.96%	74.33%
PRIMARY SERIES COMPLETE (%) including Single Dose	63.56%	78.79%
BOOSTER DOSE (%)	20.02%	20.02%

Note: Target Population is computed as 80% of the Total Population as per the IATF & DOH

AGE GROUP	PEDIATRIC POPULATION (5 - 17 years old)	ADULT POPULATION (18 & Above years old)
PARTIALLY VACCINATED (%)	49.35%	77.57%
PRIMARY SERIES COMPLETE (%) including Single Dose	43.24%	81.32%
BOOSTER DOSE (%)	N/A	24.19%

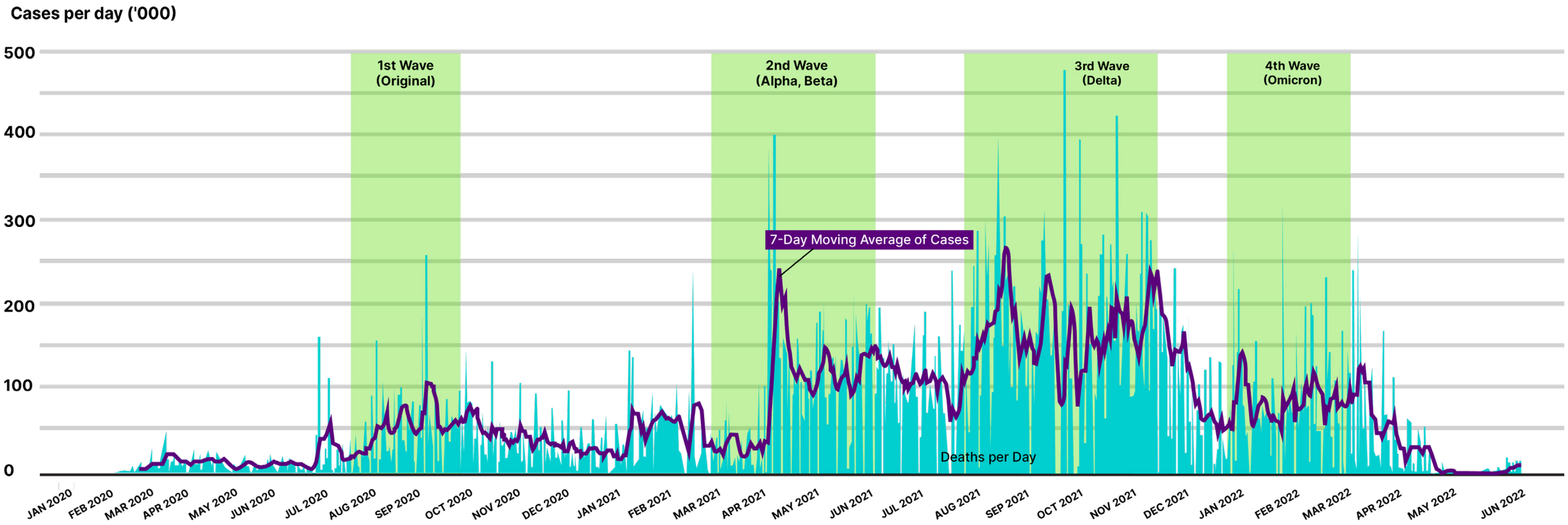
Note: Target Population is computed as 80% of the Total Population as per the IATF & DOH

DATA TIMELINE CHART 1



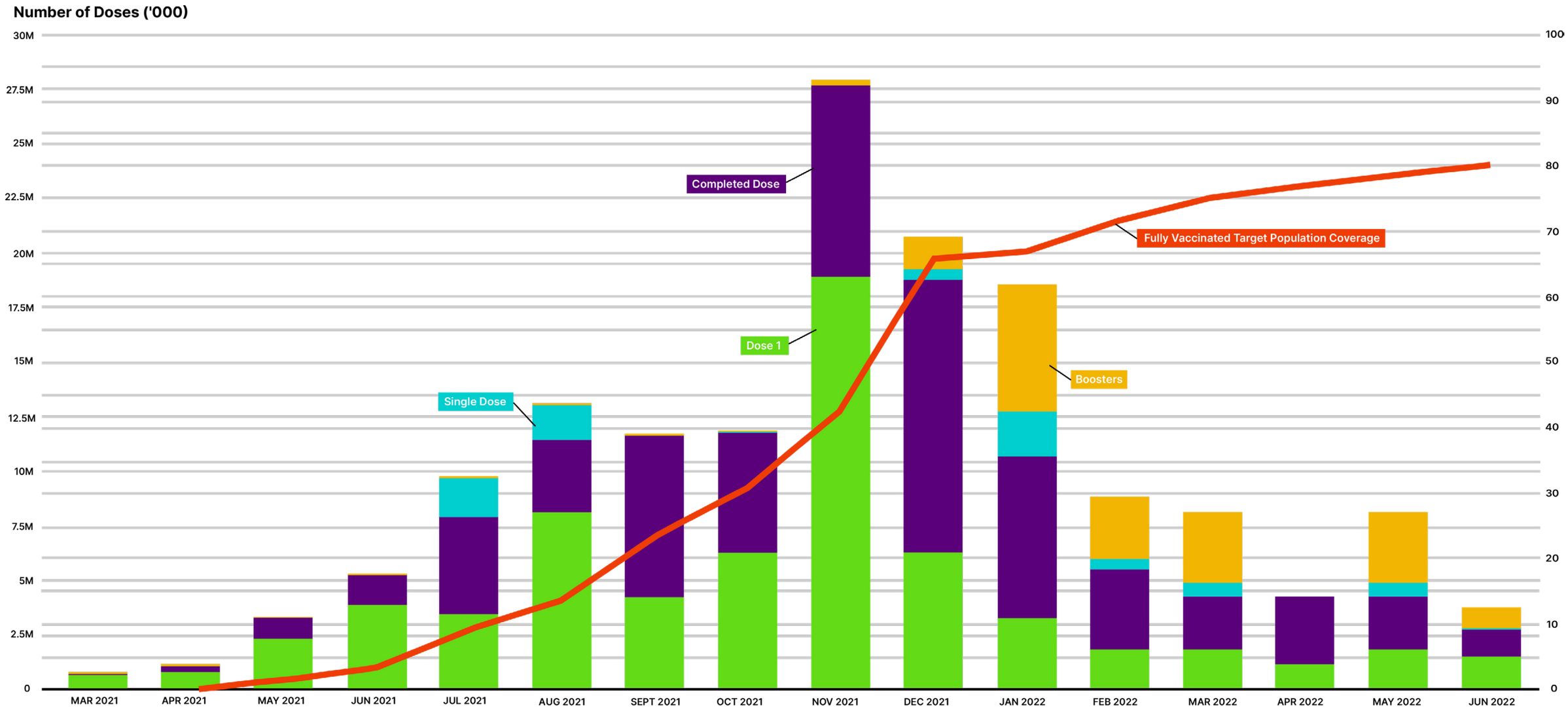
Data as of June 30, 2022 | Source: Department of Health

DATA TIMELINE CHART 2



Data as of June 30, 2022 | Source: Department of Health

DATA TIMELINE CHART 3



Data as of June 30, 2022 | Source: Department of Health

Philippine COVID-19 Data Timeline Infographic Charts Cases Insights

- From January 2020 until June 2022 the Philippines experienced four COVID-19 waves - the initial wave, Alpha/Beta wave, Delta wave, and Omicron wave. With each new wave surpassing its last peak.

- The initial wave at its peak had a 7-day moving average of 4,330 reported cases per day.

- The Alpha and Beta wave was during the time that the vaccines were announced to be arriving in the Philippines, concurrently, it was also the time that new variants of COVID-19 were detected. At its peak, Alpha and Beta wave had a 7-day moving average of 10, 245 cases per day.

- The Delta wave started on July 2021 and had one of the highest number of reported deaths, and the longest wave. At its peak in mid-September 2021, only less than 25% of the target population has been vaccinated and the 7-day moving average were almost 21,000 reported cases per day.

- The Omicron wave had the highest number of reported cases but it had low reported deaths compared to Alpha and Beta Wave and Delta wave. During its peak in mid-January 2022, Philippines had a fully vaccinated target population coverage of 61.21%, and the 7-day moving average at almost 33,200 reported cases per day.

01 LABORATORY AND TESTING

1.1 Expanding the RT-PCR Testing: A Public-Private Partnership

Secretary Vivencio B. Dizon, Deputy Chief Implementer and Testing Czar, Inter-Agency Task Force for the Management of Emerging Infectious Diseases

In January 2020, the first COVID-19 case was detected in the Philippines. This officially marked the entry of COVID-19 in the Philippines and the beginning of continuing pressure on our healthcare and economic system. No one was able to predict the enormity and severity of what a pandemic could have on the country. The initial reaction of some Filipinos was that it was just a flu and that it would pass. But as COVID-19 cases increased, hospitals were soon admitting more patients and our frontline healthcare workers were getting infected. With limited Reverse Transcriptase-Polymerase Chain Reaction (RT-PCR) testing capacity and limited personal protective equipment (PPE), by April 2020 there was a national call for a public and private partnership to combat the COVID-19 pandemic in the Philippines. This was the start of a formidable collaboration and strong partnership between the public and private sector which operated for over two years as we worked to manage this pandemic.

Building Testing Centers and Building Partnerships

In my role as the president of the Bases and Conversion Development Authority (BCDA) and Presidential Advisor on Flagship Projects, I was highly cognizant of the rising COVID-19 cases alongside the challenges of testing capabilities and quarantine facilities that were needed to isolate positive cases for COVID-19. Our first hurdle was to think about the need to close our borders from other nations to prevent further spread of the virus. However, we could not close our borders to our Filipino repatriates who wanted to come home. In order to help Filipinos get to their homes safely, I offered New Clark City to be the first quarantine facility for these Filipino repatriates to get the proper medical attention and safe comfortable environment for them to quarantine. However, as more COVID-19 cases were reported each day there was a need to think bigger to accommodate the demand for isolation and testing. It was around this time that I was given a role in the national government as the testing czar and chief coordinator for the testing, isolation facilities, and treatment of COVID-19 patients in the National Taskforce (NTF) Against COVID-19.

Figure 1.1: Testing Centers from the Private Sector

As a way to address the pandemic in the country, the national administration had adopted a "whole of government, whole of society" approach focused on four major aspects: detect (test), isolate, treat, and reintegrate. COVID-19 testing was a vital first step in managing and inhibiting the virus's spread. It also helped us determine how infectious and widespread the COVID-19 virus had become as it reached into our municipalities and cities. However, the country's testing capability was severely constrained due to limited resources and expertise on handling a pandemic. It was then that I realized that no government could do this alone; even developed countries needed help and guidance on what was the strategic next step to take in handling the COVID-19 pandemic. There was little to no COVID-19 testing capabilities in the Philippines. We even had to send samples to Australia to test whether they were positive for COVID-19 or not. It took weeks to get the results back; this lack of testing capacity was a great point of concern for us. We needed a partnership with the private sector so we could work together in our national response to COVID-19. Fortunately, the private sector had the resources, expertise, and willingness to help the national government in building testing laboratories for COVID-19. Many members of the Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF) and the Department of Health (DOH) also paved the way in facilitating and creating processes and training to build and to set up these laboratories which made it easier to establish COVID-19 testing centers.

Ramping Up Testing Capacity in the Philippines

In the first quarter of 2020, the Research Institute for Tropical Medicine (RITM) was the sole laboratory in the Philippines with the capacity to conduct RT-PCR testing for COVID-19. We started working tirelessly with public and private health institutions to build more testing facilities to improve capacity and test more Filipinos with suspected and probable cases of COVID-19. Back in April 2020, testing capacity was only 4,500 tests per day and there was a need to organize the private sector stakeholders' initiatives, resources, and plan for COVID-19 response. It was then that Task Force T3 (Test, Trace, and Treat) was officially created. T3 is the biggest public-private coalition to date that has mobilized the private sector resources, expertise, and network to help in the COVID-19 response. Its initial project was to ramp up building testing laboratories in priority areas. In the coming months, T3 has also provided support to the national government in supplies mobilization, IT-based inventory system development, as well as donation of automated testing platforms.

Working daily with DOH, IATF NTF and private sector organizations like Ayala, AC Health, McKinsey, Metro Pacific Investment Corporation Hospitals, Zuellig Pharma, United Laboratories, Philippine Disaster Resilience Foundation Inc., Thinkwell, and others, we streamlined the process and raised donations and investments to build more public and private laboratories. At the same time, we also built swabbing centers to decentralize the specimen collection so we would not clog up our laboratories with too much patient traffic.

With this public-private partnership, testing capacity has increased significantly within a month from 4,500 tests per day in April 2020 to 34,000 tests per day in May 2020. Expanded testing gave us the ability to detect and to give proper intervention in priority areas with high numbers of cases. By August 2020, we had further expanded testing capacity to over 90,000 tests per day (and eventually over 100,000) across the country, improving our ability to spot where the virus was spreading.

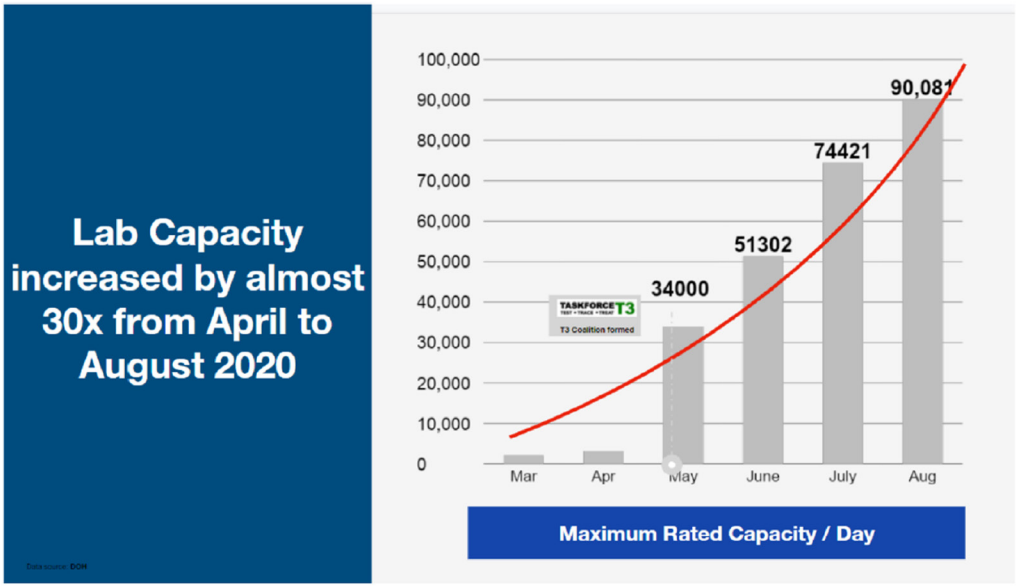


Figure 1.2: Increase in RT-PCR testing capacity in the Philippines

As part of the government's efforts to promote transparency, strengthen public confidence, and track the number of reported cases in the country, data on the COVID-19 situationer was announced to the public on a daily basis through meetings, conferences, task groups, and through the IATF network.

The pandemic has shown us that engagement and collaboration among various stakeholders from different industries with the government can bring tangible results. A centralized coalition between the public and private sector has proven to be a useful strategy in bringing key stakeholders together and to streamline all efforts into a cohesive effort.

1.2 Expanding the RT-PCR Testing Capacity: How did the Public and Private Sectors Collaborate

Kristine Romano, Managing Partner, McKinsey & Company (Philippines)
Alfredo Ayala, President and CEO, AC Education

As the COVID-19 pandemic descended in the Philippines in March 2020, private sector leaders asked the government what they could do to help. The government's response could not have been clearer: "help us increase testing capacity as soon as possible." Thus, Task Force T3's (Test, Trace, Treat) very first mandate was to ramp up Rapid Transcriptase-Polymerase Chain Reaction (RT-PCR) testing from approximately 4,500 tests per day at the time of the T3's launch on April 24, 2021 to 30,000 by the end of May.

Within weeks, testing capacity had increased over sevenfolds to 34,000 per day by end-May and 41,000 by mid-June, rivaling countries like South Korea and Germany – all widely held to have had effective testing strategies in the pandemic's early days. Capacity eventually hit a peak of over 100,000 tests per day. Five elements underpinned these noteworthy results.

Ambitious and Credible Targets

One of the task force's first actions was to very quickly stress-test the 30,000 tests/day target given by the government. Our intention was for all stakeholders to have sufficient confidence that our end-state would be effective in the fight against COVID-19. Benchmarks were derived from various sources: for example, case studies from early testing successes like Korea, outputs of epidemiological models, and global experts from the likes of the World Health Organization and the United States Centers for Disease Control and Prevention. A range of 30,000 to 100,000 tests/day emerged as our recommended target capacity, which resulted in the taskforce evolving the targets from an initial 30,000 by May and 50,000 by June.

Perhaps as important as getting to the specific number was ensuring that it was sufficiently ambitious so that it would compel everyone to act quickly, while remaining entirely credible so that every stakeholder felt they would be able to make a meaningful contribution. Having such a target was critical in channeling the private sector's energy towards a singular mission.

Governance that enabled private and public sectors to move in lockstep

To rapidly ramp up capacity, the public and private sectors would need to work closely together, each doing what it does best: government would streamline policies to accredit new laboratories, while the private sector would procure RT-PCR testing equipment and supplies more quickly as they would not need to go through the public sector procurement process. These broad mandates and roles were then translated into a day-to-day organizational structure that would enable both sectors to move in lockstep. Each working group was co-sponsored by one public sector and one private sector leader, and the working members had adequate representation from both sides.

Crucially, Secretary Vince Dizon was appointed as Testing Czar and empowered to lead the effort and resolve any issues that came up. Critical to his success was the appointment of a coordinator to lead the working groups day-to-day, supported by a project manager who made sure agreed action items were followed through.

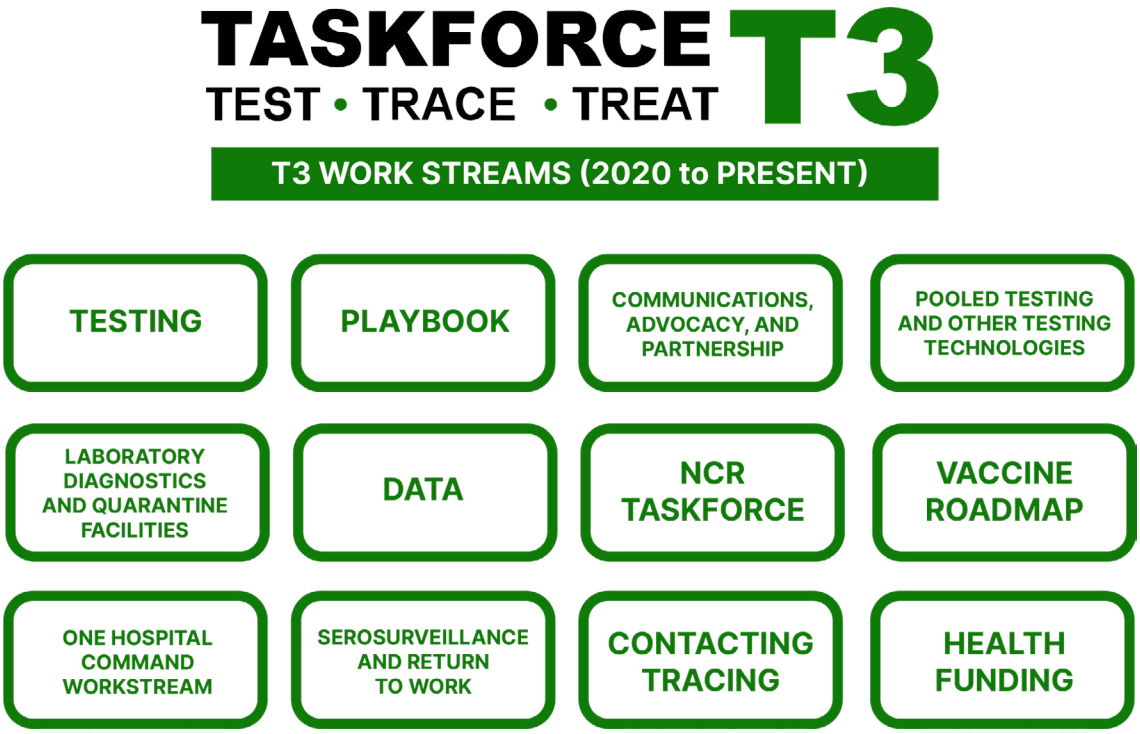


Figure 1.3: Taskforce T3 Work Streams

Beyond the organizational structure on paper, it was also important for team members to establish trust early in the process. Frustration arose from the private sector when they felt the government was not moving quickly enough; while some members from government agencies were suspicious of the private sector's intentions, worrying that laboratories were only being set-up to make money and without regard for safety or probity. Explicit conversations about each group's motivations and one-on-one interactions among team members helped bridge some of these differences. Having team members that were adept at straddling both sides, such as Dr. Marife Yap of ThinkWell, also made a significant difference in strengthening cohesion in the group.

Rigorous Cadence for Solving Problems

As soon as the taskforce had a handful of working members onboard, daily 30-minute "stand-up" meetings were scheduled at 8:00 am for each working group. A daily cadence of virtual meetings ensured that we would be able to keep up with the extremely rapid pace of on-the-ground developments; while the meeting duration of 30 minutes was designed to keep the meeting sharp and laser-focused on dashboards with real time data and actions to solve problems, not long presentations nor open-ended discussions. Secretary Vince's presence at these daily data and key performance indicator driven meetings enabled rapid decision making, conflict resolution, and well informed pivots.

In between these stand-up meetings, intensive problem-solving sessions would also be scheduled as needed. A particularly memorable one was done at 11:00 pm on a Saturday night, called on by one of our senior government sponsors to prepare for a meeting with several Cabinet members on Sunday morning. While the pace of the work was grueling for everyone, it was inspiring to have senior government leaders and private sector executives in the trenches and leading from the front.

Fact-based Discipline and Data Infrastructure

The primary agenda of every stand-up meeting was to review how much capacity has gone online in the last 24 hours. How many laboratories have been accredited, and what bottlenecks needed to be resolved to get to 30,000 tests/day as quickly as possible. Recognizing the importance of being disciplined about our fact base, taskforce leaders drilled into the data daily, and spent significant time upfront to make sure we and the public were getting the right information.

The biggest challenge that we faced, however, was that, prior to the pandemic, government agencies and private laboratories never needed to report their results to a central authority that would publish test counts and positivity rates on such a frequent basis. Metrics had to be prioritized and defined, a template had to be

developed and made available to all laboratories. A process for data collection and validation needed to be continuously improved in order for backlogs and reporting lags to be reduced.

A mammoth effort was also launched to provide a common technology infrastructure across various agencies. Recognizing the importance of having a credible data infrastructure in place, a separate inter-agency working group was eventually established to coordinate the various data initiatives being run in separate agencies and private sector initiatives. In hindsight, this workstream could have benefited from being established earlier and escalated to the highest levels of government to avoid duplication of efforts and unclear decision-making rights from varied stakeholders.

Relentless Mission-Orientation and Agile Mindset

While the taskforce was mindful of laying down sufficient structure to allow a diverse set of organizations to seamlessly operate, the secret sauce of the entire effort was a shared and unrelenting desire to beat COVID-19. Despite having a formal organizational structure and meeting cadence, every task force member knew they could experiment, and test and learn beyond what was written on paper; and that they did not need to wait for every output to be perfect before they could take action on something. For example: working groups did not wait and let the upfront target validation exercise be a bottleneck, and they started doing their daily stand-ups even as the target was evolving. Similarly, Version 1.0 of the data dashboard started with a very simple Excel spreadsheet reported daily to the group, eventually evolving into an interactive, online dashboard linked to COVID-KAYA. The group's agile mindset also translated into an openness towards ingenious solutions – such as pop-up laboratories, drive-through laboratories, and pooled testing.

After T3 achieved its initial objective of ramping up RT-PCR testing, its scope expanded substantially to include many of the other COVID-19 battlefronts, including pooled testing, Personal Protective Equipment (PPEs), Serosurveillance, One Hospital Command, and eventually the National Vaccine Deployment Program.

1.3 Expanding the RT-PCR Testing Capacity: Private Sector Builds Seven RT-PCR Laboratories Nationwide

Paolo F. Borromeo, President and Chief Executive Officer, AC Health

When COVID-19 hit the Philippines in March 2020, one of the first challenges we faced as a country was diagnosing the disease. Testing and training were highly dependent on the Research Institute for Tropical Medicine (RITM). In fact, it was the only facility that could test for the novel coronavirus at that time. There was also a scarcity of manpower, with only 200 specialists trained on the RT-PCR method, the gold standard for diagnosing COVID-19. Add to this the global shortage of key supplies for testing and it was no surprise that our laboratories were sorely lacking and constantly playing catch-up.

To meet the demand, the public sector needed to rapidly increase the country's testing capacity. However, this obviously did not come without several challenges, including limited resources and delays in the procurement of supplies. At AC Health, we recognized these gaps early on and it was clear that additional support was needed. For one, we immediately converted Qualimed Santa Rosa into a COVID-19 referral hospital. And on the testing front, responding to Testing Czar Secretary Vince Dizon's call for help, we quickly mobilized and sought to put together a consortium of private sector players that would establish a network of new Biosafety Level 2 (BSL-2) laboratories across the country.

The speed of the overwhelmingly positive response from other leading conglomerates was remarkable and unprecedented. By May 2020, with the partnership and support of the Aboitiz Foundation, ABS-CBN Corporation, the Alfonso Yuchengco Foundation, the Gokongwei Brothers Foundation, and the Metrobank Foundation and AC Health led the charge to build laboratories in all of our Qualimed hospitals and several other locations across the country. Together, we responded to the country's call and supported Secretary Vince's Task Force T3 (Test, Trace, Treat) initiative by contributing an additional capacity of 5,500 confirmatory RT-PCR tests per day. To date, this consortium has put up a total of seven BSL-2 labs and conducted over 450,000 RT-PCR tests across all laboratories.

Now that I think about it, it is quite astounding how quickly everything rolled into action. From the quick response of our private sector partners to the frenetic pace of constructing the lab, sourcing the equipment, and training, things moved at breakneck speed. One lesson that was very important was transparency. Within

the private sector consortium and in our discussions with Secretary Vince, the Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF), and the Department of Health, everything was extremely transparent - whether it was about equipment and kit costing, machine capacities, training and resource gaps. We were all honest with each other about the challenges, issues, and objectives. What brought us together was a common goal, which was to establish more laboratories and provide affordable RT-PCR testing services to our fellow Filipinos.

Figure 1.4: Jaime Augusto Zobel de Ayala (Chairman and CEO, Ayala Corporation) and Sec. Vince Dizon (Deputy Chief Implementer, National Action Plan Against COVID-19) take a tour of the COVID-19 facilities at Qualimed Sta. Rosa

We also realized how both the public and private sector have important roles to play in capacity building. In fact, these two sectors working together proved not only to be effective but also efficient, as there was an avenue to collaborate directly, augment support where needed, and work together to untangle all regulatory bottlenecks. For instance, the private sector was able to procure faster than the public sector, but the government was able to help drive down supplier pricing for equipment and test kits. This allowed all of us to bring in affordable machines and kits at the soonest possible time. Another example was in terms of pricing, which was a delicate balance between the private and public sector. The government was cognizant that the private sector had to price fairly and sustainably. But to keep some private sector outliers from pricing exorbitantly, reasonable price caps were put in place based on consultations with the private sector. Through all of this, there was great harmony and communication between the private sector and the public sector, knowing we were one in fighting this battle.

To close, let me just say that it was an honor and a privilege working with Secretary Vince to upgrade our testing capacity when we needed it the most. This was very early on in the pandemic, and a foreshadowing of the continued partnership we would continue to have. At the end of the day, this collaboration proved that a balance in meeting both sectors' specific needs could be achieved and in fact, was also a harbinger of how we would most effectively face the rest of the challenges the pandemic brought from there on in, working together.

1.4 Pooled Testing: Could we have done more?

Josephine Romero, Senior Adviser, GoNegosyo

On March 31, 2020, Presidential Adviser for Entrepreneurship Joey Concepcion convened the private sector with the Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF). The objective was to persuade the government to adopt granular lockdowns rather than a Luzon-wide enhanced community quarantine. The solution we arrived at, even while everyone was in quarantine and especially for those who still needed to work on-site, was to use Antibody Rapid test Kits (ARK) to detect COVID-19 transmission in communities.

Lacking Reverse Transcriptase-Polymerase Chain Reaction (RT-PCR) capacity, the private sector initiative was to make other SARS-CoV2 testing innovations available, in particular the use of antibody tests. We named it Project ARK, an acronym for Antibody Rapid test Kits. The name was also chosen for its Biblical connotations; it was an attempt to save as many people as quickly as we could and develop new tools for fighting COVID-19. The idea was to use antibody testing as a rapid screen to detect the spread of infection in the communities. Branding the project helped people rally behind the cause.

Dr. Minguita Padilla's assistance was instrumental in helping the business community understand this testing innovation and implement it in selected communities. Drs. Esperanza Cabral, Manuel Dayrit, Vicente Belizario and Rontgene Solante provided advice regarding the benefits and limitations of antibody rapid testing.

Businesses needed essential workers to be tested on a regular basis. Thus Project ARK also embarked on supporting the government's objective to increase the country's daily RT-PCR testing capacity to 70,000 tests per day by July 2020.

Through Project ARK, the private sector was able to donate the necessary equipment, training, and certification for 110 strategically located molecular laboratories nationwide.[1]

We were racing against time as COVID-19 cases were surging worldwide and driving up demand for test kits and equipment. When we decided to negotiate directly with manufacturers, National Task Force Against COVID-19 Chairman and

Defense Secretary Delfin Lorenzana, helped us transport the equipment from China to laboratories nationwide.

National testing capacity then was at 15,000 tests per day in April 2020— too low to detect the spread of the virus. With the guidance of Iloilo Representative and former Health Secretary Dr. Janette Garin, Project ARK agreed to fund a study on pooled RT-PCR testing.[2] Pooled testing involved combining individual samples and testing them as one pool. Only if the pool tests positive is retesting of individual samples done. This approach could potentially increase testing capacity and make screening of individuals more efficient.

We worked with the country's medical experts through the Philippine Society of Pathologists president Dr. Roberto Padua, Philippine Children's Medical Center medical director Dr. Julius Lecciones, principal investigator Dr. Raymundo Lo, project coordinator Dr. Criselda Abesamis, and several other invaluable contributors. Collaboration with the Research Institute for Tropical Medicine and its Chief of Research Laboratory Dr. Amado Tandoc III was also essential. We pilot-tested systematic pooled-testing in several cities, starting with Makati City in September 2020.[3]

In communities with low infection rates, we found that pooled PCR testing could reduce the number of individual tests by as much as 72 percent. This finding formed the key evidence in our recommendation that pooled testing be included in the reimbursable procedures of the Philippine Health Insurance Corporation (PhilHealth). Moreover, pooled testing of groups could bring down costs by 20 to 30 percent compared to testing every individual in the group at the outset.

By November 2020, the Health Technology Assessment Council had recommended to the Department of Health Secretary the use of pooled testing for COVID-19 based on the findings of our study. The Interim Guidelines on the Conduct of Pooled Testing (DM 2020-0539) were officially released in December 2020, and by January 2021, we started training licensed COVID-19 laboratories.

In 2021 to 2022, GoNegosyo funded a second pooled RT-PCR testing study, this time using saliva instead of nasopharyngeal swab (NPS) or oropharyngeal swab (OPS). Saliva specimen compared well with NPS/OPS in detecting the virus, and saved cost by eliminating the need for swabbers and viral transport media. This method of pooled saliva testing could be useful in tourism, schools, and senior citizens and other vulnerable sectors.

While we found that pooled testing could not be used during a surge, it remains a viable option for mass testing in future pandemic situations. Saliva pooled testing eliminated the need to mobilize a huge number of swabbers who have to be trained in specimen collection procedures. Furthermore, its use in combination with border closures could help detect transmission early and buy time for the health system to set up its defenses.

1 There were 49 laboratories subsidized by GoNegosyo as part of the project and 61 self-funded by laboratories past the project period. The total number of laboratories certified by the Research Institute for Tropical Medicine is 56 as of March 2022. As of April 2022, there are 331 Covid-19 laboratories licensed by DOH in the country.

2 The sponsors for the pooled testing study were: PLDT Foundation, RFM Corporation, BDO Foundation, LT Group, Inc., Wilcon Depot, Yazaki-Torres Manufacturing, Inc., First Philippine Holdings, GT Capital, Uratex, Ayala Foundation, Golden ABC / Penshoppe, Universal Leaf, Bounty Fresh, Century Pacific Food Inc., CDO Foodpshere, Double Dragon, Jollibee Foundation, Lazada, Federation of Filipino Chinese Chambers of Commerce Inc, Federation of Indian Chamber of Commerce of the Philippines Inc., Angkas, Auto Nation Group, Aboitiz Foundation, Mercury Drug, NGCP, UNILAB, Lifecore, Sahar, Global Aseana Development Corp, CIF Central Corp., Philippine Transmarine Corp., Lloyd Laboratories Inc., and funds for the constituents of House Representatives Alfredo Benitez (Negros Occidental), Sharee Ann Tan (Samar) and Eric Yap (ACT-CIS), and Pampanga Governor Dennis Pineda.

3 Pilot tests followed in Cebu City in April 2021. Other local government units (LGUs) that agreed to be part of the pilot were Baguio City, Mandaluyong City, Pasay City, Pasig City, Passi City (Iloilo), Quezon City, Benguet Province and Pampanga Province.

1.5 Testing Strategy: Were RT-PCR Tests the only reliable test available?

Marife C. Yap, MD, MSc, Senior Technical Advisor, ThinkWell Philippines

In the early months of the pandemic in 2020, one of the most urgent tasks that had to be addressed was how to bump up testing for COVID-19. As a medical doctor with a generalist background, I needed to bring myself up to speed about how the nucleic acid amplification test worked (of course I didn't know then that this was the official term for the RT-PCR testing for COVID!).

Because the marching orders then, both from our Department of Health (DOH) and private sector partners, was to aim for one million tests soonest, my team and I set out de-constructing the operational details of doing Reverse Transcriptase Chain Reaction (RT-PCR) testing to be able to forecast more accurately how many laboratories needed to be set-up, including the number of laboratorians needed and where they should be set-up. Together with this, we also embarked on exploring all available feasible alternatives to RT-PCR testing that could produce reliable results. This started the daily stand-up meetings to literally count how many laboratories were up and running, and identify the bottlenecks and challenges that needed to be untangled to get things moving.

Then came the possibility of using the antibody tests as a way of determining if a person did have the disease or not. It became a very tempting option over RT-PCR because the test did not need a full laboratory set-up and was considerably cheaper and produced faster results. Since very early on, the Technical Advisory Group and Health Technology Assessment Council of DOH firmly put their foot down in saying that the antibody test is not a diagnostic tool for active COVID-19 infection. My job then was to traffic all the information and ensure that the correct guidelines would be released. At best, it may possibly detect one who could have developed COVID-19, but this was certainly not a sensitive and specific diagnostic tool.

Another big challenge faced was exploring the option of using the Cepheid GeneXpert system to diagnose the presence of the SARS-CoV 2 virus. These machines were available in the country as a diagnostic tool for Tuberculosis (TB) and were also much more accessible as they were deployed in the frontline facilities such as Rural Health Units. Indeed, it is true that the GeneXpert using the Xpert Xpress SARS-CoV2 cartridges produced and distributed by Cepheid worldwide

uses the same technology as the RT-PCR and thus was deemed sensitive and specific. In addition, generating a result took a much shorter time.

This then led me to work very closely with the DOH TB Program Manager and Philippine Business for Social Progress to explore how the use of these machines could be bumped up. However, the biggest stumbling block encountered was the limited access to cartridges in the early months of the pandemic. Despite all the negotiations and discussions, the GeneXpert use was quite limited since there was no assurance then that there would be sufficient cartridges if all the machines were to be deployed.

Was this a missed opportunity? Personally, I would say, yes and no. I think that had the issues related to access of the cartridges been addressed early and in a more focused way, the GeneXpert machines could have been used in the hospitals so that patients who were suspected to have COVID-19 but turn out negative could then be discharged and thus bed space could be freed up. I could also understand that this was a logical step but the absence of guarantee of cartridge availability was a real and imminent possibility and thus taking a huge risk was also hard to do.

When the initial hype about the antibody tests waned, the antigen tests came to the fore as a cheaper and more accessible alternative to the gold standard, RT-PCR. It took a while for the DOH to release the guidelines on the proper use of the antigen tests so that much like antibody tests, market forces took over and all sorts of antigen tests were sold in the market. Here again, we were confronted with having to ensure proper use of these tests, foremost of which was its accepted use in communities or settings where COVID-19 had become prevalent, and widespread community transmission was evident. Positive antigen test results did not need confirmation via RT-PCR particularly, in settings where cases were high. Negative results for those with symptoms did require a confirmatory test, but sometimes when patients are symptomatic despite a negative result, they are also treated as positive cases.

Many other products emerged in the market but eventually died down. We discussed many of these in the COVID-19 Laboratory Expert Panel in the hope that we could proffer an alternative test that was faster, cheaper and more accessible but many of them did not follow through.

Looking back then, in terms of testing strategies, having taken on a front row seat in the discussions of all these, I would say that the partnership forged between DOH and the private sector partners served both as catalyst and mirror that facilitated (and sometimes hindered) forward movement. The regular monitoring and sharing of knowledge driven from the private sector kept DOH on its toes such that many policies were formulated and consulted prior to release. However, the wheels of the bureaucracy also served as deterrents for faster action. These, to my mind, are important lessons to bear in mind as we rebuild and move forward, in normal or unusual times in the future.

02 DATA MANAGEMENT AND ANALYTICS

2.6 The Inside Story on the Role of Data in the COVID-19 Fight

Lourdes Josephine Gotianun-Yap, Chairperson, Filinvest Group

Editor's Note: *Many business executives understand the value of using data analytics for running their enterprises and making important strategic and tactical decisions. But few understand it to the point that they know how to write code. Josephine Gotianun Yap, chairperson of Filinvest Group, was one such person. Recognizing the country had a serious gap in data management and was essentially flying blind in the early days of COVID-19, she made an early critical investment in a data warehouse, dashboard, and analytics. Assigning her Chief Information Officer Jun Andal and working with Thinking Machines, she made the invisible visible. Working round-the-clock, she would write code and help analyze data as we all slowly began to understand the behavior of the virus and of people. The ground-breaking work of Filinvest and Thinking Machines continues to underpin the health dashboards we use today to track and manage COVID-19.*

Early 2020, I was travelling back and forth between Manila and Singapore on weekends, when they were still deciding what to call the new respiratory disease that was quickly spreading over the world. COVID-19 had arrived at our shores through a handful of Wuhan tourists but there was still very little spread. There was in fact more spread in the small island state of Singapore. My husband, Joseph, the Philippine Ambassador in Singapore, and I would spend the end of each day checking the Singapore Ministry of Health's (MOH) website for the latest statistics on COVID-19 and how its spread was trending. The website contained very detailed information about the daily Covid situation in Singapore.

Around March of 2020, COVID-19 started breaking out in Manila with the Diamond Cruise strain. A business friend had died and I found myself isolating after being in a conference with a close contact of a confirmed COVID-19 case. There was no website similar to that of the MOH Singapore in the Philippines. I felt very uncomfortable not knowing what was going on except for anecdotes, viber posts, and rumors. I thought to myself – how would our leaders be able to make proper decisions if they do not have the necessary updated information on hand? How can they fight the battle if they have to fight blindly?

In my business position, I am responsible for the health and welfare of my Filinvest family and for the financial health of our businesses. I assessed the situation and realized that if public health is at risk, we can only do so much by using the usual business solutions. This fight is different - it is no longer against our competitors

but against a new and invisible enemy. I spent most of the night researching on COVID-19. Yes, I was at the brink of obsession with COVID-19 then. I felt I had to learn as much as I could about the enemy.

I decided I had to get involved. I cold-called Secretary Fortunato de la Pena of the Department of Science and Technology and I told him that I wanted to contribute a data warehouse and create a data dashboard, so that we could keep track of COVID-19. I told him that our Filinvest Foundation would take care of all the expenses. He readily gave the go signal together with Secretary Francisco Duque of the Department of Health (DOH). The one benefit of a pandemic is that the civil service gets to be less bureaucratic as everyone readily accepts help, especially since the world was in a quandary.

We had previously worked with a data science company, Thinking Machines, and I asked them if they had a team ready and the know-how to get the project going. They hit the ground running. I involved myself in the initial meetings until I was confident everyone on the team was working together hand in hand. It took the team about a month to get the first basic DOH COVID-19 dashboard up. Doctor Beverly Ho of DOH - Health Promotion Bureau was very open to new ideas and suggestions and was the main point person. I was told that it was extremely demanding doing a data warehouse and a dashboard while dealing with a decentralized and inadequate data infrastructure simultaneously, especially with such a short timeline. The data team said that normally these projects take at least six months to complete.

But that was just the beginning of the journey. Putting up the data warehouse was just the first step. The data needs to come in clean and fast. Data was coming in slow, messy and incomplete. We were dealing with different laboratories who had their own data capture systems and data fields. The biggest hurdle was to agree on the data capture system. At the same time, the Task Force T3 (Test, Trace, and Treat) team was working hard to build up the testing capacity. They did it successfully and quickly so that by May 2020, the country's daily testing capacity had jumped from 4,500 to 30,000 tests per day and it kept on going up from there. Getting all the newly accredited laboratories on board added to the challenge. The available system being used proved to be inadequate and impractical. At the end, together with the Department of Information and Communications Technology (DICT), our company's information technology team headed by Jun Andal set-up COVID-19 Documents Repository System (CDRS), a practical system that was able to screen the messy data and simplify the process by downloading from the excel files most laboratories were using.

The human factor could not be discounted. There were persistent calls to data encoders to get their cooperation to use the new system including using the barangay data of the COVID-19 cases instead of the laboratories' barangay. This

was the turning point when data became cleaner and more timely. I say - "Perfection would have been the enemy of progress". You live with what you have and, with agility, keep on improving it along the way. We have since turned over the CDRS to the government.

Gathering COVID-19 case data for new case surges, barangay "hot spot" and deaths trends was just the tip of the iceberg. In managing the pandemic, data on availability of test kits and its related supplies (swabs, reagents et. al.), hospital and quarantine center beds and their occupancy rate had to all be pieced together. All these were crucial in allocating resources and focusing lockdown policies to minimize spread. A devolved public health care system, without a central disease control and prevention agency, was the crux of the challenge. A disjointed public health data infrastructure involving public and private hospitals and Local Government Units (LGUs) will require a lot more investments for future proofing.

In the process, it was a privilege for me to work with the T3 team headed by Vince Dizon. The T3 team was composed of private and public sector people. I believe this fight against COVID-19 to be the most successful Public Private Partnership (PPP) endeavor of any government – borne out of love of country. I met many positive like-minded people along the way - from the Inter-Agency Task Force for the Management of Emerging Infectious Diseases, DOH, Mckinsey, Philippine Disaster Resilience Foundation Inc., and many others from the private sector. I saw how they worked tirelessly 24/7.

I would join the T3 team in their daily stand-up calls. They would assess the priorities and bottlenecks and get them resolved. A big part of it was coordinating all the other stakeholders, DOH, Congress, LGUs and many others to agree on what needed to be done. To make available relevant data as basis for decision making so that the resources and manpower can be provided and the policies and processes can all be aligned. At some point, I no longer joined the daily calls when I saw that the infrastructure was already in place and working. I found comfort in knowing firsthand what was going on. The Filinvest group readily set aside a large war chest to support various COVID-19 initiatives – testing, data, quarantine centers, personal protective equipment, etc. I found satisfaction in knowing that we were able to contribute in any way possible.

I am truly saddened for those who have suffered loss and heartbreak because of this terrible disease. It is a sickness made worse by the isolation it requires from family and friends. My great hope is that the lessons learned and the data infrastructure developed during this COVID-19 pandemic will be further enhanced so that we will be ready to fight the next epidemic/pandemic focused on the people and disease with the necessary data infrastructure as a critical tool and not as a handicap.

2.7 The Need for Data and Analytics

Ermelindo Andal, President & COO, Filinvest Corporate Technologies, Inc

When I was invited by my boss and mentor, Ma'am Joji Gotianun-Yap of the Filinvest Group, to join the first Task Force T3 (Test, Trace, Treat) meeting in April 2020, I was assigned to the Data Working Group headed by Dr Beverly Ho. Our group's primary objective at that time was to get access to the testing data so it can be consolidated, visualized, and analyzed, to allow for decisions and interventions to be made by Taskforce T3.

In May 2020, Dr Beverly Ho introduced me to Jong Ventura who was the officer-in-charge of the Department of Health (DOH) Epidemiology Bureau at that time. Jong requested our help to come up with a quick and efficient solution to allow the submission and compliance monitoring of the Reverse Transcriptase - Polymerase Chain Reaction (RT-PCR) test results by the different accredited laboratories. I secured the assistance of the Filinvest information technology team to develop the COVID-19 Documents Repository System (CDRS). We had to take into consideration that the laboratories have different data capture processes, laboratory systems, and file formats. We also had to make the system intuitive and responsive as there was not enough time to train all the expected users. Together with DOH, we implemented CDRS in July 2020. When the T3 Data Working Group was merged with the Inter-Agency Task Force for the Management of Emerging Infectious Diseases Data (IATF) Governance Group, I was also assigned to help implement COVID-KAYA, the main COVID-19 Epidemiology System of the DOH.

The COVID-19 pandemic required the entire nation to collectively respond. While the government focused on policy and governance, the private sector was able to help execute the plans quickly and effectively. The need for appropriate data on RT-PCR testing was critical in the Taskforce T3 response. I was glad to have been part of the Data working group of T3 and the IATF.

2.8 Data Systems and Dashboards: Developing Tools for Decision-Making

Dr. Althea De Guzman, MCHM, PHSAE, Director IV, Epidemiology Bureau, Department of Health

Providing data for action is the goal of any public health surveillance system. During the COVID-19 response we saw greater appreciation for data. Decision makers needed information that described the risk of COVID-19. Initially we relied heavily on case numbers to measure this risk, introduction of vaccines and drug therapies, and improvements in our health systems and capacities led us to shift to putting more weight on health systems capacities quantified through hospitalizations and bed utilization rates. Decision makers were also made aware that in quantifying this risk, we cannot rely on a sole metric, rather we had to triangulate multiple metrics collected from multiple sources to better describe the COVID-19 situation. There was also greater acceptance of being able to work with the best available information given the many uncertainties and unknowns of this disease.

But the COVID-19 pandemic tested the ability of the existing surveillance systems to deliver quality data. There were issues as to completeness, validity, and timeliness. To address these however it was crucial that we leveled off the expectations of decision makers. First, that surveillance data is "living" data. It is dynamic as disease reporting, and epidemiology and surveillance units regularly update reported data after completion of case investigations and records reviews. Second, while our surveillance system is our primary data source, it is not the ONLY data source and there should be other methods by which we can collect relevant data needed for development of policies and strategies. Third, the devolved health system limited our command capacity as we had no administrative control over local government units (LGU). This often led to differing levels of data quality that depended on the support of LGUs of its epidemiology and surveillance units in terms of human resource, training, equipment, and IT infrastructure. Given these, we had to clarify that what we needed was NOT perfect, rather relevant data or information.

With this clear goal in mind, we implemented two major strategies: digital transformation of our surveillance, information, and data management systems and building data analytics capacities.

While there were existing information systems that captured surveillance data, these were not easily modifiable to accommodate new diseases. The Department of Health (DOH), through the support of the World Health Organization developed COVIDKaya. COVIDKaya was a case data repository used by LGUs, hospitals, and laboratories to encode COVID-19 case and laboratory data which enabled close-to-real time reporting of data and simultaneous access to said data by all levels of the health system. However, even with this new system, we observed that reporting units were unable to regularly submit data. The reporting units maintained their own line lists using worksheets rather than directly encoding in COVIDKaya. Completing these sheets were of higher priority to them because these contained the data they needed even if it is not made available in COVIDKaya. Their encoders were also more familiar in using worksheets and preferred these to navigating a new information system. Also, the LGUs and hospitals did not have the needed number of staff to record, encode, and update data. Conducting case investigation and contact tracing and health service delivery had to be prioritized.

We had to introduce new digital solutions to ease the burden of recording and reporting given the limited human resources. With the support of development and private sector partners, the COVID-19 Documents Repository System or CDRS was developed which enabled facilities to upload completed line lists using a standardized form that captured a set minimal health data versus manually inputting these data into the information system. The CDRS also allowed the upload of digital copies of case investigation forms and laboratory results and served as a repository for easier access to these digitized data.

We also had to ensure that data from this information system could be transformed to processed line lists for analysis and visualization. The data management process used at the start of the pandemic was mostly manual. As our data grew, we needed to utilize cloud-based platforms and new applications which employed more automated processes for data deduplication and line list formatting. It was through these that despite the exponential increase in the data being managed, the DOH was able to generate daily case line lists. New processes were also developed that enabled our case line lists to be matched with line lists from other data sources, such as whole genome sequencing results, vaccine recipient master list, and adverse event following immunization (AEFI) surveillance case line lists. By accessing multiple surveillance and information systems, we generated master databases containing variables that enabled us to triangulate the metrics used to describe the COVID-19 situation.

Methodology for data analytics were also transformed through the development of dashboards and trackers that automated generation of tables and graphs. These provided us more time to interpret the data and create a narrative that would describe and explain the country's COVID-19 status. The dashboards were also tools that made data more accessible to decision makers. Through our partnership with the Ateneo de Manila University, FASSSTER was developed (Feasibility Analysis of Syndromic Surveillance using Spatio-Temporal Epidemiological Modeler). The FASSSTER platform was a dashboard used by national, regional, and local offices to view visualized data on case and health care capacity. A similar dashboard – the DOH COVID-19 Tracker – was also developed by Thinking Machines. The COVID-19 Tracker was made available at the DOH website and enabled research and expert groups, media, and the public to have easy access to COVID-19 data to guide individuals, establishments, and institution-level actions.

While at the core of any analysis was use of descriptive statistics, the COVID-19 situationers provided by DOH were enhanced with the introduction of disease projections. Disease projections were often attributed to provision of forecasts – that is, "predicting" how many cases, hospitalizations, or deaths there would be at a given time. The projections generated by the DOH and the Ateneo team used scenarios that enabled decision makers to study multiple outcomes given a set of assumptions or conditions. By visualizing what could happen, the generated projections steered us to think of options to move towards better scenarios. We also saw the disease models evolve. Initial models provided disease outcomes of policies and interventions. Later models considered both the health and economic impact of policies and interventions.

These new methodologies were introduced with the goal of providing data that is relevant in deciding on the appropriate action to be implemented. The DOH had to adjust its regular data analysis to the changing data needs of our stakeholders. Initial surveillance reports were mostly case data that soon expanded to inclusion of and triangulation with laboratory, health care, and Prevent-Detect-Isolate-Treat-Reintegration (PDITR) Strategy performance data as we needed a more robust description of this pandemic. It was also crucial for the data analytics team to appropriately package this information based on the intended communication outcome. The team had to transform highly technical data into information that will be easier to digest and understand. There was also a need to have multiple iterations of the reports depending on who the intended users were. Reports were also enhanced by reviewing reports of other institutions and countries and adapting analysis and visualizations to make the information easier to understand and explain. Feedback from expert groups, media, and the public were very important inputs to understand the usefulness of the data and its impacts on stakeholder decisions.

These strategies have markedly improved our data quality and enabled the country to craft and implement strategies that minimize the negative impact of the pandemic. But while these strategies guided offices and agencies, the success of our COVID-19 response was heavily reliant on decisions made by individuals. The information we provided was also intended to change behaviors that would lessen their risk and ensure better health outcomes. Thus, it was crucial that our data not only be accessible but also be trusted by the public. Data transparency was a critical pillar in our COVID-19 response. Regular media fora, COVID-19 case bulletins and trackers, and our "kapihan" with the media were platforms used by the DOH not just to share information but to also educate both the public and media as to how data should be interpreted and used. We also encouraged independent analysis of our COVID-19 data by providing researchers and academic institutions access to anonymized case line lists through the COVID-19 Data Drop in the DOH website.

The COVID-19 pandemic tested our health care system and its resiliency and adaptability. It put a spotlight on perennial problems of the surveillance system, especially at local levels – slow to adapt, difficult to expand, and their variable capacity. But it pushed us to be creative in finding the right and more permanent solutions. It provided us an opportunity to fast track universal health care innovations towards a functional epidemiology and surveillance service that was planned years into the future. Lastly, it taught us the need to learn from our experiences during this pandemic and solidify measures to sustain and institutionalize our gains.

03 SURVEILLANCE

3.9 We Build As One: Build Build Build in the Time of COVID-19

Atty. Joanna Eileen Capones, Vice President for Investment Promotions and Marketing, Bases Conversion and Development Authority

Build it and they will come.

This was our mantra when we first broke ground for New Clark City (NCC), the country's first smart, green, and disaster-resilient metropolis. We were confident our Build Build Build (BBB) colleagues would make it happen, with massive road, rail, and airport projects linking our new city to the rest of the country and the whole world. None of us imagined that just a few years later, a Public Health Emergency of International Concern would require us to build, build, build—this time, quarantine, isolation, and swabbing centers—and fervently pray that people will have no need to come to the structures we have built.

Safe haven

The Athletes' Village in NCC, a five-storey residential complex used to house athletes, officials, and international volunteers during the 2019 Southeast Asian Games, was the first to be converted into a quarantine center. We, at the Bases Conversion and Development Authority (BCDA), immediately responded to the calls of the national government, which scrambled to find an adequate facility for overseas Filipinos returning from Hubei, China, where COVID-19 first broke out.

Not long after welcoming the first batch of returning Filipinos, BCDA went full steam ahead to convert other assets into COVID-19 facilities and make Clark a safe haven amid the onslaught of the pandemic. The ASEAN Convention Center in Clark Freeport Zone was quickly converted into a 150-bed isolation facility. In NCC, two government office buildings were converted into isolation facilities offering over 600 beds, while the University of the Philippines - Philippine General Hospital polyclinic was equipped to provide medical care to patients.

Testing was a concern, but the Philippine Red Cross was able to build a molecular laboratory in Clark in just two weeks. With an abundance of open and multi-functional spaces, swabbing booths were also quickly built and deployed in designated areas.

Although it came with considerable challenges — mobility restrictions, lack of budget, procurement limitations, unavailability of supplies, to name a few — fortifying Clark to respond to an emergency was something we were certain we would succeed in since Clark was developed to be resilient. But it later became apparent that building a bubble was not enough; COVID-19 required us to do more.

We Heal As One

Led by our President and Chief Executive Officer Vince Dizon, BCDA worked with our BBB partner Department of Public Works and Highways (DPWH) and other government agencies to convert existing large-scale structures into COVID-19 facilities, in accordance with the Bayanihan to Heal as One Act (Republic Act No. 11469).

We succeeded with the help of private partners who generously extended assistance, sometimes even before we asked. Large corporations allowed the use of their properties, donated beds and air conditioning units, provided utilities and internet connections, and even sent their people to help with actual construction. Hotels willingly opened their doors to serve as quarantine and isolation facilities for returning Filipinos, and for asymptomatic and mild COVID-19 cases under the Oplan Kalinga program. Smaller businesses like laundromats, janitorial agencies, and caterers provided their services despite the challenges of operating at that time, not only to continue giving jobs to their employees, but also to contribute to the nation's COVID-19 response.

The private sector's support, especially at the crucial beginning, allowed the government to organize and reallocate resources for the long battle ahead. As of date, the national government, led by DPWH, eventually delivered 842 operational COVID-19 facilities nationwide, with a total of 30,760 bed capacity. Our other BBB partner, the Department of Transportation, has built three quarantine facilities for seafarers undergoing their mandatory quarantine. Most local governments have also been able to establish their own quarantine and isolation facilities.

Building more than structures

Building the facilities was only half of the battle. The other half — operating them — was not a walk in the park either.

It would have been ideal to hire or allow people to work exclusively on COVID-19 response. We did not, however, have that luxury so we had to rely on volunteers willing to work twice as hard — helping with COVID-19 response while still accomplishing deliverables at work. One thing was clear to everyone: our regular

work could not stop. As much as we were part of COVID-19 response, BBB also plays a crucial role in post-COVID-19 economic recovery. We needed to keep our projects going to create jobs today and increase productivity in the coming years.

There were a lot of sleepless nights, especially for our volunteers in mega swabbing centers and Oplan Kalinga. They served even during typhoons and even when they themselves became positive for COVID-19. During the Delta and Omicron surges, around 50% and 70% respectively of the Oplan Kalinga team tested positive and most continued doing coordination work remotely to keep operations going.

Yet, even with those difficulties, all of them consider the past two years as their most fulfilling years in public service. Indeed, as we look back on our COVID-19 journey, we take pride not just in the structures but more so the communities, relationships, and character we have built.

3.10 T3 Serosurveillance Project: A Missed Opportunity?

Manuel M. Dayrit, MD, MSc, Former Secretary of Health, Department of Health

On June 17, 2020, Task Force T3 (Test, Trace, Treat) submitted a protocol to the National Ethics Committee (NEC) to undertake a serosurveillance project covering the National Capital Region (NCR) and the neighboring provinces of Cavite, Laguna, Batangas, Rizal and Bulacan. The protocol had been conceptualized in May, soon after the first lockdown ended. Antibody testing kits were now available and it was thought worthwhile to gather data to understand how much COVID-19 infection had spread in the aforementioned Local Government Units (LGU), the epicenter of the pandemic.

The project aimed to do rapid cross-sectional serosurveys every three to four months for the next year. For every round of serosurveillance, a random sample of 2,750 households in NCR and 6,280 households in the adjacent provinces mentioned would be selected. Two to three residents from each household would be randomly chosen for blood collection and interview. Blood samples would be tested to determine the presence of COVID-19 antibodies, a sign of previous COVID-19 infection. The predictors for seropositivity could be determined and reported to each LGU and national government to guide their decisions.

As it turned out, the protocol underwent five rounds of review before the NEC gave its approval on February 18, 2021. By the time approval arrived, the focus of T3 had shifted to the vaccination program which was about to start. The funds that were initially budgeted for the serosurveillance project had been shifted to the procurement of vaccines.

Could we have done better at getting ethical approval?

Understandably, the concerns of the NEC focused on the protection of the participants from any physical and psychological harm which might result from doing the blood testing and interviews. Protection of households from infection by the field workers had to be guaranteed. Likewise, protection of field workers also needed to be assured. Safeguards for the care of any person found symptomatic or antibody-positive during the field survey needed to be described. The presence and participation of LGU officials were prohibited by the NEC to avoid any hint of pressure for respondents to participate. Consent forms were scrutinized and

revised more than once. Formal and explicit letters of agreement from each LGU were sought. These letters needed to express LGU assurances of support for the serosurveillance and willingness to undertake the proper interventions for anyone found actively infected during the survey.

Taskforce T3 eventually abandoned the serosurveillance project altogether. Organizers of the project decided that the budget (Php20 Million budget for NCR serosurvey alone) should be better spent on vaccines. That we were unable to document the seroprevalence levels at the epicenter before the vaccination program started could be considered a missed opportunity. What would have been important to document were the variable infection levels among geographic areas and socio-economic population groups which could have fine-tuned our pandemic response.

The experience also provides us pause to reflect on how, during situations of emergency, ethical clearances might be facilitated while ensuring the adherence to ethical principles and procedures.

Below are two studies which provide some idea of seroprevalence levels where such studies were done.

In July 2020, serosurveillance of 6,386 residents in Mumbai, India found that 57% of slum dwellers and 16% of non-slum dwellers had COVID-19 antibodies, indicating the extent as well as disparity in infection rates within the city. [1]

From June 2021 to December 2021, the Ateneo de Manila University did a serial cross-sectional study to determine the seroprevalence of SARS-CoV-2 antibodies among 1,318 participants who were faculty, administrators, professionals, staff, maintenance, security guards, and in-campus residents. Results showed 47.80% of participants to be antibody positive. Analysis showed that antibody response was mainly due to vaccination. [2]

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04

HUMAN RESOURCES FOR HEALTH: CONTACT TRACERS, ENCODERS, NURSES, PROTECTION, CRITICAL CARE

4.11 The One Hospital Command Center: Towards a National Facility for Patient Navigation and Referral

Leopoldo Vega, Undersecretary, Department of Health
Chairman of Response Cluster, Inter-Agency Task Force for the Management of Emerging Infectious Diseases

Editor's Note: *The government's COVID-19 response provided an opportunity to establish new institutions for improved patient care in the future. One such institution was the One Hospital Command Center (OHCC), which started as a small operation for streamlining patient referrals just when cases and hospital admissions were rapidly rising. Working with both public and private hospitals, DOH was able to expand OHCC and eventually work towards its permanence through a law.*

The Department of Health (DOH), as the lead agency in managing and handling the health aspect of the government's fight against the COVID-19 pandemic, created the One Hospital Command Center (OHCC) on July 15, 2020. The OHCC aimed to streamline the referral and transfer of COVID-19 cases and to optimize the use of medical care services at the national level for a unified and integrated COVID-19 response. It also aimed to highlight the whole-of-government, whole-of-system, and whole-of-nation approach of the national government against COVID-19 through proper patient referral and health system collaboration.

The OHCC was first housed at the Metro Manila Development Authority (MMDA) Sports Center with only seven employees and few equipment to start the operations. OHCC started its operation on July 22, 2020 and was formally launched two weeks later on August 6. As demand from both community and health facilities increased, expansion of the services of OHCC was critically needed. Private entities reached out and helped OHCC expand its services all for the benefit of the Filipino people.

Through the Task Force T3 (Test, Trace and Treat), the OHCC was able to link with the Business Process Outsourcing which helped us in establishing some of the protocols that we are still using up to now. Sharing of workflows and proposing alternatives were some of the discussions that were raised during several meetings. To support the whole operations, Task Force T3 assigned focal persons, Mr Deo Estanislao and Ms. Mita Santiago, who helped look for partners who could help improve OHCC services and organize the support team.

In one of the press conferences, Presidential Spokesperson Secretary Harry Roque and I discussed the challenges encountered by OHCC. It was pointed out that for the OHCC to improve its service, telecommunication lines had to be upgraded. From the basic cellular phones and landlines from MMDA, the Philippine Long Distance Telephone (PLDT Inc.) Company helped OHCC by donating analog lines and internet services to keep up with the influx of calls from the community. Globe Telecom also provided us with 15 lines and phones for the daily operations.

Through the established partnerships with these private organizations, OHCC was able to have uninterrupted health service delivery, more importantly, a systematic and efficient approach inbthe operations. Since OHCC proved to be an effective solution in ensuring that patients from the community going to primary, intermediate, tertiary, and specialized levels of care are coordinated efficiently and effectively, the OHCC was formally inaugurated as the National Patient Navigation and Referral Center (NPNRC) on July 12, 2021. The transition has broadened the scope of health service delivery and extended its services to non-COVID-19 cases, to continuously address the needs of Filipinos even beyond the pandemic.

Moving forward, NPNRC envisions to become institutionalized through a stronger policy. House Bill 9633, "An Act Establishing National Patient Navigation and Referral System For the Purpose of Strengthening The Provision of Health Care Delivery System and Appropriating Funds therefor", was filed by Congresswoman Angelina Tan last June 21, 2021. On July 28, 2021, the bill was referred to the committee on health for reading and approval. As stated by Congresswoman Angelina Tan, "With its institutionalization, the NPNRC is geared to re-define and reform the nature of the health delivery system of the Philippines to become more responsive and towards greater equity, accessibility, and quality." As a parallel approach for institutionalization, an executive order "Establishing the National Patient Navigation and Referral System in the Philippines in Support of the Universal Health Care and Providing Funds thereof" was drafted and presented to the Department of Health's executive committee (ExeComm). With the unanimous approval of the ExeComm, the final draft of the executive order was forwarded to the Office of the President for the President's approval.

Anchored on the Universal Health Care, the NPNRC aims to become the leading navigation and referral institution for integrated healthcare services, providing equitable, timely and sustainable access to appropriate health services responsive to the needs of the Filipinos.

4.12 The One Hospital Command: The Case for Institutionalization

Eugenio Jose F. Ramos, MD, MBA
President & Chief Executive Officer, The Medical City Enterprise

In March 2020 and the eternity that followed, we discovered so much about our flawed health systems, our inadequacies to deliver care under extreme circumstances, and our remarkable capacity for survival. Most of all, we learned in a much deeper sense the value of collaboration and teamwork, that no institution, regardless how renowned and equipped, can ever survive a pandemic without outside help.

Nobody expected the magnitude and horror of a pandemic on a population that had neither prior knowledge of, nor experience with, a deadly virus from China. But suddenly, there they were, people in panic swamping hospitals, exponentially increasing in number, and overwhelming our healthcare front-liners! The personal protective equipment (PPE) stockpiled earlier for an 'epidemic' were disappearing much faster than we could replenish them; our exhausted healthcare workers were getting sick; and our emergency rooms had become an ICU extension of intubated critically-ill patients, while more patients camped outside.

At that time, we are yet to figure out how to diagnose COVID-19 quickly, how to avoid or contain it, and what treatment would save patients. There was no way that my team at The Medical City could handle by ourselves this tsunami of fear, uncertainty, and increasing casualties. I started calling the medical directors of big private hospitals in the National Capital Region (NCR) to check how they were doing. That they, too, were suffering the same horror was no consolation, but it was a good start to band together and map out a way forward. And we did. We came out with an appeal for a dedicated COVID-19 government hospital, to be adequately equipped and funded by the government so that the private hospitals could be unloaded of COVID cases and be able to provide beds to non-COVID cases that were just as sick and in need of hospitalization. Readily, the Department of Health (DOH) responded positively and assigned the Philippine General Hospital, Lung Center of the Philippines, and the Tala Hospital to be such hospitals. This was the beginning of a truly productive public-private partnership at the time of COVID-19. It could be done!

AN URGENT APPEAL FOR A UNIFIED APPROACH TO THE COVID-19 PANDEMIC

Allow us to bring to the fore the current state of our healthcare facilities in light of the COVID-19 pandemic.

An alarming number of nurses, residents, consultants, and hospital employees are under 14-day quarantine while the number of PUIs (Persons Under Investigation) continue to flock to our emergency rooms every day. Our regular rooms have been converted into COVID-19 isolation areas, leaving less for other non-COVID-19 high-risk patients who also have life-threatening conditions. The panic is escalating, mortality is increasing, our supplies of personal protective equipment (PPE) are running short, our frontline staff are increasingly getting depleted as more of them are quarantined or physically and emotionally exhausted, and a number of our medical colleagues are already hooked to respirators fighting for their lives in various ICUs. Even our ICUs are getting full. Soon we will have a shortage of respirators. We have every reason to be scared; we are, indeed, very scared because we feel that we are on our own to face our countrymen in dire need of help.

This unprecedented and escalating medical crisis cuts across borders. The rest of the world, even countries as rich as the United States, are facing the same fears, the same looming threat of shortage of supplies, ICUs, PPEs and healthcare workers. If we do not put our act together, the prospect of the healthcare delivery systems crashing down is imminent and real. It is already happening.

We speak, as one, because the mismatch between the exponential surge of patients and the available healthcare workers is no longer occurring in just one center, but in all our respective institutions. We share information and coping mechanisms, but we cannot share resources that we no longer have.

As we observe globally, and in alignment with the government efforts, the most effective way to slow down this pandemic is through effective containment and distancing within the potentially disease-stricken population. Given the sharp increase of COVID-19+ patients per day, we have to act fast, and act now. There is no time for indecision.

Thus, our collective call to action is to centralize all efforts and resources into ONE OR TWO COVID-19 hospitals, adequately equipped and invested upon by the government, designated to receive, screen and treat PUIs and COVID-19 positive patients when the allowable number of the cases per hospital, private and public, is exceeded. We are aware that there is a plan to do this; we are urgently appealing for the DOH to mobilize this plan, challenging as it may be, but which the private hospitals are willing and ready to facilitate.

Execution of the plan will allow for concentration of resources, speed of patient processing and efficiency in protocol execution, rendering better chances for infection containment.

With the COVID-19 hospital(s) in place, the other institutions can then focus on the bigger population who need to be treated for the rest of the other conditions other than the COVID-19 infection. They are the ones we need to equally protect and secure from the virus, so that they and their families can also be assured of appropriate treatment detached from any threat of COVID-19 infection aggravating their condition.

The possibilities and power of a network set-up like this behooves all of us — in both the private and public sectors — to pursue this plan soon. We are not shying away from our responsibilities; we are ready to take in the non-COVID-19 patients of the designated COVID-19 hospitals, and if necessary, provide temporary practice privileges to their medical staff whose (non-COVID-19) patients will be transferred to our hospitals.

This is a plan that we push to be realized without delay. Our objective is to put order and organization on a national scale as we all grapple with dwindling resources, increasing morbidity and mortality, and a decimated healthcare workforce as the virus continues to spread relentlessly.

ADVENTIST MEDICAL CENTER
Dr. Bibly L. Macaya, President & CEO

ASIAN HOSPITAL MEDICAL CENTER
Dr. Jose M. Acuin, Chief Medical Officer

CARDINAL SANTOS MEDICAL CENTER
Dr. Zenaida M. Javier-Uy, SVP, Chief Medical Officer

FATIMA UNIVERSITY MEDICAL CENTER
Dr. Oscar Payawal, Chief Medical Officer

MAKATI MEDICAL CENTER
Dr. Saturnino P. Javier, Medical Director & Interim CEO

MANILA DOCTORS HOSPITAL
Dr. Dante Morales, Board Member
Dr. Mario M. Juco, Chief Medical Officer

MEDICAL CENTER MANILA
Dr. Eduardo S. Eseque, Chief Medical Officer

OUR LADY OF LOURDES HOSPITAL
Dr. Milagros Joyce Santos, Chief Medical Officer

THE MEDICAL CITY
Dr. Eugenio Jose F. Ramos, President & CEO

ST. LUKE'S MEDICAL CENTER
Dr. Benjamin S.A. Campomanes, Jr., Chief Medical Officer

UNIVERSITY OF THE EAST RAMON MAGSAYSAY MEDICAL CENTER
Dr. Napoleon B. Alcedo, Assistant Chief Medical Officer

ENDORSED BY:

PHILIPPINE COLLEGE OF PHYSICIANS
Dr. Gina C. Nazareth, President

PHILIPPINE COLLEGE OF SURGEONS
Dr. Jose Antonio M. Salud, President

Published in Philippine Daily Inquirer, March 20, 2020
Figure 4.1.: Appeal of the private institutions for a unified approach to the COVID-19 pandemic

Soon after, the One Hospital Command Center (OHCC) was put in place, headed by the newly-appointed DOH Undersecretary Bong Vega, the husband of a classmate and colleague in the hospital industry with an impressive reputation as the former president & Chief Executive Officer of Southern Philippines Medical Center.

That we knew each other personally made a lot of difference, because we could do away with the formalities during this crisis when formalities were a waste. The OHCC provided access to vacancies and needed equipment that the DOH could provide, and later even access to healthcare workers when manpower shortage became a serious problem. It certainly provided the hospitals with updated information on quarantine facilities, scientific data, discourses on controversies in treatment protocols, and useful indicators of hospital capacity. But running hospital operations was solely the hospital administrators' responsibility, and where decisions had to be made, the OHCC never interfered.

This pandemic has provided serious lessons not only in preparing for the next pandemic but most importantly in addressing the flaws in our health ecosystem that had made us so vulnerable. The government cannot do it alone, and neither can the private institutions. The health ecosystem is interconnected, and if we have learned anything at all, it is that we need to work together as a community of learned and noble men.

4.13 The One Hospital Command: A Mechanism to Improve Hospital Responsiveness

Rhais M. Gamboa, Chief Operating Officer, Mount Grace Hospitals Inc.

The One Hospital Command Center (OHCC) was a good mechanism established during the COVID-19 pandemic that helped the government monitor the availability of hospital beds for COVID-19 cases in both the public and private sectors. It was also a source of information for the general public looking for available COVID-hospital beds.

I had the opportunity to attend meetings of the OHCC representing our network of hospitals. From the hospital perspective, I found the OHCC a useful forum to learn about government policies and plans, allowing our hospitals to anticipate and prepare. For instance, we learned from one OHCC meeting that hospitals were to be tapped by Local Government Units (LGUs) for COVID-19 vaccination. This gave our hospitals time to prepare on how to participate, given the limitations with hospital space and nursing staff. OHCC also provided an effective venue where hospital concerns can be raised. For example, when our hospitals were rushing to do physical renovations to meet infection control standards, we brought up the lead time needed to obtain construction approvals from the LGUs and the Department of Health (DOH). The OHCC leadership offered to help any hospital encountering delays, a promise they delivered when they helped accelerate LGU approval for one of our hospitals without compromising on the regulatory standards.

The relative effectiveness of the OHCC can be ascribed to the following factors, among others: (i) a credible leadership with an appreciable desire to forge partnerships; (ii) regular meetings that included Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF) senior officials providing updates; and (iii) linkage with Task Force T3 (Test, Trace, Treat) which provided the crucial link with the private sector.

The COVID-19 pandemic is a jarring reminder that epidemics or health disasters can occur unexpectedly and the demand for hospital services can become acute. It is important that we learn from this experience so we are better prepared for the future.

Moving forward—and if not yet being done—the following are areas, among others, that the OHCC can consider as it institutionalizes its mandate:

(1) Formalize an OHCC office in the DOH.

The OHCC, in addition to its role during the COVID-19 pandemic, can be the DOH office that enables and promotes hospital development, particularly in quality of care, efficiency and role in the implementation of public health programs. This will differentiate its task from the DOH's Health Facilities and Services Regulatory Bureau whose focus is on implementing regulatory standards for hospitals.

The OHCC can also be assigned to create a number of "mobile, portable" hospitals that can be easily installed during health emergencies in any part of the country, to augment hospital bed capacity.

(2) Provision of hospital services is not only about beds being available; it requires the concurrent availability of trained manpower, medicines, medical supplies, and equipment.

During surges of the COVID-19 pandemic, there was a big demand for COVID-beds. But even if beds were available, they could not be activated due to lack of nurses or equipment (e.g., ventilators, Intensive Care Unit [ICU] monitoring equipment). Some nurses were tapped by the DOH from some regional areas. Our hospitals were also able to recruit nurses, however, some could not be deployed immediately because they lacked adequate experience either in patient-ward-bedside-care (PWBC) or in handling ICU patients. They needed to be trained first. Similarly, we had hospital rooms that could be converted into ICU beds but the lack of patient monitoring equipment prevented such.

OHCC and DOH may want to consider developing a cadre of PWBC and ICU trained nurses who are not currently working in hospitals. For instance, can some nurses doing public health programs be trained—with periodic refresher training—so they can be deployed to hospitals during emergencies? There can be a new category of nurses in the DOH salary scale, with such trained nurses getting higher pay due to their special skills.

DOH may also want to consider having a nationwide inventory of critical hospital equipment, with stockpiles as needed, and a database of suppliers. During the pandemic, a couple of our hospitals needed to buy ventilators and patient monitoring equipment, but their regular suppliers ran out-of-stocks. Our network of hospitals share information, which include suppliers, this helped us address procurement issues.

(3) Hospital responsiveness is also dependent on other key players of the healthcare system properly discharging their roles.

As a funder or payor of health services, Philippine Health Insurance Corporation's (PhilHealth) delayed reimbursements severely constrained the cash flow of hospitals, adversely impacting on their operations. The issue remains to-date and needs to be resolved.

In the evolution of the diagnosis and treatment for COVID-19 cases, new diagnostic reagents (e.g., antigen kits) and medicines (e.g., Remdesivir, Molnupiravir, vaccines) enter the market. In times of emergency, the government must find a way to register and validate these products faster without compromising quality. For instance, while the Food and Drug Administration (FDA) is able to register antigen kits relatively fast, Research Institute for Tropical Medicine (RITM) could not keep pace due to its limited capacity. Currently, four hospitals in our network have validated that saliva Reverse Transcriptase-Polymerase Chain Reaction (RT-PCR) testing is comparable to the traditional nasopharyngeal RT-PCR test, consistent with published literature in other parts of the world. But the FDA and RITM guidelines are not synchronized, delaying approval of a test that is faster and cheaper and will benefit patients.

During the pandemic, DOH offered to augment the nursing staff of private hospitals by helping recruit and pay for nurses for a specific period. But the contract development, negotiation process and payment mechanisms took time to be sorted out that our hospitals were unable to utilize the opportunity. DOH should consider revisiting this initiative so that this can be utilized efficiently in the future, should the need arise.

The discussions above distill some of the key insights gained in our dealings with the OHCC. I am sure that other entities that dealt with OHCC can share their own experiences that can enhance the effectiveness of the OHCC.

4.14 Healthcare Worker Recruitment

Mita Lourdes Angela F. Santiago,
Project Associate, Philippine Disaster Resilience Foundation Inc.

From 2020-2022, the private sector through Task Force T3 (Test, Trace, Treat) has helped increase healthcare service capacity by building more facilities or by expanding operations of existing health facilities through repurposing spaces into field hospitals, testing facilities, isolation facilities, and vaccination sites. The additional staffing needed to operate and sustain these facilities for community quarantine, testing, contact tracing, treatment, and vaccination increased the demand for healthcare workers in the country.

To help answer this need, Congress and the Senate passed Bayanihan Act 1 which, among other things, created a pool of emergency funds for the additional needed staffing. DOH Administration and Financial Management Team (AFMT) led by Usec. Bong Vega, Usec. Roger Tong-An, and Asec. Maylene Beltran; and the National Vaccination Operations Center Usec. Myrna Cabotaje and her team were able to use this funding for emergency hiring.

Staffing for COVID-19 Response

The DOH Emergency hiring program was implemented to fill the staffing needs for testing, contact tracing, isolation, and treatment facilities. For this, AFMT focused on utilizing their funds for contractual hires, and for providing a top-up hazard pay for HRH that were assigned to COVID wards. First Philippine Holdings (FPH) and iCONNect Convergence Inc. (ICONN) of the Lopez Group of companies worked with DOH AFMT in setting up an HRH emergency hiring process with a live application hotline, and email support. FPH and ICONN provided outbound call center support to bolster recruitment reach; match applicants to available openings in health facilities; and to follow-up and assist on application progress at a time when the hiring process was done completely remotely. The engagement included supplementary marketing and leads generation efforts such as posting in Facebook groups of job listings for health professionals; promoting through national and regional quadmedia; and partnering with recruitments sites like JobStreet and Kalibrr; and recruitment events like the job fair of the Civil Service Commission, the Sikap.PH project of the Office of the Vice President. Through these strategies, AFMT was able to hire 9,481 (79.47%) contractual staff for different health facilities of the 11,931 available openings across the country. These numbers were supplemented by HRH hiring from private sector institutions and at the LGU level.

This large number is of great help to our health facilities and to the applicants themselves. However, a large portion of these filled positions were for the non-clinical staff openings of the hospitals (ie. administrative, custodial staff) and not the required clinical staff. Also, during this time, Filipinos still had limited mobility because of the lockdowns and would prefer to work near their localities. There were also a number of applicants that backed out of applying since they don't want to be deployed far from home.

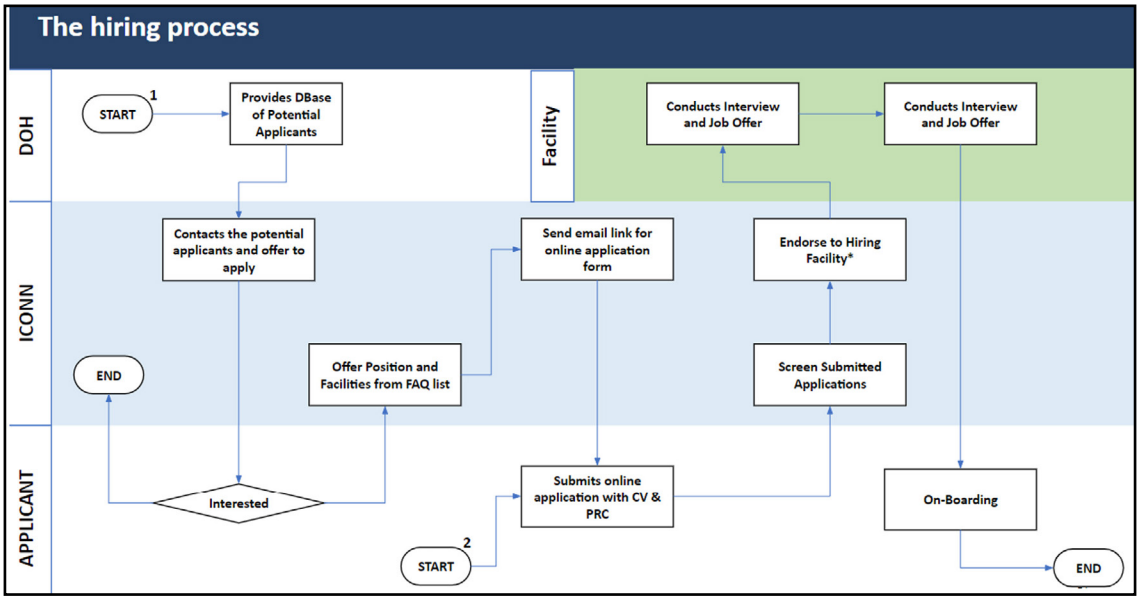

Figure 4.2: The hiring process, as presented by ICONN Recruitment Cycle Time, as presented by ICONN

Staffing for COVID-19 Vaccination

When the COVID-19 vaccines were made available to the larger public, the DOH NVOC also recruited additional staffing for vaccination sites. As in the emergency hiring for COVID Response, AFMT downloaded funds to the different DOH Centers for Health and Development (CHDs) to hire additional contract staffing needed and provide hazard pay to vaccinators. For COVID-19 vaccination, T3 support came in the form of linking LGUs and DOH to partner organizations that can provide volunteers and vaccination teams.

Collaborative discussions on staffing were held with executives of major pharmacy chains and clinics; higher education institutions; and health professional organizations gave LGUs a wealth of contacts that provided not just volunteer vaccination teams but also additional vaccination sites. Additionally, the DOH and T3 were also able to consult some of these groups on drafting guidelines and policies for emergency hiring, incentivization, health sciences students involvement in COVID-19 work, and volunteering opportunities for mass vaccination activities. Thousands of volunteers from these organizations participated in multiple national vaccination days, with some companies/groups sustaining more fixed sites outside of these large events. Non-medical volunteers of the vaccination team like ushers and encoders came from other organizations like civil society organizations, other national government agencies, and even faith-based organizations. Private companies also supplemented staffing in their office pop-up sites as they take care of vaccinating their own employees and dependents.

Although there were huge turnouts for each launch and each event, regular operations were stunted with the lack of regular staff in vaccination teams.

Strategies outside of emergency hiring

Outside of recruitment, the DOH also provided other kinds of support for staffing such as COVID-19 Philhealth packages for exposed frontliners; many updating and capacity building free townhalls and courses in delivering COVID-19 services; and the deployment of DOH organic staff especially during National Vaccination Days.

As the engagement with FPH and ICONN closed in December 2020 and the funding for emergency hires can only be utilized for a limited time, different stakeholders identified some points for improvement and recommendations. The DOH needs to improve their centralized vacancies data since in the current platform the vacancy list of DOH is inconsistent with those from the facilities themselves. This should eventually come with a strengthened partner facility coordination, and standard means of reporting vacancies; talent pooling; and record tracking. In the short term, DOH AFMT, NVOC, and HRH hiring in health agencies and institutions in

general can benefit greatly if there is a system of prioritizing facility applicant allocation; real time filing of hired/processed applicants; identification of locations/ facilities needing hiring assistance; and a user-friendly recruitment platform that can filter based on committed time- full time/part time/contract/reliever; position; and location of work.

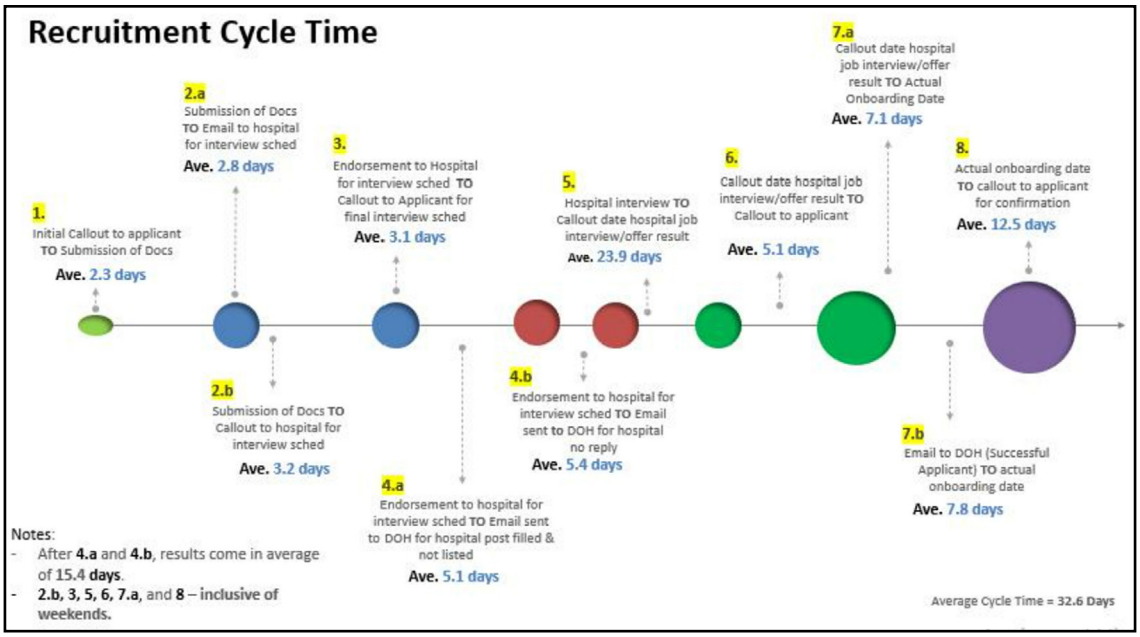

Figure 4.3 Recruitment Cycle Time, as presented by ICONN.

Reference:

University of the Philippines Population Institute (UPPI) and Demographic Research and Development Foundation, Inc. (DRDF). (2020, August). Human Resource for Health in the Time of the COVID-19 Pandemic: Does the Philippines Have Enough? (UPPI/DRDF Research Brief No. 8). Retrieved from: https://www.uppi.upd.edu.ph/sites/default/files/pdf/COVID-19-Research-Brief-08.pdf.

05

PROCUREMENT AND LOGISTICS

5.15 The Coalition of Philippine Manufacturers of PPE: A Vision to Become a Globally Competitive Supplier

Maritess Jocson-Agoncillo, Executive Director, Confederation of Wearable Exports of the Philippines (CONWEP).

The Coalition of Philippine Manufacturers of PPE was formed because of the pandemic.

The Coalition of Philippine Manufacturers of PPE (CPMP) was established for the primary purpose of providing every healthcare worker in the Philippines with safe medical grade Personal Protective Equipment (PPE) that conformed to international standards made by local manufacturers.

This whole journey started on March 16, 2020 when Department of Trade and Industry (DTI) Secretary Ramon Lopez called upon exporters, including the Confederation of Wearable Exporters of the Philippines (CONWEP), to repurpose and produce the much-needed PPE.

We were ready.

In response to the government's call, our members and exporters moved with decisive action to repurpose their factories to save Filipino lives and preserve jobs of Filipino workers. Our members collectively invested more than US$30 million in setting up repurposed factories compliant with international standards on quality management and quality assurance, building an inventory of medicalgrade internationally-tested materials and PPEs certified for medical use and safety **in less than a month**. We were ready to provide the Philippine government the much-needed medical grade PPE for Filipino healthcare frontliners.

Government Policies worked against the sustainability of PPE as an emerging sector.

As we joined the DTI's repurposing program, we encountered a number of problems, some of which have been highly publicized and questioned in several Senate hearings.

The **first concern** we experienced was in **standards and testing** in the government procurement process. Government bidding documents (e.g., Terms of Reference, Purchase Requests, etc.) did not emphasize the importance of PPE as a medical device and gave no requirement to pass International Standards for testing PPE for medical use and safety, and to validate these certifications which all required stringent regulatory intervention from the government. Requirements were stated as merely having masks that are "surgical, disposable, ear loop, 3-ply, wired".

Government bids were not even required to have a Certificate of Product Registration from the Philippine Food and Drug Administration. At this point, CPMP would be no match against traders that merely repacked expired PPE.

CPMP members are global players and therefore have to conform to global standards. For instance, Medtecs exported nearly 46 million PPE masks in the first quarter of 2020, having passed international PPE performance tests (i.e., barrier testing, physical testing, and safety testing). EMS Group also went through the same testing process, guaranteeing medical grade surgical masks to protect a person from COVID-19.

The **second concern** we had was with the **dumping** of PPE that may not conform to the required international standards for medical grade PPE. Local manufacturers sought legislative protection from unscrupulous importers whose predatory pricing may not only threaten the safety and health of medical frontliners but also hamper economic growth, as for every item imported made by foreign workers, a Filipino worker is always marginalized.

Our third concern was that the government's procurement process favored traders and importers and not the Filipino manufacturers' sustainability to grow and expand. For instance, the Department of Budget and Management (DBM) demanded short-term deliveries, high-volume and high-value orders of PPE and ordered PPEs in sets (note: PPEs come in sets of 10 pieces but not all are used at the same rate), all without validated international testing certificates issued by international testing centers for PPE.

To legitimate global players such as CPMP's members, this posed a difficulty because before they can start production, they did the two-tiered testing (for material and finished PPE) outside the Philippines (i.e. Intertek Taiwan) because no testing laboratory existed in the country. This alone added four weeks to the production cycle.

Government (as the rest of the world has done) needs to support local production of PPE.

There is a need for the government to align procurement of Philippine government requirements, establishing direct collaboration between industry and government to plan the production, supply and delivery of the country's annual basic needs and emergency stockpiling of PPEs.

As part of CPMP's lobbying efforts, the Philippine Pandemic Protection Act pending in both Senate and Lower House, will plug the loopholes presented, with its key policies on "Buy Filipino", stockpiling, long-term sustainability of local production of medical grade PPE, and ensuring national health security.

This is why even as most CPMP members have stopped manufacturing PPE, CPMP has not lost sight of its vision to manufacture medical grade PPE for every Filipino healthcare worker. CPMP has held on to its aspiration to make the Philippines a globally competitive PPE supplier.

5.16 Chink in the Armor: The Scramble and Opportunities concerning Personal Protective Equipment during COVID-19 Pandemic

Melissa Lavente-Correa, Associate, Task Force T3
Guillermo M. Luz, Chief Resilience Officer, PDRF

Editors' Note: *The Philippines has a garment exporter industry which employs hundreds of thousands of workers, mostly women. During the COVID-19 pandemic, the industry took a downturn as many of its export markets drastically reduced orders. Many workers were retrenched or forced to work for a reduced number of hours. Ironically, as demand for Personal Protective Equipment (PPE) grew, the country failed to adapt and instead depended on imported PPE, mainly because needs were so critical and no local inventory was available. However, there was an opportunity to slowly build up the industry (and save jobs) by allocating some of the government procurement to local manufacturers. Local enterprises were willing and able to make the adjustments to produce PPE. We missed an opportunity which we hope can be addressed well before another health emergency arises.*

The COVID-19 pandemic sent a shock into the system and exposed how vulnerable we were to public health emergencies. As hospitals began to fill up with this infectious and unknown disease, so did the demand for personal protective equipment (PPE) across the world which protected our frontline workers from getting sick. PPEs intended for medical use needed to be produced and approved against stringent international standards, but with global demand surging, addressing the critical shortage of PPEs became a challenge. In the absence of other viable alternatives, countries were left at the mercy of the few suppliers who had these stocks on hand.

Weeks into the nationwide lockdown, news and social media feeds began to fill with images of healthcare workers having to reuse their current set of PPEs or worse create their own alternatives made of whatever materials were available. With the drastic increase in prices, PPE suppliers preferred buyers who could buy in bulk.

In April 2020, heeding an urgent call for support, the Philippine Disaster Resilience Foundation Inc. launched Project Kaagapay: Protect our Healthcare Heroes, a multi-sectoral, fundraising initiative to leverage the collective capacity of the private sector, organizations, and individuals to provide much-needed PPEs to the country's frontliners. Project Kaagapay raised more than PhP 52 million in cash donations and around PhP 100 million in-kind equivalent to procure around 400,000 PPE sets. Working closely with Zuellig Pharma and Metro Drug for logistics, PPE

Figure 5.1: The Project Kaagapay: Protect our Healthcare Heroes initiative was launched by the Philippine Disaster Resilience Foundation Inc. in April 2022.

sets were tailor fit to the needs of the requesting community and reached all regions in the country.

While these efforts were ongoing, it also became apparent that the reliance on imported PPEs and constant donation drives were not going to be sustainable. Around this time more and more local manufacturers joined the fray in developing their own PPEs. Micro, small and medium enterprises, fashion retailers, and other industries on hold created their own masks, suits, and other PPE components.

The Philippine Disaster Resilience Foundation Inc. (PDRF), now operating through the coalition of Task Force T3 (Test, Trace, Treat) worked with organizations such as the United Nations Development Program (UNDP), the Confederation of Wearable Exports of the Philippines (CONWEP), Department of Trade and Industry (DTI), and the Department of Health (DOH) to see how this could be an opportunity to provide critical life-saving supplies, support local industries, and help improve the healthcare system in the long-run to prepare the country for future public health emergencies.

Upon the request of DTI, PDRF called on its long-time partner, logistics provider UPS, to air-freight 40 metric tons of medical-grade fabric which were to be manufactured into PPE suits. The fabric was quickly shipped into Clark International Airport and trucked to CONWEP in Cavite, which had re-tooled their factories from production of export garments to PPEs for our local healthcare system. At the same time, other companies began producing face masks for local use and export.

Meanwhile, UNDP began a parallel effort with fashion designers and small-scale garment producers to provide PPEs. Clothing designers prepared sewing patterns for PPEs which were shared among producers so they could begin production. Working closely with DTI, they eventually launched Enhanced Manufacturing of Protective Wear and Equipment for COVID-19 Response in the Philippines (EMPOWER PH), a collaborative online platform that connected suppliers and manufacturers to facilitate and accelerate the production and distribution of non-medical PPE in the country. These efforts were commendable, but the question of standards still remained.

PDRF worked with the World Health Organization (WHO), DTI, DOH, and Department of Budget and Management (DBM) to understand how the government's procurement system worked. Using fabric specifications listed by the WHO, PDRF developed a process flow chart for manufacturers to use in the procurement process. Unfortunately, DBM's rules favored suppliers and importers with a standing inventory of PPEs rather than local manufacturers willing and able to address some of the demand. Apparently, procurement rules prohibited signing contracts and making down payments to start production. Or so we were told.

We argued that it made sense to balance supply between readily-available imports and locally-manufactured supply. The country already has a garment export industry and available workers in need of jobs. It would have made sense for the country to build up PPE manufacturing as an industry, not only for the security of our needs but as an export product as well. In the long run the creation of this industry would help improve the healthcare system and prepare the country for future public health emergencies. Things did not quite work out that way and, in the end, we missed an opportunity to save jobs and create a new sub-industry.

06
VACCINATION

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Margot Torres, Managing Director, McDonald's Philippines

6.19 BIDA Solusyon sa COVID-19 Campaign
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Jannette Jakosalem, Chief Executive Officer, Metro Drug, Inc.

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Evaristo Francisco Jr., Chief Executive Officer, Center for Excellence in Governance

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Dr. Shaymae Ufano, National Vaccination Operations Center, Department of Health

6.28 Daily Vaccination Dashboard
Christian Lauron, Partner, SGV & Co Ernst & Young Philippines
Christian Edmund Chua, Director, SGV & Co Ernst & Young Philippines

6.29 Paper, Practice, and Passing the Praxis: Playbooks and Best Practices
Vianca Jasmin Anglo, Associate, Task Force T3
Melissa Lavente-Correa, Associate, Task Force T3
Mita Lourdes Angela Santiago, Associate, Task Force T3
Kristan Jela Tambio, Associate, Task Force T3

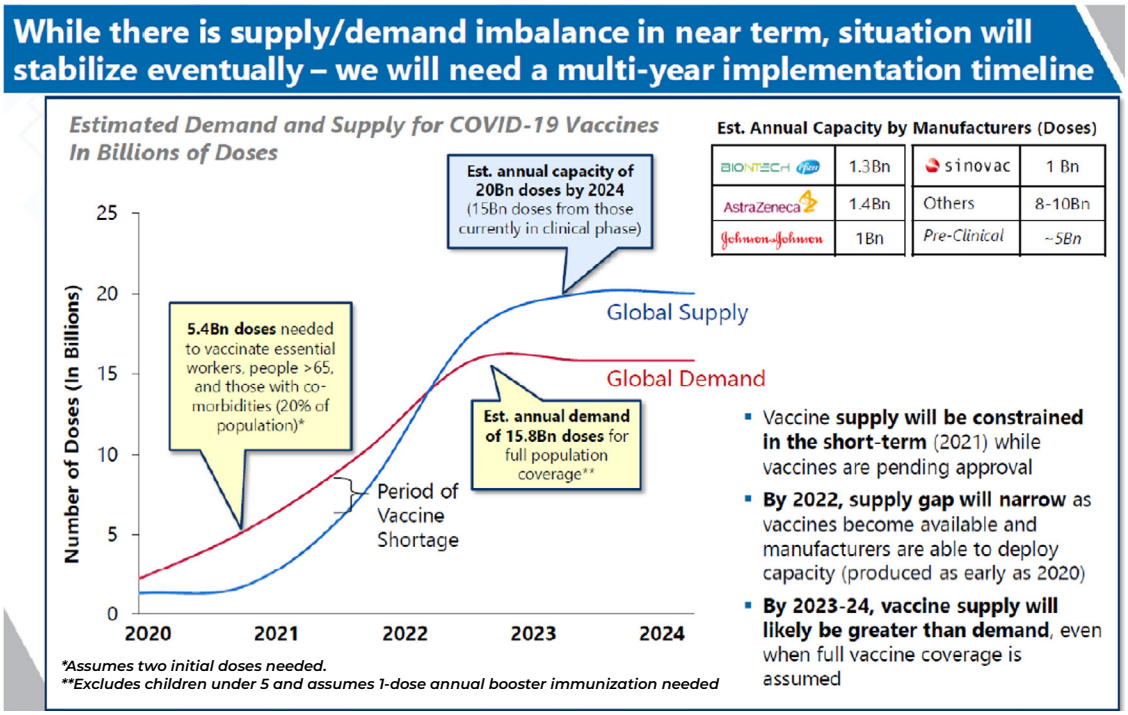
6.17 The Vaccine Portfolio Strategy

Paolo Borromeo, President and CEO, AC Health

By August 2020, months after stringent lockdowns and amidst the peak of the third wave of COVID-19 cases in the country, it had become apparent that the only way to truly flatten the curve and beat the pandemic would be through massive vaccinations. As the frontrunners — Pfizer, AstraZeneca, and Moderna — entered Phase 3 of their clinical trials, global interest for vaccines boomed. I remember getting a concerned phone call from our Chairman, Jaime Augusto Zobel de Ayala, asking how we could secure vaccines for the country. "What can we do to help accelerate this?" Jaime challenged. That became the starting point of AC Health's involvement in the vaccine portfolio strategy of the Philippines.

We began by developing an in-depth understanding of the COVID-19 global and local vaccine situation together with our colleagues from Boston Consulting Group (BCG), led by Anthony Oundjian and other think tanks. We met with the leading vaccine manufacturers themselves, numerous vaccine experts, various scientists, and public health practitioners, both locally and around the world. The good news was that never before in history had we seen such accelerated vaccine development and such a robust pipeline of vaccine candidates. While we did predict a global vaccine shortage in the short-term, it seemed that in two to three years-time, we would have enough supply of vaccines. The bad news was that there was a substantial amount of uncertainty at that point as to which vaccines would be effective and at what point in time they would be made available.

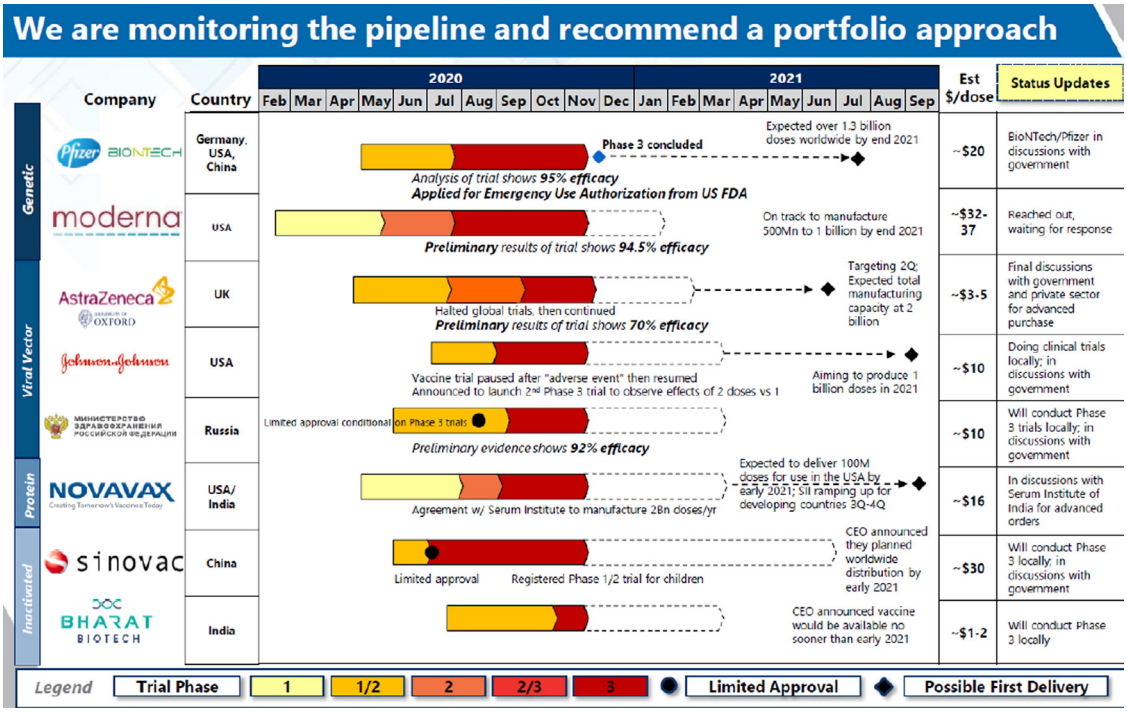
The situation was particularly challenging for the Philippines, which unfortunately had no vaccine manufacturing capabilities of its own. We explored the possibility of setting up vaccine manufacturing facilities locally, but this proved to be a more long-term solution. While certainly worth looking into for future vaccine security, this would not address the immediate need for COVID-19 vaccines at that time. We also explored manufacturing and distribution collaborations with other countries in Southeast Asia but recognized that each country was looking after itself primarily and we could not depend on this.



Source: UNICEF Public Briefing for COVID-19 Vaccines August 4, 2020. AC Health Strat & External Affairs.
Figure 6.1: Estimated Demand and Supply of COVID-19 Vaccine

We realized then that this would be the greatest procurement and negotiation exercise of all time – given the unprecedented global demand and the limited supply. The challenge for all countries around the world was how to secure effective vaccines from what was an extremely limited and uncertain supply in order to vaccinate as many people as possible at the soonest time. Developed countries were already striking advanced market commitments with some of the manufacturers and pre-ordering large-scale supply contracts for their respective nations. Given where we were as a country at that time, we had to quickly mobilize for commercial vaccine procurement, whether via bilateral Government-to-Government (G2G) or tripartite agreements with the private sector.

Hence, sometime in October 2020, we banded together with our friends in the local pharmaceutical industry to discuss large-scale vaccine procurement. Together with leaders from United Laboratories (Unilab) and Zuellig, we formed a small advisory group, along with our friends at Asian Development Bank and Philippine Disaster Resilience Foundation Inc., and presented to Secretary Charlie Galvez our research on the current situation, the progress of discussions with various vaccine manufacturers, the current pipeline of products, and various ideas to secure supply.



Source: New York Times, Bloomberg
Figure 6.2: COVID-19 Vaccine Timeline

Our main recommendation to Secretary Charlie was simple: given where we were relative to other countries, we needed to employ a vaccine portfolio approach and procurement strategy – engaging in negotiations with various manufacturers to bring in a portfolio of different vaccines into the country, rather than relying on one or two suppliers. Secretary Charlie took this recommendation to heart and this became our rallying cry.

As a small private sector advisory group, we spent the next several weeks supporting Secretary Charlie and the team. It became clear that for most of the vaccine manufacturers, the way forward was for the government to enter directly into procurement agreements with the manufacturers. Our role as a private sector advisory group was to help set up and facilitate discussions with various manufacturers so that Secretary Charlie, Secretary Vince, and the government team could begin negotiations, and for us to provide advice along the way. The negotiations lasted many weeks. As the government was negotiating with various manufacturers for G2G arrangements, the private sector was also driving tripartite negotiations with AstraZeneca and Moderna, through the leadership of the GoNegosyo and International Container Terminal Services, Inc-led consortiums respectively. In the end, as a country, we were successfully able to secure a portfolio of seven vaccines for the country – true to our goal and objective when we first started.

Of course, the private sector's support did not stop with vaccine procurement. We would continue supporting vaccine logistics, administration, and communications. We retained BCG to provide regular advisory support, beginning with the National Vaccine Logistics Summit in December 2020 that convened various public and private stakeholders, to discuss the challenges of bringing vaccines to the ground. We worked collaboratively with the Department of Health (DOH) – Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF) as they developed policies and guidelines for vaccine administration. We met daily with our government counterparts to speed up the pace of the vaccinations. In the end, we are proud that AC Health became the government's partner and one of the largest private sector vaccine administrators, with over 20 mega vaccination sites across the country.

It is only fitting at this point to acknowledge the tireless work that Secretary Charlie, Secretary Vince, Undersecretary Myrna and the whole team put into this vaccine portfolio strategy, which effectively harnessed and enabled private sector participation.

Looking back, I would say the portfolio approach was the unique result of collaborative efforts of the government and the private sector, paving the way for discussions with multiple manufacturers. More importantly, the portfolio approach mitigated the risks and uncertainties of what was then the early stages of vaccine development. The end result put the Philippines in a unique position, where we had a portfolio of seven vaccine brands, perhaps the most of any country in the world. And for all the criticisms some brands received, and even with other brands falling through, I can confidently say that our portfolio approach was a key factor in the success of our vaccination roll-out. Secretary Charlie would jokingly say that having multiple vaccines somehow confused the virus, and perhaps there is some truth in that, as our doctors tell me that a multiple vaccine approach may help mitigate the risk of immune escape from future variants of the virus. What is clear is that we benefited from having multiple sources of COVID-19 vaccines, allowing the country to eventually focus on the formidable task of vaccine administration, rather than being worried about supply shortages.

Figure 6.3: Fernando Zobel de Ayala (President and COO, Ayala Corporation), Paolo Borromeo (President and CEO, AC Health), and Gen. Carlito Galvez, Jr. (Chief Implementer, National Action Plan Against COVID-19)

To end, allow me to summarize by returning to the challenge posed to us by Jaime: What did we, and our colleagues in the private sector, do to accelerate vaccinations in the country? First, we leveraged the strength of our connections with different stakeholders, particularly in the global pharmaceutical industry and our relationships with different manufacturers. By bringing to bear these relationships, we augmented the work Secretary Charlie, DOH, and IATF were doing to secure vaccines for the country. Second, we provided our collective wealth of technical knowledge and expertise to advise the government – from procurement, to distribution, to communications, to vaccine administration. It was not only us at AC Health, but an assembly of private sector players unlike we had ever seen before – even traditional competitors getting together to work towards a common goal. Finally, we served as a convenor, bringing together the government in its many forms (IATF, DOH, Vaccine Expert Panel, and Local Government Units) and the private sector towards the common goal of securing vaccines to protect our fellow Filipinos. Today, we are armed with the immunity these vaccines provide us, not only protecting us from illness and death, but also allowing us to live our lives. We at AC Health and the Ayala Group are proud and honored to have done our part in this massive endeavor.

6.18 The Power of Hope

Margot Torres, Managing Director, McDonald's Philippines

At the beginning of the pandemic, there was so much uncertainty and everyone needed reassurance. The Filipinos needed to hear a knowledgeable voice of authority. However, there were a multitude of voices reacting to the situation as it unfolded. There was just so much noise. To exacerbate the situation, there was also a lot of fake news. A clearer message of hope and optimism needed to be heard.

From all sectors in both business and government, the importance of communication was emphasized especially during a crisis like the pandemic. What was needed was an integrated, insightful, meaningfully relevant, and unified communications plan to ensure credibility of the message as well as the messenger.

How We Helped

Consumer Confidence to ReOpen Economy Safely

In June 2020, I was invited by Task Force T3 (Test, Trace, Treat) to help with the communications for the private sector. The goal was to create communications to build consumer confidence and help reopen the economy safely. The communications task was to encourage people to leave their homes after being in the longest lockdown and to move on with their lives knowing COVID-19 was present and vaccinations were nowhere in sight. How do you ask the public to trust this message? How do you convince them it is alright to leave the safe confines of their homes and that they would be protected by wearing a mask, washing their hands, and distancing? Finally, how do you do all that in a hopeful and optimistic tone?

From Learned Helplessness to Empowered Vigilance

The importance of embracing the discipline of communications was essential to crafting relevant and meaningful messages. We needed to transform the mindset of Filipinos from learned helplessness to empowered vigilance. Our consumer felt powerless, but Filipinos being inherently optimistic and having the desire to help others and connect with the world, led us to the insight of "when all seems lost, hope drives us to look for the happiness we deserve."

Ingat Angat Tayong Lahat

With the help of TBWA\Santiago Mangada Puno, the line and the campaign "Ingat Angat Tayong Lahat" was born. It highlighted the importance of the resilience of the Filipino spirit in times of crisis like typhoons, flood and natural disasters, and reminded citizens that as Filipinos, we will overcome.

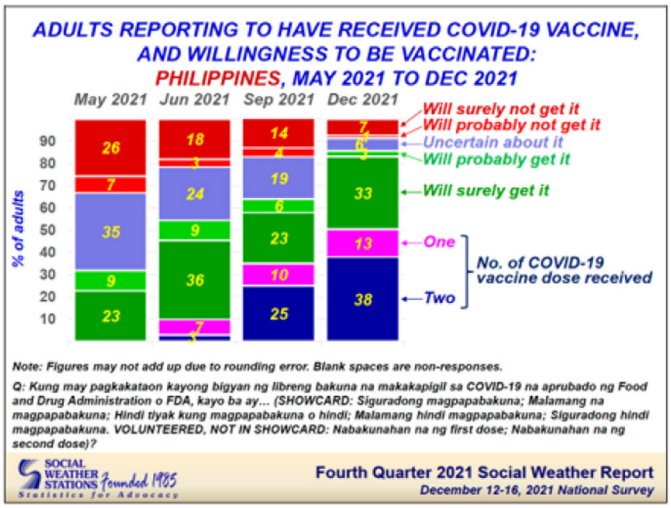
With the contribution of 31 brands (plus 14 for Ingat Angat Bakuna Lahat campaign) and close to 250 multi media partners and the production team led by Slingshot and Director Joel Limchoc with Pabrika and Hit Productions, the first campaign was ready by October 9, 2020. To date, 8.5 million have viewed this campaign on YouTube and Facebook.

Figure 6.4: Partners of the Ingat Angat campaigns

From Uncertain to Willing to be Vaccinated

By 2021, the task shifted to increasing vaccine willingness. The challenge was about asking Filipinos to trust in the solution of COVID-19 vaccines which had been developed for the very first time. Just like any product, the available supply was critical and the communications adapted to whether supply outstripped demand and aligned with the government's prioritization by sector.

Ingat Angat Bakuna Lahat



VACCINE WILLINGNESS CLOSE TO TRIPLED SINCE MAY 2021

UNWILLING declined from **33%** to **21%** to **18%** to **8%**

UNCERTAIN declined from **35%** to **24%** to **19%** to **6%**

WILLING increased from **32%** in **May** to **55%** in June to **64%** in Sept to **87%** in Dec 2021 (includes those vaccinated)

Figure 6.5: Vaccine willingness May to December 2021

With hesitancy at 33% in May 2021 this declined to 8% by December 2021 (Social Weather Station [SWS]) as driven by continuous education and communication through campaigns and vaccine events. Ingat Angat Bakuna Lahat campaign (Material #1 in May, Material #2 in September 2021) was created by Wunderman Thompson for creatives with the guided medical expertise of Philippine Medical Association (PMA) and Philippine Society for Microbiology and Infectious Diseases (PSMID). It was distributed by Omnicom Media Group, Mindshare and Nuworks, produced by Slingshot and Pabrika, and supported by EON Group. The campaign materials garnered close to 10 million views including a much talked about Smart Bakuna Benefits campaign where over 200 restaurant brands including Jollibee Food Corporation, McDonald's, and Resto PH offered discounts to those who got their jabs.

From Covid as Pandemic to Covid as Endemic : Tuloy ang Ingat, Tuloy ang Angat

Finally, in 2022, after two years of educating Filipinos to wear a mask, wash their hands and distance, another mindset change was needed. People needed to shift from community quarantine to alert level status and to monitor hospital utilization rates instead of new cases to better appreciate the situation. The communications objective was about teaching people how to live with COVID-19 like any other virus and be able to continue with their lives safely. The most important guidelines were vaccination, appropriate ventilation, wearing a mask, and isolating when sick. The messaging shifted to Tuloy ang Ingat, Tuloy ang Angat, with campaign break last March 2022.

Media Contribution of 1.8 Billion Pesos in Value

The massive implementation of the campaigns rested on the values from our multi media partners who generously contributed a total of over 1.8 billion pesos worth of media values across almost two years. This amount of reach is equivalent to the budget of a top advertiser in the country.

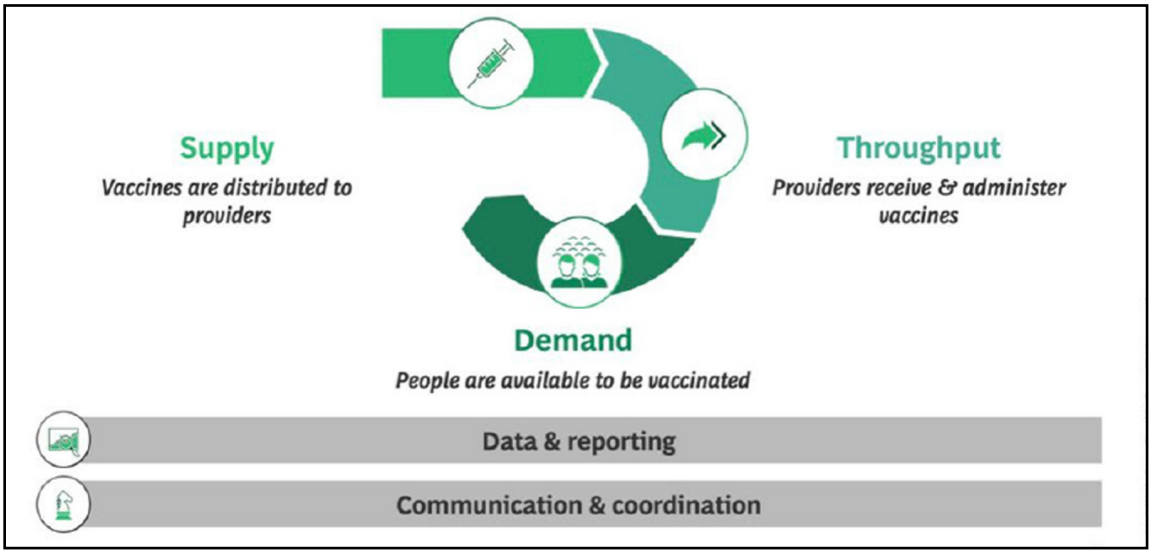
Lessons Learned

Lesson 1 : The need for Contextual Messaging

In planning the execution of the communications campaign, a key consideration was the changing situation. How would a message to encourage people to move forward with their lives to safely reopen the economy work if the number of cases would rise and another enhanced community quarantine (ECQ) would be imposed?

What we needed to apply was a strategy called contextual messaging. The message must be meaningful and relevant for it to resonate; the message must be right at a given point in time.

For vaccination, context was equally important as it is related to available supply and the goal at that point in time—to jab a particular sector, to jab more in a particular region, to jab the remaining unvaccinated, to jab kids, to implement boosters. It depended largely on whether demand outstripped supply.



TRIFECTA OF SUPPLY, THROUGHPUT AND DEMAND

Source: Boston Consulting Group
Figure 6.6: Trifecta of Supply, Throughput and Demand

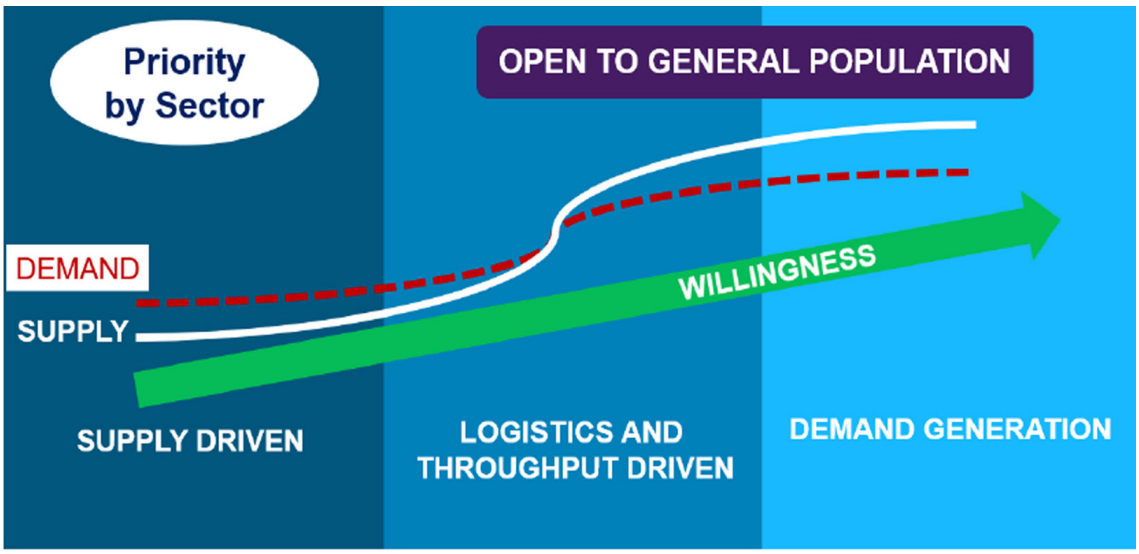
Three Phases in Vaccination Roll Out

There were three phases for vaccine communication:

Phase 1: When supply is low and demand is low - we focus messages on reasons why we should consider getting vaccinated : for ourselves, families, friends and loved ones and for the future; starting to influence vaccination mindsets of the uncertain and averse.

Phase 2: When supply and demand increase and when throughput (i.e., the jab rate) becomes critical - we focus the message on the arrival of vaccines as a symbol of hope, on the increasing number of Filipinos getting vaccinated, and on the safety and efficacy of the covid vaccine; on ground activations through vaccine events were done involving influencers to help convince citizens about the benefits of vaccination; vaccine incentives were also offered through Bakuna Benefits.

Phase 3: When demand outstrips supply - we continue to reassure unvaccinated about the safety and effectivity of vaccines by showing millions of Filipinos have been fully vaccinated; more grass roots communication was also implemented by region, by sector (for seniors), by age (for kids) and by industry (for tourism, for industrial zones).



Moving to the Next Phase: From SUPPLY DRIVEN to LOGISTICS & THROUGHPUT DRIVEN

Source: Boston Consulting Group
Figure 6.7: Moving from supply driven to logistics and throughput driven

Lesson 2 : The need for one message

It was never about multiple brands. Each one willingly set aside their differences, removed their individual brand hats and committed to one message. This was evident in private sector collaboration across all three campaigns. This was reinforced later as we worked hand-in-hand with the government. Having one message ensured that it resonated across different channels and through different messengers. One unified message makes it louder and more impactful to compete against a clutter of messages.

Lesson 3 : The need to stay attuned to consumer sentiment

Given the uncertainty of the situation and the changing sentiment, knowing the current state of mind of the consumer was critical through research and social listening as well as feedback from local government units on what is happening on ground. Many private sector partners like Cobena, Philippines Survey and Research Center, Omnicom Media Group, YouGov and Synergy provided timely information to ensure the messages remain relevant.

Lesson 4 : The need to constantly change mindsets

Any piece of communication has an objective or task to fulfill. The challenge for communications for the past two years has been about changing mindsets:

Phase 1: "Ingat Angat Tayong Lahat" to increase consumer confidence and safely reopen economy and transform the mindset FROM staying home to keep safe TO going out safely with a mask, distancing and hand washing (pre vaccination period) to help reopen the economy;

Phase 2: "Ingat Angat Bakuna Lahat" to increase vaccine willingness by changing mindsets FROM being uncertain or unwilling TO understanding the need for the added protection of the vaccine; and

Phase 3: "Tuloy ang Ingat, Tuloy ang Angat" to co-exist with COVID-19 and move on with our lives by changing mindsets FROM COVID-19 as a pandemic crisis TO COVID-19 as an endemic and a virus that can be managed with caution and proper care and discipline.

For all three phases of the Ingat Angat campaign, it was asking people to trust that everything will work out. It may sound like the communication needed to ask citizens to blindly take a leap of faith and risk their own lives and safety. This was never the approach we took. Instead, we underscored and placed a spotlight to believe in the Filipino spirit and resilience. It was a calling to do our part dutifully, to listen to the medical experts and authorities as well as practice self-discipline, together. It was a message to never lose hope and embrace optimism and the essence of being Filipino.

How we could have done differently / better

- A tighter collaboration across the private sector and other sectors of civil society like academe would have resulted in an even greater impact of one message.
- An earlier collaboration with government partners in 2020 could have resulted in one unified message. The stronger collaboration happened in 2021 for vaccination.
- In terms of execution, we could have developed toolkits for private sector and government units earlier and created a repository of all communication materials with easier access.

Reflection

In a volatile situation, HOPE is a powerful emotion and thought. OPTIMISM is what moves us forward. Anything else would not encourage Filipinos to work together for one cause - a stronger, more resilient Philippines. It was important to be reminded about our RESILIENCE as a people and rediscover FILIPINO SPIRIT and our faith in each other.

> *"Aangat tayong muli. Ito ang paniniwalang ating panghahawakan. May isang bagay na hindi kayang kunin ng covid sa atin. Ito ang ating pagiging matibay at determinado. Tayo ang lahi na hindi natitinag ng bagyo, lindol, baha at pagputok ng bulkan. Paulit ulit bumabangon kahit ilang beses gulpihin ng sakuna. Kaya aangat tayo muli."*

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6.19 BIDA Solusyon sa COVID-19 Campaign

Dr. Beverly Ho, Director, Health Promotion Bureau, Department of Health

In early January 2020, I had just returned from a short-term fellowship abroad, when I asked permission from the Secretary of health to move to another Department. The Secretary advised that I stay on because the health sector is my home and that the institution needs all the help it can get from young professionals to implement the Universal Healthcare (UHC) law.

A lesser-known reform in the UHC law is on **health promotion**. Instead of focusing on individual behavior change and health literacy, health promotion embraces policy and program interventions (on top of marketing and communication) that focus on re-orienting our communities, schools, and workplaces to become health-enabling. It facilitates healthy behaviors. Further, the law requires transformation of the existing Health Promotion and Communication Service (HPCS) to the Health Promotion Bureau (HPB).

The Secretary eventually assigned me to HPCS, where I assumed the post one week after the lockdown started, with several young professionals joining the existing team.

We were fortunate to have the support of (then) Department of Finance (DOF) Undersecretary Karl Chua and Assistant Secretary Tony Lambino. Tony and Jenny Florendo (DOF's communication consultant) mentored us for a whole month. The DOF Strategy, Economic, Resource Group team likewise helped set-up our news monitoring, daily COVID-19 pressers, and the first versions of the COVID-19 bulletin.

With "information sharing" tasks done, our next task was to get Filipinos to familiarize themselves with the minimum public health standards. With the assistance of the United States Agency for International Development (USAID) and the Presidential Communications Operations Office (PCOO), the Department of Health (DOH) launched the **BIDA Solusyon sa COVID-19 campaign**.

The private sector was supportive through this process. SM and MVP group of companies, Puregold, regional New City Commercial Corporation (NCCC) and LCC malls lent their platforms to spread awareness. 7/11 stores posted BIDA barangay bulletins in their stores. Procter & Gamble (P&G) repurposed their advertising funds

to develop the jingle for BIDA Solusyon, and produced instructional videos for children. P&G helped us assemble 70,000 hygiene kits and Manila Water built more handwashing stations. United Nations Children's Fund (UNICEF), Alliance for Improving Health Outcomes, and Atlantic Institute assisted us in developing and printing risk communication and a simplified COVID-19 response guide for community workers. Redscope Communication consolidated Corporate Social Responsibility (CSR) grants of several multinational companies and facilitated production of toolkits for Barangay Health Workers.

As for community-level mobilization, BIDA Solusyon was adopted by the Department of Interior and Local Government into **BIDA ANG MAY DISIPLINA**, which ensured its operationalization in every barangay. Parallel to these efforts were simultaneous campaigns from Task Force T3's (Test, Trace, Treat) **Ingat Angat**, the Office of the Presidential Spokesperson's **"Mask, Hugas, Iwas"**, and the Health Professionals Alliance Against COVID-19 (HPAAC)'s **APAT DAPAT.**

BIDA SOLUSYON SA COVID-19 / RESBAKUNA: KASANGGA NG BIDA LOGO

Figure 6.8: Some of the government campaigns to contain COVID-19

Upon the development and arrival of the COVID-19 vaccines, the next challenge was to generate demand. Vaccine hesitancy was reported at 33% based on the Social Weather Stations May 2021 report. A portfolio of vaccine brands also made it a challenge to communicate the benefits of vaccines despite their differences. Issues in the global supply required us to promote vaccination while managing the expectations of the public on when they can receive it. Local Government Units (LGU) that served as implementing units also had varying capabilities which meant that there was no single 'experience' we can promise the public.

With these challenges, we had to go back to what the data was telling us - health professionals were most trusted to provide information, next to health authorities. This prompted our series of town halls for healthcare workers as the priority group to be vaccinated, and as champions on the ground. Our independent experts were trained by T3 partner - EON - for public speaking to do media rounds. The World Health Organization Regional Office for the Western Pacific supported the implementation of webinars on responsible reporting of adverse events following immunization.

Simultaneous campaigns were conducted parallel to T3's Ingat Angat: Bakuna Lahat campaign. Recognizing their different motivations, the campaigns targeted two groups: the general public and those with disposable income. T3's communications lead - Ms Margot Torres introduced me to DDB Group Philippines, who offered to help us pro-bono for the campaign and **RESBAKUNA: Kasangga ng BIDA** was born. HPB's creative team worked with Margot and DDB to develop radio and television commercials with GMA 7. What I appreciate most is the generosity for transferring technology to our young team as we went about the campaign.

Moving from **persuasive strategies** of our framework, we applied **nudges** with the help of the vaccine operations team. Amplifying the best practices of different LGUs encouraged them and other LGUs to follow suit. The DOH developed a step-by-step guide for LGUs, while T3's **Ingat Angat: Bakuna Lahat** produced a National Capital Region best practices guide. These included efforts to expand vaccination hours, extend to traffic heavy sites like transportation terminals, or facilitate vaccine shuttles.

Eventually, incentives were provided. Margot brought in ZED Philippines Inc. and Philippine Disaster Resilience Foundation Inc. team as our implementing partners, with the Philippine Amusement and Gaming Corporation providing prizes worth PhP 3M to 112 winners. This complemented Ingat Angat Bakuna Lahat's Bakuna Benefits.

As our vaccination rates increased, it became safer to mount activation events. We are most grateful to SM malls for regularly hosting our events in various malls and providing prizes.

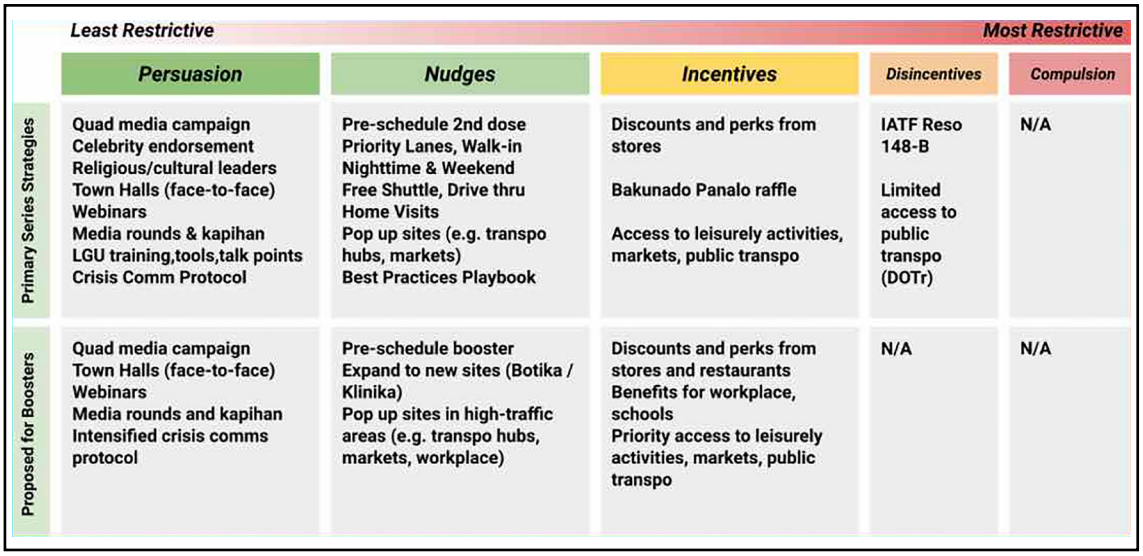


Figure 6.9: Strategies for communication

Two years after leading the transformation of HPCS to the Health Promotion Bureau, certainly no regrets staying on in DOH. I am most grateful for the opportunity to serve the Filipino people during a pandemic and work on the biggest vaccination program in the country with the best team and support system.

I am immensely proud to have served alongside the BIDA/Resbakuna team of DOH - co-led and managed by Dr Fonsy Regala, Dr Meng Maddumba, Janus Maclang, Jason Roque, Lorra Sayson and Marga Antonio, our teammates from the Health Promotion Bureau, Communication Management Unit, and our regional counterparts from the DOH Centers for Health Development.

These achievements would not have been possible without the guidance and trust of Secretary Francisco Duque, Under Secretary Rosette Vergeire, Secretary Charlie Galvez, and Secretary Vince Dizon, the support of the entire DOH family and our partners from national and local governments and the private sector (T3, health professional societies, civil society organizations and patient groups). And of course, our family and friends who deeply cared for us when we only had time for our campaigns.

6.20 A Dose of Hope: A Vaccine Procurement Solution

Jose Concepcion III, Presidential Adviser for Entrepreneurship and Chairman, GoNegosyo

COVID-19 vaccines did not become available for emergency use until the fourth quarter of 2020, and by the first part of 2021. The whole world was scrambling to get supply. The Philippines was nowhere near the front of the queue.

As this was happening, I was focused on another aspect of the pandemic response, the private sector's testing initiative, Project ARK (Antibody Rapid test Kits).

Meanwhile, several pharmaceutical companies offered to help the government secure vaccines, but the Philippine procurement laws prohibited it from doing so. AstraZeneca then approached SM's Tessie Sy Coson and BDO's Nestor Tan to see if they could partner with the government in a possible workaround. On the recommendation of Tessie, I was looped in as I perhaps had the most flight time with public-private sector cooperation concerning the Covid-19 pandemic.

I suppose I could say that I didn't choose the job. The job chose me.

Project ARK, which made testing innovations accessible to the business community and their dependents, was proof of what the private sector can contribute to the pandemic response.

In October 2020, I and the private sector embarked on the vaccine procurement initiative which we then called "A Dose of Hope" (ADOH).

I believe ADOH was a milestone in the public-private sector cooperation during the pandemic. Beyond providing the usual cash or in-kind resources, the business sector took on some of the public health risks by putting its trust in the unknown, thus securing a place for the Philippines in the global vaccine queue.

We designed ADOH as the world's first tripartite agreement between the private sector, a pharmaceutical company and the government. The vaccines we bought from the pharmaceutical company would all be donated to the government: half would be for the workers and persons recommended by the donors, and the other half would be used at the government's discretion. This design spread the risk of vaccine procurement and made it manageable for all parties. The Philippines could

now buy vaccines directly, and the private sector shared the risk. For the government, it was able to circumvent regulatory roadblocks that prevented the purchase of a non-Food and Drug Administration approved treatment. Inter-Agency Task Force's Secretary Carlito Galvez appreciated the solution and he eventually became ADOH's champion within the government.

By November 2020, we had signed the agreement, and by January 2021, ADOH secured 14.4 million doses for the country. The entire shipment of 17 million doses of vaccines would be completed by December 2021. As part of GoNegosyo's goal to save lives and livelihoods, the vaccine requirements of Micro, Small and Medium Enterprises (MSMEs) were included in the purchase: a conscious effort on our part as MSMEs are the backbone of the Philippine economy and remained our focus. GoNegosyo and A Dose of Hope partners coordinated with 606 Local Government Units (LGUs) for the private sector shared vaccination sites nationwide to help MSMEs who did not have the means to do so. These were set up in accessible locations and ultimately helped thousands of individuals to be vaccinated.

As can be expected in a pioneer undertaking like the ADOH, there were hiccups. Overwhelming global demand and manufacturing delays pushed delivery to the second half of 2021. This delay, however, gave us time to negotiate with the government to move a segment of our economic frontliners to a higher priority group. On April 22, 2021, I presented to the National Immunization Technical Advisory Group a broader definition of economic frontliners to include some two million people in critical industries like IT/ Business Process Management, semiconductor electronics, industrial manufacturing, construction, and MSMEs.

I also asked that the private sector's share of the donation be released ahead of the government's, since Government-to-Government donations were already available for the frontline healthcare workers, senior citizens, and vulnerable groups. Finally, I asked that the government share be directed to areas with the highest incidence of infection. All three requests were seriously considered and, in the end, were granted.

Early on, I realized we had to establish a line of communication between the private sector and the government, one that could also be accessible by the general public. The seed for this came in May 2021 when we launched the "Let's Go Bakuna" campaign through an online event, the Let's Go Bakuna Webinar. This later became a regular townhall meeting where government and private sector would dialogue, and became invaluable as challenges like vaccine hesitancy, brand discrimination, and even lockdowns were discussed.

Over this time, I found myself in the company of experts: epidemiologists, biomolecular scientists, mathematicians, medical doctors, economists, you name it. It became clear that in order to make it through the pandemic, we needed experts from several disciplines. OCTA Research, in particular, crunched the numbers for us, and time and again showed us how data can be a powerful tool in this pandemic. They were instrumental in my push for a lock down in August 2021 in order to prevent a surge in the fourth quarter. This foresight allowed the economy to open during the holiday season, and gave us better-than-expected Gross Domestic Product growth.

That data is indispensable is one of the biggest lessons of this exercise. Data guided us not only in deciding the quantity of vaccines to buy, but when and where we must direct their use—as demonstrated in how we decided to prioritize National Capital Region vaccinations.

The private-public sector cooperation model of ADOH can be parlayed into future pandemics, or even other situations where risk needs to be managed and regulatory roadblocks need to be put aside in the interest of the public good.

6.21 My Moderna Journey – Musings for the Private Sector Vaccine Procurement Program

Rafael Jose Consing Jr., Chief Financial Officer, International Container Terminal Services Inc. ICTSI

COVID-19 brought devastating effects to our country's well-being and its disastrous impact upon the economy's coffers are well documented. But it was also during these dark moments of the pandemic when the nation gave birth to a multitude of new heroes – from ordinary folks to corporations of all sizes. Through the windows of social media, we witnessed an outpouring of sacrifice and courage from doctors and medical frontliners whose duty was to save lives, to economic frontliners that businesses relied upon to keep their commerce moving. We saw the private sector led by the largest local conglomerates respond to the government's call to share the burden of fighting the pandemic.

Corporations both large and small drew from their reserves to support their employees and their dependents. Indeed, these extraordinary times brought out the extraordinary in people and companies. And to this, International Container Terminal Services Inc. (ICTSI) was no exception. As the government scrambled to import much required vaccines for the population, ICTSI Chairman, Mr. Enrique K. Razon, Jr. worked closely with Ambassador Jose Manuel D. Romualdez and the designated Vaccine Czar, Secretary Carlito G. Galvez, Jr. to bring in the mRNA 1273 vaccine manufactured by Moderna.

In designing the Moderna vaccination program, we faced a myriad of challenges. Of these, I will focus on three broad considerations, to wit: regulatory, organizational, and process.

Regulatory

The absence of precedence involving regular corporations performing the procurement and delivery of a public health administration service required establishing legal and regulatory protection for the consortium members from future liabilities.

Organizational

The private sector needed to be assembled into a well-coordinated buying group within a short period of time.

Process

To support the vaccination program of the participating companies, we needed to design, structure and implement a seamless end-to-end vaccination plan – from procurement, storage, distribution, to vaccination.

Designation as Emergency Health Responders

To establish a legal basis for the procurement of COVID-19 vaccines by the private sector, ICTSI Foundation sought for all members of the consortium to be designated as Emergency Health Responders. As such, consortium members were authorized to procure the vaccine, identify vaccination sites, engage Department of Health accredited health service providers, appoint a suitable logistics service provider, and undertake such other activities listed in the vaccines Emergency Use Authority.

The private sector was subsequently authorized to procure vaccines directly for their use by R.A. 11525 or the "COVID-19 Vaccination Program Act of 2021."

Guiding Principles

In developing the overall procurement, distribution and vaccination plan, we were guided by these following principles.

A. Shared Responsibility

In full recognition of the private sector's role in supporting the government's national endeavor to vaccinate 100% of the Philippines' adult population, more than 400 companies signed-up to the consortium. In addition to vaccinating priority essential workers and employees, this effort saved the Philippine Government approximately nine billion pesos in expenditures and associated annual interest which it could redeploy for other critical needs of the country.

B. Innovation

To initiate the buying consortium, ICTSI Foundation created a web-based reservation platform to organize an accelerated sign-up process, capture the data for vaccine administration resource and capacity planning, reservation and allocation management. This innovation allowed us to dispense with time-consuming contract review and negotiations, virtual formal signing ceremonies, and enter in over 400 contracts within a short period to collect binding reservations equivalent to seven million doses. Such a buying platform can serve as template for organizing buying groups, and for the efficient dissemination of related official updates within the app.

C. Equitable pricing

The two-dose Moderna vaccine is one of the most expensive vaccines in the market. To add further complexity, their pricing scheme under the Tripartite Agreement was tiered. This presented a challenge particularly to small and medium-scale enterprises who found it difficult to afford gaining access to the more expensive tranches. In response, the vaccines were offered at a single price to consortium members, calculated based on the weighted average cost of all tranches in the Tripartite Agreement.

D. Equal Access

The equitable pricing approach was matched by an equal opportunity to access the early vaccine deliveries. To achieve this, ICTSI Foundation allocated the vaccines on a pro-rata basis for each delivery. By doing so, all consortium members were able to arrange for the early administration of the vaccines to their priority essential and frontline economic workers who were most exposed or at risk of contracting the COVID-19 virus.

Governance

Finally, planning for the last mile distribution and vaccination of the 7 million doses of vaccines to over 3.5 million individuals nationwide, while only a minority within the context of a 100% adult vaccination plan, reflects the same challenges as the National Government's National Vaccine Distribution Plan. Thus, it required close coordination among the members of the private sector, the pharmaceutical logistics service provider, the authorized and licensed health service providers, in close communication with the Inter-Agency Task Force and the Department of Health.

I hope that this is a helpful reference. But more importantly, I pray that no one has to ever leaf through these insights, other than as a study of a challenging time in our history.

6.22 Setting Vaccination Target

Jose Ma. Miñana, Chief Sustainability and Public Affairs Officer, Jollibee Food Corporation

Editor's Note: *To ensure availability of vaccines at the earliest possible time, the Philippines employed a vaccine portfolio strategy featuring seven vaccine platforms. Due to the long delay of the Sputnik component 2 vaccine, and the reported potency of the component 1 vaccine, Gamaleya Research Institute later applied for a single-dose vaccine which became the eighth platform available in the country.*

Context

By mid-March 2021, the Philippines had 5,000 new cases a day that was growing exponentially, while vaccines were just arriving in the country. "Lockdown" was the operating word, a sense of anxiety remained high due to growing cases and filled up hospitals, and a cautious optimism was setting forth from the news of vaccines coming in. The question in each person's mind was "When will I get my vaccine?". The questionthough, in Secretary Galvez's mind as head of the Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF) was "How many vaccines do we need and how do we roll them out effectively to reach population protection at the soonest time possible?".

What We Did

Developed a Roadmap to Herd Immunity for NCR and Plus 8

1) We adopted the intent of President Duterte to have a **"Better Christmas"** in 2021 as the goal of the team.

2) We defined the strategy with Secretary Galvez – **"Focus and Expand"**. We focused on the National Capital Region (NCR) given that more than 45% of the cases nationwide emanated from NCR, and it accounted for about 32% of the Philippine economy. Moreover, it is the major transportation gateway of transients into the country, which could be a source of new COVID-19 cases.

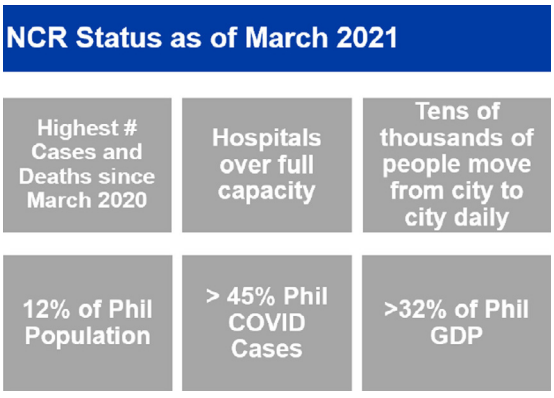


Figure 6.10: Reasons why NCR was the focus of COVID-19 vaccination roll-out

3) We set the targets by determining the **"Number of Doses to be Administered Daily"** for each Local Government Unit (LGU), in order to achieve our goal of having a "Better Christmas". In NCR, the objective was for the entire region to reach population protection (70% of eligible population) by November 27, 2021. This necessitated each LGU to deliver on their targets.

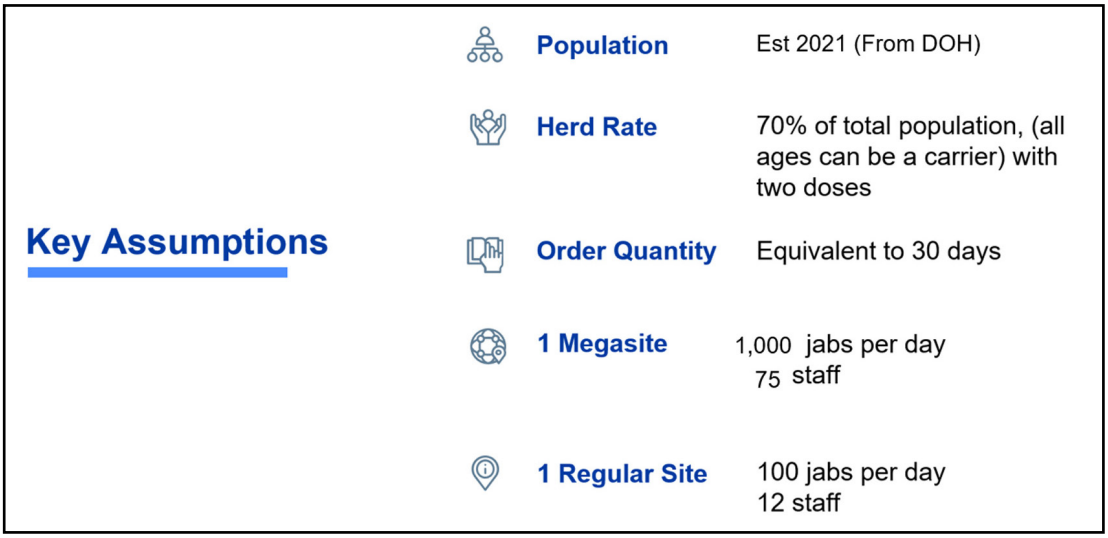


Figure 6.11: Key assumptions of vaccine roll-out

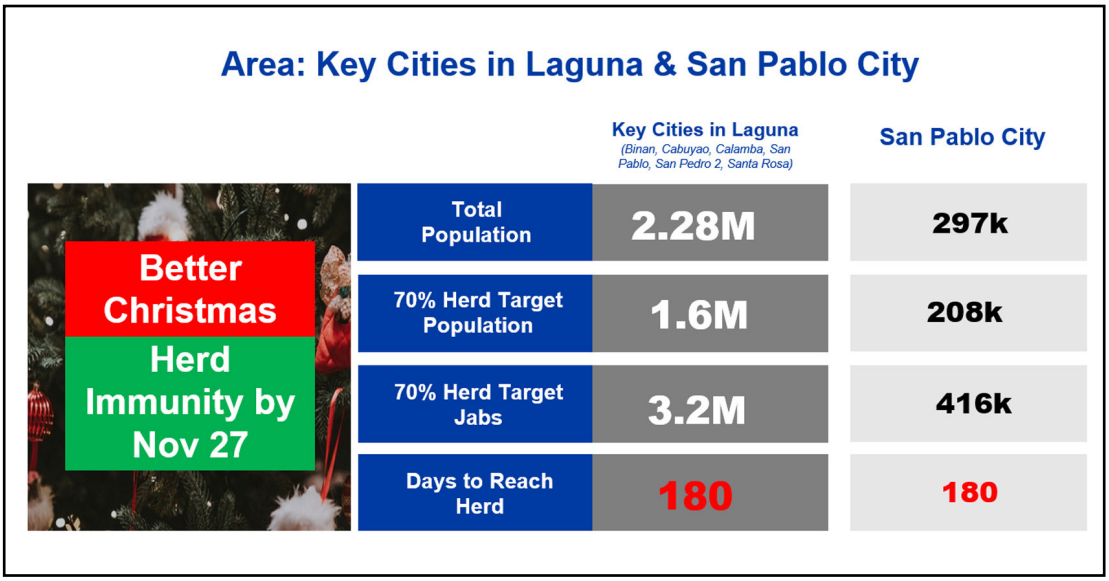


Figure 6.12: Vaccination targets for NCR for a "Better Christmas"

4) We determined the resources needed to deliver the daily vaccination target. This included having the **Supply of Doses, Number of Vaccination Sites, Number of Personnel per Vaccination Site, and Number of Registered People to be Vaccinated.**

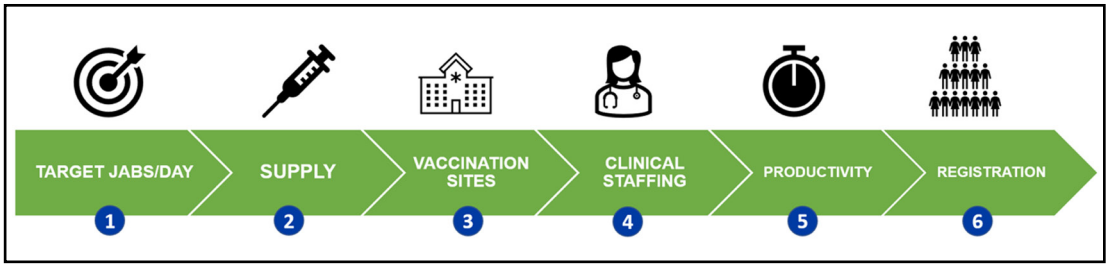


Figure 6.13: Key Factors to Herd Immunity

NCR – Vaccination Targets & Resources Needed

					1 TARGET JABS / DAY			2 SUPPLY	3 VACCINATION SITES			4 STAFFING			5 PRODU-CTIVITY	6 REGIST-RATION
NCR					108.7		Jun-01	30	1000	100		75	12			5
Assumptions	Population				Simulation			Order	Number of Sites			Number of Staff			Jabs	Schedule
NCR	Total Population ('000)	70% Herd Population	70% Herd Jabs	Population Mix	Target Jabs per Day ('000)	Days to Herd	Date to Herd	Order Qty per 30 days ('000)	Mega	Regular	Total	Mega	Regular	Total	Jabs per Man-hr	Vaccinees Scheduled ('000)
Caloocan	1,670	1,169	2,338	12%	13.0	180	27-Nov-21	390	7	60	67	525	720	1,245	1.2	65
Las Pinas	626	438	877	4%	4.9	180	27-Nov-21	146	2	29	31	150	348	498	1.2	24
Makati	647	453	905	5%	5.0	180	27-Nov-21	151	2	30	32	150	360	510	1.2	25
Malabon	375	263	525	3%	2.9	180	27-Nov-21	88	1	19	20	75	348	423	0.9	15
Mandaluyong	456	319	638	3%	3.5	180	27-Nov-21	106	2	15	17	150	180	330	1.3	18
Manila	1,904	1,333	2,666	14%	14.8	180	27-Nov-21	445	10	48	58	750	576	1,326	1.4	74
Marikina	480	336	672	3%	3.7	180	27-Nov-21	112	2	17	19	150	204	354	1.3	19
Muntinlupa	553	387	774	4%	4.3	180	27-Nov-21	129	2	23	25	150	276	426	1.3	22
Navotas	250	175	350	2%	1.9	180	27-Nov-21	58	1	9	10	75	108	183	1.3	10
Paranaque	755	529	1,058	5%	5.9	180	27-Nov-21	176	3	29	32	225	348	573	1.3	29
Pasay	436	305	610	3%	3.4	180	27-Nov-21	102	2	14	16	150	168	318	1.3	17
Pasig	852	597	1,193	6%	6.6	180	27-Nov-21	199	3	36	39	225	432	657	1.3	33
Pateros	65	46	92	0%	0.5	180	27-Nov-21	15		5	5	-	61	61	1.0	3
Quezon City	3,102	2,172	4,343	22%	24.1	180	27-Nov-21	724	16	81	97	1,200	972	2,172	1.4	121
San Juan	123	86	172	1%	1.0	180	27-Nov-21	29		10	10	-	115	115	1.0	5
Taguig	1,007	705	1,410	7%	7.8	180	27-Nov-21	235	4	38	42	300	456	756	1.3	39
Valenzuela	663	464	929	5%	5.2	180	27-Nov-21	155	2	32	34	150	384	534	1.2	26
NCR	13,966	9,776	19,553	100%	108.7	180	27-Nov-21	3,261	59	495	554	4,425	6,056	10,481	1.3	544

Figure 6.14: Sample of the vaccination targets and resources needed

Secured the Buy-In From Main Stakeholders

This roadmap was presented sequentially as follows:

1) Peers in Task Force T3 (Task, Trace, Treat) specifically Bill Luz, Paolo Borromeo, and Margot Torres
2) Secretary Vince Dizon, National Task Force (NTF) Deputy Chief Implementer and Presidential Adviser for Covid Management

3) Secretary Carlito Galvez Jr, NTF Chief Implementer

At this point we got the support of NTF leads that would implement the entire national vaccination roll-out. They would be the champions of this rollout. What was critical now was to get the support and sponsorship of key leaders:

4) Select Cabinet Members including Secretary Francisco Duque III and Secretary Carlos Dominguez III

Once we got the nod, we then had to get the buy-in of those who will implement.

5) Chairman Benhur Abalos, Metro Manila Development Authority Chairman
6) All 17 NCR Mayors
7) Undersecretary Myrna Cabotaje, Undersecretary Carol Taiño, and Regional Director Gloria Balboa

The process to get everyone on the same boat happened between March – April 2021, while the daily vaccination targets were set to start on May 1-Nov 27, 2021. As such, we were ahead of schedule. To further cement the team, we met with each of the 17 NCR Mayor's offices to share the process by which the targets have been set, and align on the rule that vaccine doses will be replenished based on performance. Through this, we were able to help motivate them in accelerating their efforts, because the more they vaccinate, the more supply they get, and the earlier they could possibly reach population protection.

Monitored Performance

Secretary Dizon scheduled **daily** meetings with all personnel responsible for achieving daily targets from NCR and eight other provinces (plus 8) to start with. He guided them to achieve their targets in a manner that delivered results. He was relentless, persistent, and effective. This was done daily from 9-10am every Monday, and 8-9am every Tuesday to Friday.

Lessons Learned

Lesson 1: Willingness of the leaders to listen and collaborate are critical.

In NCR, we had Chairman Abalos and all 17 NCR Mayors. In the eight provinces: Bulacan, Batangas, Cavite, Laguna, Pampanga, Rizal, Metro Cebu and Metro Davao (Plus 8) the commitment of some governors and mayors were not there; thus each one was to its own. In supply chain, for a unit to be successful, there has to be one language, one system, and one roadmap.

Lesson 2: Accountability of leaders is monitored through the data provided to their constituents.

If no data is made visible, leaders may not move with the urgency and cohesion required to.

Lesson 3: The Supply Chain information technology (IT) system of the government is outdated.

Visibility of inventory at the vaccination site level was critical for effective replenishment. However, a multitude of processes had to be done manually, which caused challenges in ensuring the accuracy and brevity of data. Significant time and effort had to be used to overcome the absence of this IT system. Thus, daily meetings that discussed reconciliation of data became usual.

Lesson 4: It is easy to speak in hindsight, but the reality is that we were burdened with handling too many vaccine brands.

In supply chain, the fewer the stock keeping units (SKUs) or unique stock items to monitor, the better. Due to the scramble to secure vaccines and the urgency of the situation, we had at least eight vaccine platforms. The consequent storage requirements for each brand, its handling procedures and training, and its ancillary items were just some of the multiplier effects to the complexity of the supply chain. Moreover, we had to work with an outdated IT system and a team that wasn't equipped for this scale and urgency.

What we could have done differently / better

- A directive to align all elected provincial leaders in Plus 8 provinces and others, with the prescribed roadmap to population protection, would have been valuable in setting targets for each LGU based on one system.
- The performance of each province and LGU could have been made public on a regular basis. Accurate and timely performance data should be presented to the public in a very convenient way to access. By doing so, both performers and non-performers will react accordingly to do even better.
- Region 3 and 4a could have been locked in with NCR as one mega region from the onset. We learned that the porous boundaries and the need for people and goods to move across these three regions were critical.

- The current supply chain IT system could be enhanced with flexible capabilities for data to be connected from national level down to local barangay levels. This way accountability, monitoring, and recognition can be done on a timely basis.

Reflections

What gets measured gets done.

The challenge is on setting-up the method on how to measure performance, as well as our leaders' willingness to be measured. Who will set the metrics for our public officials responsible for rolling out on a national and local basis? Willingness to serve is one thing, but accountability is another. Accurate and timely data made public is the solution. The relative success of NCR and other areas was due to the agreement of the targets early on, setting up of a dashboard, monitoring results regularly, and making these information available to the public.

In the midst of a crisis, simplicity is key.

The development of the roadmap was important. It was a simple way to put everyone on the same page. The conceptual framework to achieve population protection was simple. The assumptions to set targets and resources needed were straightforward. It boiled down to execution.

Find the common language.

If you are from the private sector expecting the same results when dealing with the public sector, frustration may happen. The public sector is defined and guided by the laws of the land, for better or worse, working for the greater and common good of the citizenry. The private sector is defined by its vision, mission, and values that they deliver through set goals, strategies, and metrics. The common language between both sectors to work well together is through respect and openness, and the absence of ego and entitlement.

Right leaders, right place, right time.

In this pandemic crisis where there was no playbook nor benchmark to follow suit, having the right leaders was the key above all. They would set the direction, organize the team, deliver results, and keep the spirits up. Thus three Cs were critical for these special leaders – Competency, Character, and Chemistry. The leadership of Secretary Charlie Galvez, Secretary Vince Dizon, Chairman Abalos, Mayor Lino Cayetano among others in the public sector, and Bill Luz as our captain from the private sector, set the tone. No egos in the room. Open discussions, where we had different views took place in order to get the best resolution. I never felt these leaders bring in their titles to our meetings. What they brought in was their

willingness to listen, resolution to move forward, and commitment to find a solution together. Truly a benchmark for future leaders to follow for public-private collaboration.

Prepare for the next crisis.

We need to focus on three areas – resolution time, minimal losses, and reduction of impact. Areas that need significant improvement would be data management and connectivity, supply chain systems, and speeding up decision-making processes which ideally would be based on data. Moreover, there is a need to re-tool and beef up the skills of critical teams. Finally, a "SWAT" team between the public and private sector could be formed and tapped, in preparation for the next crisis.

Prioritize and focus on NCR Plus 8

The decision to focus on NCR and then Plus 8 was critical. It is probably the strategy that differentiated the Philippines from other neighboring countries in the region that allowed us to open our economy sooner than others. We could have done a shotgun approach to equally distribute vaccines across the country proportional to population, but it would slow down the whole population protection drive. The strategy to prioritize NCR allowed us to address the transmission more effectively, and to build a pilot model to roll out to the rest of the country.

6.23 The Role of Private Healthcare Providers in the National Vaccination Program

David Y. San Pedro, President, RelianceUnited

Not once in crafting the vision for RelianceUnited, Unilab's Corporate Healthcare Services arm, did I imagine that the assets we built and talent we developed, would be applied towards the greatest challenge of our lifetime. Conceptualizing the program and operationalizing the 200+ strong daily workforce that would eventually deliver over 500,000 life-saving doses, spanning 2,400 events, covering Ilocos to Zamboanga, required the precision of a military operation and the creativity of an agile startup. This is a short reflection on what worked, and what could be done better, in preparation for the next pandemic.

In July of 2020, it became apparent that the only way out of the COVID-19 lockdowns was through vaccination of at least 50% of the population with two doses of novel vaccines, fresh off promising early trials. That was the target then, and the challenge we faced to deliver on this objective could be summarized in two fundamental questions which we had no answers for: First, "How do we handle the vaccines?" and second, "How do we administer it safely?".

Tackling the first question required calls to both international and local experts as well as secondary research from markets which had already administered the vaccine. It was beneficial that colleagues in the West had already received their first jabs and were able to help us understand vial handling, wastage as well as the reactogenic responses they experienced. From what little we gathered, we began ordering millions of pesos of specialized refrigerators, freezers, transport coolers and other cold chain equipment, and proceeded to build in 30 days what would be known as the "Williams warehouse" at the Reliance headquarters in Mandaluyong—the only place I felt comfortable enough storing what would end up being nearly half a billion Pesos worth of vaccines over a nine month period.

We created processes and rehearsed vaccine handling repeatedly, timing every step and practicing with empty water-filled vials and ensuring our remote temperature loggers were transmitting data back to headquarters every 15 minutes. Our warehouse team ran 48-hour passive cold storage tests to validate how good our $1,500 transport coolers really were and to determine the rate of temperature degradation. We soon realized that these were no ordinary beer can coolers and the team gained confidence that our cold chain had integrity.

What made this all amazing was the team effort involved, where no one was an expert coming in, but invested themselves enough to become extremely knowledgeable in a very short period of time. On Friday, July 2, 2021, we received our first batch of Moderna vaccines from Zuellig and on July 5, we mobilized across seven simultaneous vaccination sites in partnership with Robinsons Land for malls across the country, DMCI on an idle Makati property, and the Araneta group for a site in their commercial center and the Gotianuns for Festival Mall in Alabang. The concessions and accommodations provided by these groups are equally behind the success of our programs as without them, we would have had no large vaccination sites to offer. Twice a week thereafter, we would welcome into Williams the most precious and expensive inventory item the team has ever handled, and for the next 250 odd days, we would deploy three to 21 teams daily on private vaccination events.

Our logistics were not without challenges. We were called out for hand-carrying vaccines on a ferry using our transport coolers to administer 200 doses to a client site in the Visayas. Our low-key approach which involved direct coordination with the City Health Offices (CHO) coupled with a high level of trust in our cold chain technology that could keep vaccine temperature stable for 48-hours, was not aligned with the current practices of police escorts and large, public receiving delegations. The challenge was that private sector health providers like ourselves were already operationalizing tier-2 and tier-3 city roll-outs at the request of clients who had a steady supply of vaccines, at a time when coordinating rules and regulations had not yet been defined.

There is a clear opportunity to have earlier dialogues with the private sector to advance the development of guidelines for private sector participation in national health events. The agility, access to resources and near real-time responsiveness that the private sector has, allowed it to work effectively especially at the ground level where we can quickly supplement what Local Government Units (LGUs) and CHOs have, and this should be factored in early on in any future pandemic response.

Addressing the second question on safe vaccine administration required a lot of work with the National Vaccination Operations Center (NVOC) and Department of Health (DOH) to understand the implementing guidelines for private sector vaccinations as well as the LGUs to secure the Covid Bakuna Certificate of Registration (CBCR). The CBCR served as the approval devolved to the local government to certify the viability of each and every vaccination site— hospital, clinic or otherwise— to safely administer vaccines. This, together with assembling the mandatory 10-person team plus ambulance to handle a 100-person vaccination event, were our main hurdles to get our program underway.

As a private healthcare provider, it became clear that fulfilling the requirements to be approved as a vaccinator, would be as challenging as the actual vaccinations themselves. No one really understood the rules or the guidelines— not us, and at times, even the LGUs were unsure how to proceed— as everything was happening so quickly. Building very strong partnerships with LGUs became critical to jointly operationalize off-site vaccination centers, and fortunately, we were able to establish an effective working partnership with both Quezon City and Mandaluyong City.

It became clear very early on that while there was a growing supply of vaccines available, there was one key need that the LGUs could not keep up with— trained medical staff. This provided us an opportunity to participate in one of the first LGU-private sector partnered vaccination events on Sunday, April 18, where we sent a team of 20 doctors and nurses to help vaccinate at a Quezon City LGU site. Seven weeks before our own first private sector event, the team was already busy training and learning side-by-side with both the Department of Health and LGU representatives. Sounds like a great strategy, but honestly, this was purely serendipitous.

We expanded this partnership to include Mandaluyong City where we also fielded multiple teams across various sites to support the vaccination efforts. These partnerships also allowed us to work with the CHO of each LGU to better prepare for the CBCR inspections and approvals— which early on required a significant amount of back-and-forth between all parties as the rules were so fluid. Weeks after other private health providers were grappling with how to apply for a CBCR with an LGU, and through the tireless efforts of our operations team, we had successfully secured our first handful of CBCRs for non-hospital or clinic sites.

We were finally able to breathe a sigh of relief that we would be able to serve the nearly 300,000 employees and dependents of the country's top conglomerates and multinational companies which had selected Reliance as their vaccinator. We would proceed to deploy teams through partnership with Cebu Pacific, to factories in Zamboanga, Business Process Outsourcing, banks, sugar mills in the Visayas, and power plants across the country; keeping employees and their families safe, and the economy running.

Key to being able to mount 21 simultaneous events with 12 to 16 person teams each were the systems and platforms we employed for event planning and shift scheduling which allowed us to provide jobs to 1,600 unique healthcare workers across 22,000 man-days to fill 99% of all our headcount requirements. Keeping a workforce engaged in the midst of wave upon wave of infections affecting team members was also critical and constant reminder about the nobility of purpose and the mission at hand was integral to our success as a private vaccinator.

For the next pandemic, as it seems likely that these may be recurring events, it would be beneficial to allow the private sector to work closely in the development of guidelines on two key areas: First, streamlined medical processes; and second, on data and reporting. On medical processes, given the shortage of healthcare workers, it would be ideal to understand how some developed nations were able to vaccinate with just one pharmacist handling the entire vaccination activity, whereas our guidelines required a full 10-person complement of medical educators, vital signs takers, vaccinators, post vaccination monitoring doctors, etc. We may have been able to execute vaccinations more quickly and efficiently if we were provided some leeway on the personnel requirements.

Second, clarity and standardization of data reporting requirements. To this day, some LGUs are still updating their data reporting requirements and we have had to resubmit all entries from 2021. This, together with the unannounced appearance of VaxCert.ph, as what would become the de facto vaccine certification site, caught many off guard. Singularity in the data reporting requirements and consistency in formats would significantly reduce the backend workload from private sector providers, as well as speed up reporting and enhance accuracy. As all our events ran on MedPass, our cloud-based vaccine administration platform developed by Unilab's internal IT group, all our information was always readily available in any format to satisfy any government reporting requirements. The challenge was really about the absence of an agreed information Excel template or file repository to send to. Granted, all these activities were transpiring real-time, in the midst of a pandemic, so much of the confusion is understandable.

Without doubt, the National and Local governments have done well to guide us to where we are today. Perhaps, with initial agreements upfront, with the explicit purpose of establishing "The Role of Private Sector in a Pandemic Response", our joint activities would be more effective and efficient, and the path towards achieving our national vaccination objectives would be simpler and better.

6.24 The Role of Private Healthcare Service Providers

Margaret A. Bengzon, Chief Operating Officer, QualiMed Health Network

Fully appreciating the existential threat presented by COVID-19, we at AC Health were committed from the outset to take a leadership role in driving the country's pandemic response.

Back in those early days, we were in fire-fighting mode – trying to prepare for a looming healthcare crisis that was sweeping the globe, but about which so much was unknown. We thus sought out and found kindred spirits in many of the country's largest conglomerates. This eventually led to the organization of the Task Force T3 (Test, Trace, Treat) consortium, the platform through which we in the private sector could systematically and effectively engage in what clearly needed to be an all-of-society enterprise.

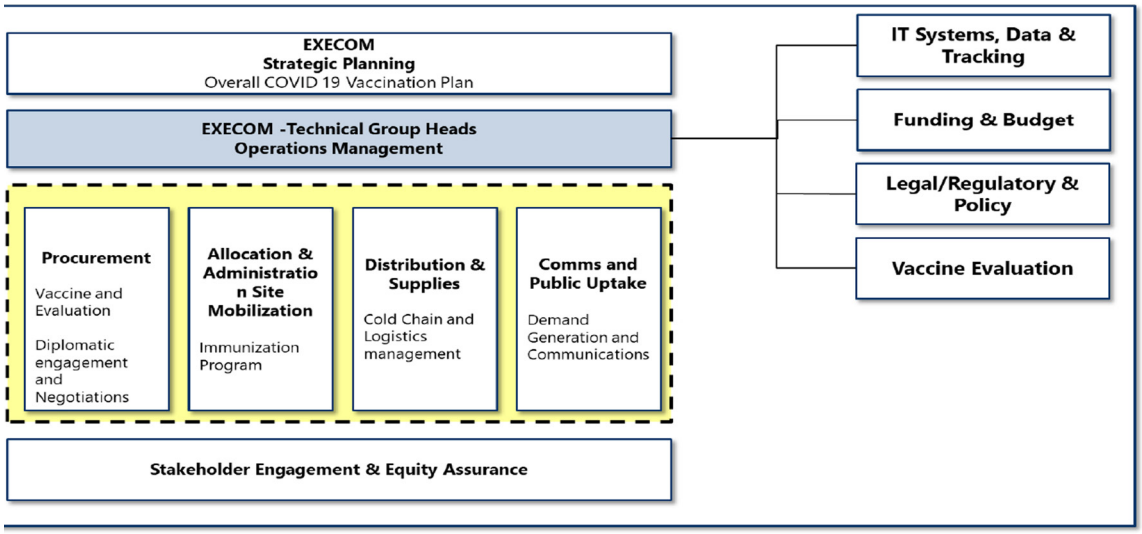
For our part, we provisioned all four of our QualiMed hospitals into COVID-19 referral sites, beginning with Sta. Rosa and San Jose Del Monte. To boost much-needed Reverse Transcriptase-Polymerase Chain Reaction (RT-PCR) testing capacity, we invested in and built-out eight molecular laboratories in all our hospitals and with partner institutions. In the interim, we helped ensure workplace safety for essential personnel by providing on-site antigen testing services at scale. At the same time, we kept our Healthway clinics open, recognizing that the public needed to have unimpeded access to vital healthcare services outside the hospital setting. Similarly, our Generika drugstores continued to serve their base communities by making available essential medicines at affordable prices. Finally, we brought healthcare directly to patient's homes through our HealthNow, a digital super app. Throughout it all, our overriding goals were to support the government's pandemic response, while finding ways to remain relevant to patients who needed us, now more than ever.

Coming into the last quarter of 2020, the focus shifted to the massive challenge of vaccination. COVID-19 vaccine development was moving at an incredible pace; and the Philippines, despite our challenged economic state, was making headway in vaccine procurement, through the efforts of the Department of Health – Inter-Agency Task Force for the Management of Emerging Infectious Diseases (DOH-IATF), and again in partnership with AC Health and other T3 members. However, implementing a vaccination program covering at least 70% of the population in less

than one year - the speed and scale needed to beat COVID-19 – was heretofore unheard of. It was clear that a continuing, even intensified, partnership between the public and private sectors would be critical for the program to have any chance of success.

The National Vaccine Operations Center (NVOC) was quickly organized to develop and implement the National Vaccine Deployment Program (NVDP), under the leadership of Secretary Charlie Galvez and Secretary Vince Dizon; with us in the private sector embedded in the organization from the very beginning. This was an important change from previous encounters with government, where the latter would basically work independently, bringing in the private sector for occasional, often perfunctory, consultations.

Furthermore, the organization was structured such that multi-sectoral collaboration was hard-wired across key operational workstreams – procurement, supply distribution, vaccine administration, and public communication – and even at the leadership level. We worked shoulder-to-shoulder with our National Government and Local Government Unit (LGU) counterparts in advancing the aims of our respective workstreams, for the advancement of the program as a whole.



PHILIPPINE VACCINE PLAN WORK STREAMS

Figure 6.15: National Vaccine Development Program work streams lead by the Department of Health, Inter-Agency Task Force for the Management of Emerging Infectious Diseases

Finally, to ensure maximum efficiency of the teams, a regular and frequent cadence was established: daily huddles with the LGUs, being the main implementors of the NVDP; and Monday morning all-hands meetings with Secretary Charlie and Secretary Vince. This organized and intensive interaction yielded a number of benefits. It promoted close to real-time brainstorming, problem-solving and decision-making among stakeholders, imperative given the urgency and complexity of the multiple concerns we faced.

Over time, credibility was gained and trust was built. Many of the often negative preconceptions we held about each other were dispelled. Government officials were not all corrupt and inept; many, if not most, are truly committed and capable servants of the people, doing their best in the context of imperfect systems and structures. Business people are not all arrogant and selfish, concerned only about bottom lines; many, if not most, have a fervent social conscience, but need to do well to do good. From this, conventionally opposing interests were aligned, not just at the conceptual level – to vaccinate as many as possible, as quickly as possible – but in real operational terms, the foundation of any successful partnership.

Figure 6.16: QualiMed Sta. Rosa as first recipients outside of Metro Manila for AstraZeneca vaccines in a ceremonial vaccination.
In Photo (L-R): Margaret Bengzon, Qualimed Health Network SVP for Operations; Dr. Noel Pasion, DOH Region IV Local Health Support Division Chief; Paolo Borromeo, AC Health President and CEO; Secretary Vince Dizon, National Taskforce Against COVID-19 Deputy Chief Implementer; Fernando Zobel de Ayala, Ayala Corporation President and COO; Dr. Edwin Mercado, QualiMed's founding group Mercado General Hospital, Inc. (MGHI) Vice-Chairman; Hon. Arlene Arcillas, Sta. Rosa Mayor; Secretary Carlito Galvez, Jr., National Taskforce Against COVID-19 Chief Implementer; Jimmy Ysmael, QualiMed Health Network President and CEO; Dr. Gina Nazareth, QualiMed Health Network Consultant for Patient Safety and Quality Management

I recall, for example, the discussion around vaccine and vaccine administration charges. Early on, the national government had made a general policy pronouncement that all vaccines would be free for everyone. Yet we in the private sector, responding to the call to augment public sector capacity and resources, had made significant investments in procuring vaccines and in setting up mega vaccination sites to serve our respective constituents. Our partners in NVOC appreciated that we could not just give these away for free. We agreed to cover the costs of the vaccines for our employees, but secured permission to pass-on vaccine costs to external beneficiaries. With regards to vaccination services, we worked together with a number of other private Health Care Providers (HCPs) in an openly-shared information way, sharing our costs and cost structures, and collectively came up with a reasonable price range for vaccine administration that the NVOC accepted. A potentially contentious issue was resolved through transparent dialogue and compromise to the satisfaction of all stakeholders.

Of course, there were a number of areas for improvement as well. While NVOC was charged with overall program implementation, success required the cooperation of other public, quasi-public and non-government groups that were not under its direct control. Harmonizing the specific, sometimes parochial, interests of these groups proved challenging, and hampered program execution. Regulatory bottlenecks, arising from the involvement of numerous agencies across multiple levels, were particularly problematic in this regard, especially in the constantly evolving environment of the pandemic.

For instance, the limited supply of vaccines in the early days certainly necessitated the definition of priority groups. We adopted a universally- accepted model: A1 frontliners, A2 senior citizens, and A3 with comorbidities should get the vaccines first. On the other hand, the subclassifications of the A4 essential workers group was unnecessarily complex and confusing. Then, even as local vaccine stock began to grow, there continued to be protracted discussions on prioritization, as some parties insisted on a very linear and strictly sequential approach to vaccination, rather than enabling simultaneous vaccination of all eligible populations, fully leveraging the combined capacity of the public and private sectors.

Figure 6.17: Ayala Corporation President and CEO Fernando Zobel de Ayala and AC Health President and CEO Paolo Borromeo join leaders from the national government, local government units, and the private sector in pledging support for the vaccination of the A4 priority group, which comprises economic frontliners (June 2021).

The mechanisms for coordination among national and local government agencies could also have been strengthened. While the roles of each were clear, at least in general terms, the hand-off processes were oftentimes not, and we as private Health Service Providers, found ourselves caught in the middle. Problems in coordination were most evident in the areas of logistics and supply chain management, as crucial as these are to vaccinating at scale.

Implementation of national policy guidelines at the local level could have been rationalized and standardized to a greater extent. For example, processes around the accreditation of vaccine sites, the registration of vaccinees, and post vaccination reporting requirements differed across host LGUs, causing operational challenges for private HCPs, and difficulties for our vaccinees.

A compounding factor was (and is) the high level of variability in terms of capacity and resources across LGUs. National offices can and should take proactive action in assessing and addressing this inherent variability, especially in light of the broad-based powers and accountabilities conferred to LGUs by the Local Government Code.

Figure 6.18: COVIDShield Vaccination Site in Ayala Malls Manila Bay

Figure 6.19: On December 9, 2021, AC Health was recognized by the Department of Health, the National Task Force Against COVID-19, and the Department of Interior and Local Government, for its unwavering support for the implementation and rollout of the National Vaccination Days. In photo, COVIDShield Project Lead, Margaret Bengzon, receiving the award.

On the whole though, much of the success of our nation's COVID-19 response, especially with respect to the NVDP, may be traced back directly to the unprecedented level of collaboration, cooperation and partnership among all stakeholders. In no other country in the world was the private sector so engaged with the government in fighting COVID-19 as in the Philippines. We can certainly draw from and build upon this template as we continue to face the social and economic challenges of a post-pandemic world.

6.25 Managing the Cold Chain

Raymund Azurin, Senior Vice President for Corporate Affairs,
Jannette Jakosalem, Market Managing Director,
Zuellig Pharma Corporation

Zuellig Pharma's main mission when supporting the Philippine government's national COVID-19 vaccination programme was to contribute our logistics capabilities and network, with the aim of maximizing healthcare outcomes. We were ready to partner with the Philippine government to ensure the quickest, and most efficient distribution of COVID-19 vaccines – while ensuring product quality, and integrity throughout the whole value chain.

We anticipated several challenges of such a large-scale programme to vaccinate 70% of the local population. These included:

- Availability of adequate pharmaceutical grade warehouses and storage capacity to support any stockpiling requirements of vaccines as well as the unique storage requirements of different types of vaccines.
- Solid transport systems, networks and capabilities for the efficient movement of vaccines across an archipelagic state while ensuring the temperature control and safety of the vaccines in transit.
- Supply chain management systems to support the inventory control and management of vaccines, and just-in-time delivery to vaccination sites. A proper system would include the necessary expertise to ensure that the country would not run out of vaccines at the height of the vaccination programme, would not overstock vaccines to avoid wastage and expiration, and that any losses would be contained.

Zuellig Pharma leveraged a century's worth of experience in healthcare and vaccines supply chain management to create efficient, effective and transparent supply chain processes to meet the government's objective of vaccinating as many Filipinos as quickly as possible.

We expanded our infrastructure by acquiring additional warehousing space and expanded our transport capabilities by acquiring additional eZCoolers, Zuellig Pharma's proprietary technology of a fully validated packaging system which maintains the required temperature range of the COVID-19 vaccines being transported.

We embarked on an information campaign to define the requirements of a pharmaceutical-grade warehouse and to explain the regulatory requirements to handle sensitive vaccines, especially those that are still on an Emergency Use Authorization status. Webinars were conducted with various stakeholders to ensure proper alignment on processes, the use of systems and the proper handling of vaccines.

We further refined our internal systems, information technology platform and personnel capabilities to assure Filipinos that the vaccines maintained the expected quality and efficacy as defined by their manufacturers. Our warehouse personnel and accredited transport providers were given additional training in handling temperature sensitive products to adhere to the high-quality standards and Good Storage and Distribution Practices requirements of the vaccines.

From our experience over the past months, we highlight three key areas for improvement to ensure a stronger and resilient healthcare system:

- Digitalisation of the healthcare supply chain. Setting up a properly designed and automated system that starts from the procurement process all the way to warehousing, inventory management, and delivery to point-of-care. Ideally, the supply chain system should link with public hospital systems that are able to track the demand and utilisation of the vaccines, medicines and pharmaceutical supplies.

- Use of data analytics for better decision making. Creating dashboards will help monitor performance at various levels of the healthcare system and will aid in decision making especially around how much to procure and when to procure.

- Creation of a national supply chain network. The fragmented supply chain network resulted in moving products from one warehouse to another. This was expensive and risky as sensitive vaccines are exposed to unnecessary multiple handling and temperature excursions. A national supply chain network would enable centralised stockpiling of vaccines, medicines and supplies in warehouses linked to a solid transport system to enable direct deliveries to the point-of-care.

The overall experience of the supply chain and cold chain management of vaccines demonstrates what can be achieved with a strong public-private collaboration. We believe that the One Nation approach allowed the country to rise above the pandemic and re-open its economy.

6.26 Supply Chain Management Challenges

Reynaldo Aguilera, Supply Chain Consultant
Evaristo Francisco, Jr., Chief Executive Officer,
Center for Excellence in Governance

Complexity was the main challenge in Supply Chain:

The scope of end-to-end Supply Chain of our Covid-19 vaccine program covered Demand Planning, Supply Planning, Procurement (including donations), Cold Chain Warehouse, and Deployment. Distribution points were spread across 17 regions, 91 provinces and almost 4,000 municipalities and cities. These were being served centrally from two central storage facilities.

We had seven vaccine brands with different storage requirements:

Type of Storage	Temperature	Vaccine Brands
Ultra Low Freezer (ULF)	-90 to -60 Degrees Cº	Pfizer Adult and Pedia, Sputnik
Freezer	-15 to -25 Degrees Cº	Moderna
Refrigerated	+2 to +8 Degrees Cº	AstraZeneca and Sinovac, Sinopharm, Janssen

Table 6.1: Freezer specifications for various vaccines

All regions and provinces were provided with sufficient storage warehouses to ensure vaccines were safe and in good quality condition upon receipt from the central storage facilities.

All operational aspects of the Covid-19 vaccination program were centralized through the National Vaccination Operations Center (NVOC) headed by Undersecretary Myrna Cabotaje under the leadership and direction of National Task Force Deputy Chief Implementer Secretary Vince Dizon and Chief Implementer Secretary Charlie Galvez.

All ancillaries (i.e. syringes, diluents and safety collector boxes) were included in the management of storage and inventories.

We needed to overcome operational challenges:

The National Vaccine Operations Program required Supply Chain systems and processes which could deliver vaccines at the right quantities, at the right places, and at the right times, in the most efficient manner possible. At the same time, an information system was required so that all leaders and stakeholders could clearly see the forecasted jab count, end-to-end inventories, movement of vaccines through each stage of the supply chain, and delivery of results versus commitments. These were the key elements in making the right decisions on movement and logistics with the right timing.

In the early days of the vaccine operations program, there was difficulty in delivering these Supply Chain expectations. Inventory reports were delayed and were inaccurate. There was a lack of key performance indicators (KPI's) to clearly measure and improve Supply Chain and Logistics performance. Vaccine preference made vaccine inventory control difficult. The forecast and replenishment cycle needed horizontal collaboration, i.e. collaboration and alignment of different stakeholders and departments involved through the process.

Addressing these challenges:

Systems, processes, and strengthening of capabilities addressed these challenges. Routine meetings with the relevant stakeholders involved were established – the Daily Rollout meeting, NVOC and Regional Vaccination Operations Center meetings to monitor jab performance, checking of inventories, and following up agreed actions. Information systems and dashboards were set up to enable visibility of forecasts, performance, and inventory. There was strong leadership and orchestration at national level, combined with dedicated and hardworking NVOC and Supply Chain Management Services (SCMS) personnel. Daily alignment ensured monitoring of results and identification of execution gaps. Persistence and consistency were critical success factors.

There was seamless partnership and collaboration with the private sector to set-up and support the execution of these processes and systems. NVOC and SCMS personnel were very open and were always willing to learn these systems and processes.

This Supply Chain evolution should continue:

As we move forward, it is important that the improvement of systems, processes and capabilities be continued. In the short-term, key actions would be:

- Strengthen the performance dashboards – robust key performance indicators to facilitate decision making.
- Formulate guidelines and policies to serve as guardrails for good supply chain practices.
- Institutionalize forecasting systems, risk identification, and assessment.
- Supply chain and logistics training and immersion of key players.

In the medium to long-term, the following will help bring supply chain and logistics to the next level:

- System Automation (ERP) for Demand and Supply Planning and Warehouse Management System
- Create a Supply Chain Preparedness book as part of the DOH Business Recovery and Resiliency Plan (BRRP).

6.27 Expanding the Vaccination Site Network

Usec. Myrna Cabotaje, National Vaccination Operations Center (NVOC), Dr. Shaymae Ufano, National Vaccination Operations Center (NVOC), Department of Health

The forging of the strong partnership between the government and the private sector started early in the pandemic. As early as April 2020, the private sector, the Department of Trade and Industry and Department of Health have been coordinating for the repurposing of local products to Personal Protective Equipment (PPEs). The same collaborative, adaptive, and innovative spirit was channeled by the government and the private sector when it came time to work on the roll-out of COVID-19 vaccines. The group started coordination during the Vaccine Logistics Summit on December 16, 2020. The National Deployment and Vaccination Plan (NDVP) for COVID-19 was finalized in January 2021. The document provided operational guidance on the implementation of COVID-19 vaccine deployment and vaccination program, which includes structure norms including milestones/goals with timelines and the agencies and persons responsible for each workstream.

The vaccination program rolled-out in phases so priority groups will be serviced and protected first. The country prioritized healthcare workers (A1) and other frontliners first; then senior citizens (A2) and the immunocompromised (A3); and finally, the economic frontliners (A4) and indigents (A5). Eventually, the program accommodated adolescents (12-17 years old) and finally, younger aged children (5-11 years old).

To accommodate the influx of new priority groups for every month of the roll-out, local governments inspected, approved and provided assistance to many different venues to serve as vaccination sites. The national government, through the Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF), National Task Force (NTF) and National Vaccination Operations Center (NVOC), provided policy and capacity development support with the opening of new vaccination sites. Local Government Units and community partners were able to open mobile vaccine sites in vans or buses; stationary sites in public schools, public hospitals, and public parks; pop-up sites in workplaces, and public transportation terminals. Vaccination was even allowed to continue even through the campaign and election period.

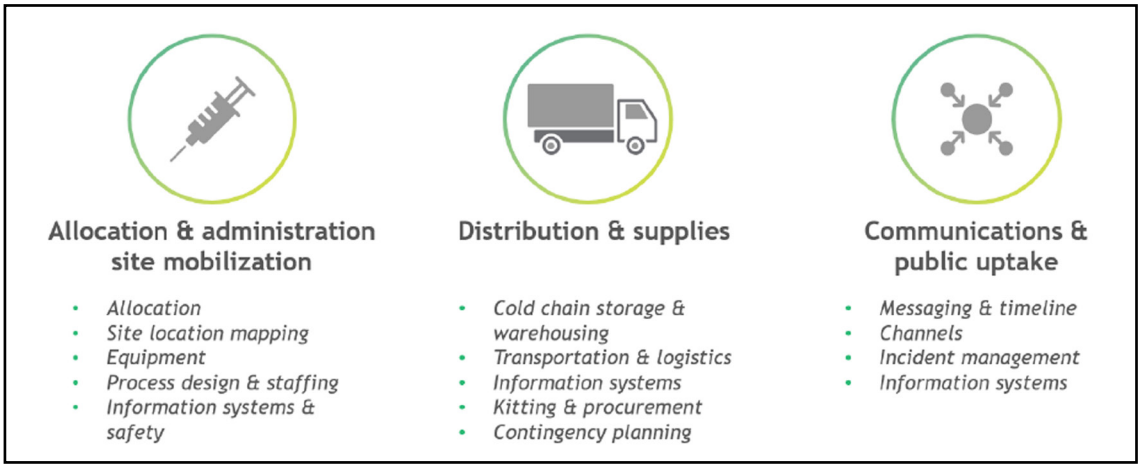


Figure 6.20: The three major workstreams are the main work areas that the DOH NVOC, NTF, and industry partners have worked on for the vaccine roll-out. These workstreams illustrate in a snapshot that the vaccination program was/is a multi-sectoral, interdisciplinary endeavor.

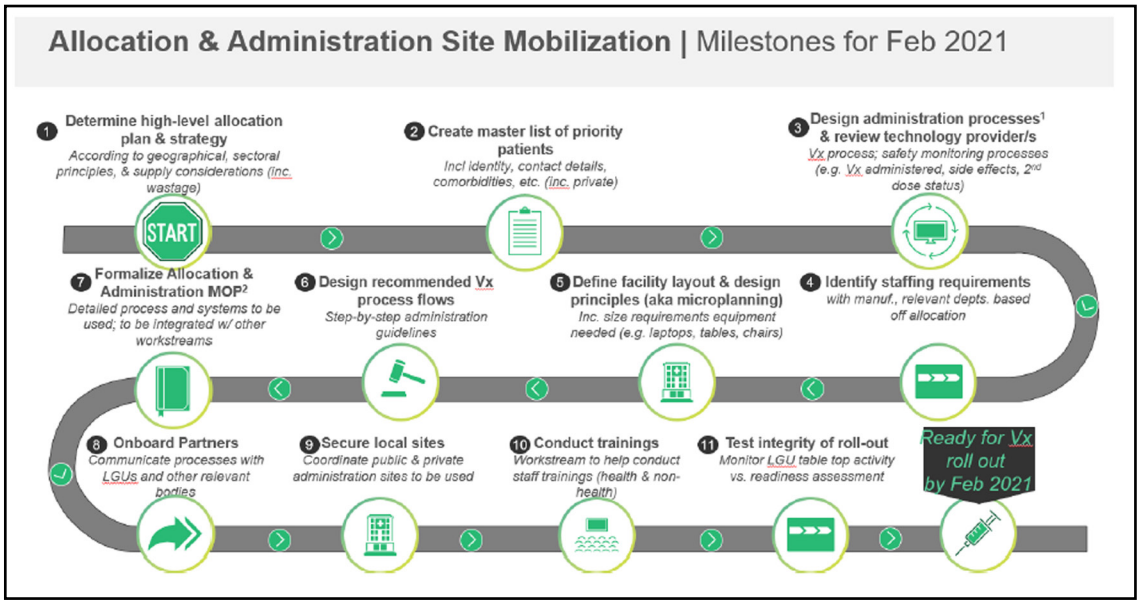


Figure 6.21: Vaccination Allocation and Administration Site Mobilization: Milestones for February 2021. This process flow has been the template for all administration sites throughout the whole rollout.

With their own procured COVID-19 vaccines, the private sector was able to mirror this set-up by the government and ramp-up performance and vaccination coverage, especially in metropolitan cities. Major mall operators such as SM Supermalls, Robinsons, and Ayala offered their activity areas and/or then-closed movie theaters into mega vaccination sites that can accomplish thousands of vaccinations each day. Catholic churches and chapels, in cooperation with the Catholic Bishops' Conference of the Philippines Episcopal Commission on Healthcare, also became pop-up sites. Other pop-up sites were also arranged in cooperation with ecozones, the Business Process Outsourcing sector, major corporations and homeowner associations. Most recently, fast food chains and major pharmacies and clinic chains also offered their locations as vaccination sites.

This COVID-19 pandemic may just be one of the most devastating major public health concerns in our lifetime. Truly, no one is safe until everyone is safe. Through this joint effort with Task Force T3 (Test, Trace, Treat), the country is able to cover 62.20% of the total population (88.86% of the target population) as of June 1, 2022. As advised by the President and our Secretary of Health, we were able to apply a whole-of-nation and whole-of-society approach to the vaccination rollout in this aspect among many others. The fast expansion of vaccination sites allowed for a multiplier effect in vaccination coverage, allowing the country to protect its citizens sooner rather than later. It is my hope that similar collective action and support will be made available to other social issues in the future.

6.28 Data Management and the Daily Vaccination Dashboard

Christian Lauron, Partner, SGV & Co - Ernst & Young Philippines
Christian Edmund Chua, Director, SGV & Co - Ernst & Young Philippines

In support of the Philippines' National Vaccination Program, the Department of Information and Communications Technology (DICT) was tasked to lead the data management of the national vaccination operations. The services of SyCip, Gorres, Velayo, & Co. (SGV) were acquired to support the data management needs of the National Vaccination Operations Center (NVOC). Together with NVOC, SGV was primarily tasked to collect, analyze, and report the daily vaccination and inventory numbers in the country on a daily operations dashboard. Data analysis presented at these daily meetings would aid NVOC, regional and local vaccination operations with operational data for tactical interventions and strategic direction. Tactical interventions include ensuring sufficient inventory levels for the next five days, while strategic direction focuses on target setting for regular, national and special vaccination days.

The vaccination operation has two types of primary data – operational data and line list data. Operational data refers to the vaccination accomplishment quick count and inventory levels, while line list data contains the detailed vaccination records of the vaccinee. The original plan was to use the line list data to generate the operational data. Ideally, the line list data should be completed after the vaccination event and uploaded on a daily basis. However, due to initial challenges, the planned scenario of using line list data to generate data for operational monitoring did not materialize. These challenges include lack of human resources to encode and upload the 27 data fields of line list on a daily basis, lack of internet connectivity at vaccination site level and difficulty of deploying systems to cover 1,740 plus local government units (LGUs), provincial and regional offices.

To address the pressing issue of generating operational data, the Vaccination Operations Reporting System (VORS) was swiftly developed with close collaboration with the NVOC, the Department of Health Center for Health Development (CHDs), DICT Regional cluster and LGUs for continuous improvement and ensure that the system can capture the strategic and tactical changes in the daily vaccination rollout. VORS was developed in four days and deployed to all LGUs in two weeks.

The success of VORS can be attributed to the following:

1) Aligning the operational set-up of VORS to the inherent institutional structure of the government;

2) Have a small(er) multidisciplinary team to design, deliver and operate VORS; and

3) Be committed to outcome rather than output

In the early days of data management, it was expected that there would be a system that could collect vaccination accomplishments at the vaccination site level on a real time basis. The system will have a centralized database that can share information to the national decision makers. However, the ideal scenario was impossible to implement given the short period for development and deployment, and coverage of 1,741 local, provincial and regional government units with different levels of technology resources and digital maturity. To make VORS work, we implemented the following:

1) Collect data at LGU level rather than at vaccination site level. This allowed the national government and LGUs to have the same data on vaccination accomplishments and give flexibility in collected data from vaccination sites. In most instances, vaccination sites submit operational data to its LGU through SMS and messaging apps. Further, it allowed national resources to focus on 1,741 users rather than to 10,000+ vaccination sites; and

2) Build a platform to provide data encoding and data sharing facilities. In the VORS, three access points were created, each with a different purpose - a local government platform where LGUs can submit their own vaccination accomplishment and inventory data, a power user platform where provincial and regional users can submit vaccination data on behalf of the LGUs under their jurisdiction, and a data library where provincial, regional, and national users, including NVOC, can view and monitor the data thru real time data tables and visual dashboards. The power user platform was heavily used in geographically isolated and disadvantaged areas and during typhoons, when there is no internet connection at the LGU level.

The adaptability to respond to changing vaccination situations in a timely manner was crucial, so a multidisciplinary team of six persons was deployed. The team leader led the design of the system in close consultation with NVOC and CHDs, who are the primary users of the data generated from the system. The team leader was also the lead trainer to the LGUs and reporter of the vaccination operations status in the daily vaccine rollout. During the after office hours and weekends, the team leader was also the single point of contact for technical and data issues. The

same responsibilities of the team leader were shared by two operations analysts. The team leader and operations analysts will share the workload of covering 17 regions in the country. The operations analysts also acted as data analysts, who calculated the metrics required by NVOC and national principals. Proactive enhancements were made in the system, because the team is also users of the system. The three tech developers developed and operated the VORS platform. Most issues were fixed within an hour or less, because vaccination data must be reported by LGUs before 6am the next day. With these multi-responsibilities per individual, it allowed each team member to quickly diagnose the problem, formulate solutions and work closely with each other and the end users to deploy enhancements within eight hours. The exercise was a daily routine. Hence, for the duration of 160 days of daily vaccine rollout, we were able to present relevant and reliable data. To support the small team at the national level, the CHDs and DICT regional clusters acted as the first tier support to our LGUs. The lean core data management team at national and more resources to the regional levels mirrored the set-up of the NVOC and RVOC.

Our team realized that this project was nothing similar to our previous projects. We are in emergency operations. It was also our first project in the public health sector. To make it work, our team focused on the necessary outcome – producing reliable operations data on a daily basis. Our small team has to operate Monday to Sunday. Work starts as early as 4:30am. We train LGUs from 8am to 10pm. These things were not part of our contract with the government. VORS was not part of the contract. We did it because we were focused on the mission and outcome. We are inspired by the sacrifices of our doctors, nurses and public health officers. In the end, I believe that the deciding factor for the success of VORS was the highest level of commitment from our team, NVOC, RVOC and LGUs.

The success of the system would not have been possible without the support and contribution of the following departments and offices: the Department of Health's Centers for Health and Development of each region who acted as the first level of support to LGUs, the National Vaccination Operations Center for its strong leadership in making the decisive shift to a single reporting system for data reporting, and in policy-making and operations, and the regional clusters of DICT for their committed leadership in mobilizing the regional resources during regular and national vaccination days.

6.29 Paper, Practice, and Passing the Praxis: Playbooks and Best Practices

Vianca Jasmin Anglo, Associate, Task Force T3
Melissa Lavente-Correa, Associate, Task Force T3
Mita Lourdes Angela Santiago, Associate, Task Force T3
Kristan Jela Tambio, Associate, Task Force T3

There was a great sigh of relief and sense of security among many Filipinos when the COVID-19 vaccines first arrived in the Philippines around the last weeks of February 2021. After a year of being in lock down, facing isolation, feelings of uneasiness, and uncertainty of what may come, the arrival of the COVID-19 vaccines brought hope that we can go back to our usual lives and finally be with our family, friends, and colleagues all together once more. However, the first arrival of the COVID-19 vaccine was met with limited supplies and a great shortage of the needed equipment and logistical support to move the vaccines to different cities. There was an urgency to provide guidance, resources, and recommendations for the vaccine rollout to all Local Government Units (LGUs) in the country. This is where we started to work and consult with our partners from the public and private sector in pooling all of the available resources, strategies and known best practices in the vaccination program.

Planning for the playbook commenced around April 2021 with drafting the outline of topics and strategies with our public sector counterparts. The aim of this first draft was to provide a practical guide of implementing vaccination plans for local chief executives and on-the-ground vaccine personnel in terms of the immunization and the vaccine supply and site management. We integrated varied sources of information and available toolkits from World Health Organization training and vaccine explainers, Department of Health issuances, and other materials procured from the private sector. Nonetheless, there were still gaps in the playbook, especially in addressing the varied needs of different municipalities and cities. There was also a need to simplify the playbook to be more comprehensive and compact. By the end of the first draft of the playbook, we recommended the interview and conduct of gap analysis from a sample of city mayors on their implementation of the COVID-19 vaccine rollout.

As more vaccines arrived in the Philippines in the third quarter of 2021, the National Capital Region (NCR) and additional eight areas were encouraged to utilize different strategies and mechanisms that will help increase their vaccine utilization and achieve population protection by the end of 2021.

Following the **Ingat Angat Bakuna Benefits Live (BBL)** program which aired on Facebook from May to June of 2021, the NCR Best Practices Playbook was created which collated all the best practices being implemented across NCR, as well as recommendations of the public health experts, as shared during the BBL.

Figure 6.22, Poster for the Ingat Angat Bakuna Benefits Live (BBL) Program

These practices were geared towards vaccine registration, increasing demand generation for vaccines, practical guides for vaccine administration, increasing vaccine throughput, and other unique practices across LGUs. We were able to share the NCR Best Practices Playbook through our private and public sector network, as well as to cities such as Iloilo, Puerto Princesa, Legazpi, Tagbilaran, Zamboanga, and General Santos which were starting to receive increasing allocations of the vaccines.

In spite of the ample supply of COVID-19 vaccines in the last quarter of 2021, there was low vaccine uptake among LGUs and high vaccine hesitancy across different sectors of society. Out of more than 110 million Filipinos in 2021, there were only 39.5 million Filipinos who have completed their primary series in which only 35% of our total population have been fully vaccinated. There was a need to ramp up the vaccination drive, as well as increase the demand and throughput for each city.

In response to this need, we created the Vax to the Max which is a toolkit that provides practical guidance on how the government, non-government organizations, private sector, and community-based groups can help in COVID-19 vaccination efforts. The playbook emphasizes and offers practical recommendations for multi-sectoral partnerships, vaccine deployment updates, offer vaccine benefits, and examples of vaccine collaborator initiatives by organizations. We were able to share the playbook with different stakeholders in the DOH regional CHDs (Center for Health Development) as well as non-government organizations (NGO), ecozones, and private sector partners.

Preparing for future crisis

The experience of Task Force T3 (Test, Trace, Treat) during this period in the pandemic shed light on the value of playbooks to quickly relay critical information that can be adapted to local context.

Given the unprecedented and massive scale of vaccination efforts left in the hands of the local governments, the following are the key lessons learned in the preparation and deployment of playbooks:

1. Design playbooks to be easily understood: T3 playbooks were deliberately designed to be simple in order to get the key strategies out quickly, as implementing partners were already overwhelmed with a variety of tasks and administrative work;

2. Put value in collaboration: lessons can be learned from a variety of partners. Through our experiences and interactions with city mayors, local task forces, CHDs, NGOs, ecozones, faith-based communities, and many other communities, we learned the importance of ensuring that everyone should be guided and supported on navigating in these difficult times of the pandemic. By collaborating and sharing ideas and best practices among different sectors, we were able to learn, be flexible, and reach further into the communities that needed support and help; and

3. Regularly update information: as more organizations took part in vaccine administration, it was important to capture these best practices for the benefit of other organizations. Several versions of the same playbook were released to include new strategies and other replicable actions.

07

GOVERNANCE

ORCHESTRATING THE RESPONSE: NATIONAL, LOCAL, AND PRIVATE SECTOR

7.30 Navigating Through the Pandemic in Metro Manila

Benjamin Abalos Jr., Chairman, Metro Manila Development Authority

Editor's Note: *Benjamin Abalos, Jr., was Chairman of the Metro Manila Development Authority (MMDA) when the National Vaccine Deployment Program started in 2021. He played a critical role in coordinating with all the Mayors of the National Capital Region and also extended assistance outside of NCR into neighboring provinces. He has since been named Secretary of the Department of Interior and Local Government (DILG).*

It is hard to imagine what we needed to do to get through the COVID-19 pandemic. Covid was a big question mark, and it was difficult to react to something unknown and unseen to us.

I came in as Chairman of the Metropolitan Manila Development Authority (MMDA) in January 2021 just as the South African variant was starting to pick up, causing a surge that greatly increased the number of positive cases in Metro Manila. It was a top priority of mine to address the COVID-19 pandemic as the head of an agency with more than 12 million residents.

By 2021, we were already about a year into the pandemic and the arrival of the life-saving vaccines was on the horizon. My first order of business was to work with the Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF), National Task Force, and Metro Manila mayors. I helped initiate the "Vax As One" program of the Metro Manila Mayors working closely with the local chief executives in a coordinated fashion towards the downward trend of COVID-19 cases in the metropolis. It has proven significant that policies in the metropolis were united to achieve its common vision of protecting the health and welfare of Metro Manileños.

Looking back on what transpired the past year, we have achieved so much in such a short amount of time. Today almost 85% of Metro Manila's eligible population has been protected with the COVID-19 vaccine. We are also almost back to normal with low case numbers and lessened restriction under Alert Level 1. There were many important lessons learned in navigating Metro Manila through the pandemic.

Lessons Learned

Creating the Playbook during a public health emergency

This public health emergency was unprecedented, and the virus moved quickly. Because there was no playbook, we had to be decisive and dare to try out a lot of new things, cognizant of the fact that people's lives were on the line.

I remember the time when we first met with the private sector. Experts in their own field, we were introduced to the idea of a dashboard to help manage the supply chain of vaccines around Metro Manila. When the vaccines first arrived we needed to prioritize the most vulnerable quickly and, at the same time, manage the limited supply. Using a data-driven approach, we were able to minimize the amount of times vaccines were left in storage.

As more vaccines arrived, we also had to deal with vaccination hesitancy. Working as one, different organizations came up with creative ways to promote vaccination.

To reach more people we also had to innovate and move away from the traditional vaccination sites. With more vaccines, more and more establishments opened up to the government to offer their malls, stores, offices, etc. in an effort to reach more people. Vaccines were even made more accessible with innovations such as vaccine drive-throughs, the Office of the Vice President's Vaccine Express, as well as the MMDA Mobile Vaccination program. Eventually this Vax As One strategy moved to nearby provinces outside of Metro Manila, such as to industrial parks and estates in Region IV-A.

As we enjoy high vaccination rates and a downtrend in cases, we must not forget what we went through the past two years. Given all that we have done it is important to take note of what worked and what did not work, study it, and institutionalize it so that we are better prepared for the next pandemic.

Collaboration and Cooperation

More than anything, what got us through the pandemic was collaboration and cooperation. At a critical point in our country's history, the national government, local government, and the private sector worked hand-in-hand to get through the many challenges posed to us by COVID-19. The will to collaborate stemmed from the fact that we recognized each other's area of expertise, and the mutual respect we held for each other.

One of the most critical success factors in Metro Manila was that all Mayors spoke with one voice. The National Capital Region (NCR) is actually composed of 17 autonomous local government units (LGUs). NCR does not have a governor but

rather an MMDA Chairman who plays a coordinating role, reporting to the 17-member council. The mayors' ability to speak with one voice with respect to policy decisions on lockdowns, vaccinations, and other important matters played an absolutely important role. Another important factor was that each of these LGUs were willing to share resources with each other, with neighboring cities in Metro Manila, as everyone understood that no one was safe unless everybody was safe.

Words cannot express how thankful I am for the support of the private sector and volunteers, and, of course, the Metro Manila Mayors and their staff. These men and women went above and beyond the call of duty in service of the Filipino people.

7.31 An LGU Perspective of the Pandemic Response and the Partnership between Government and Private Sector

Lino Edgardo Schramm Cayetano, City Mayor, Taguig City

The pandemic brought about extraordinary challenges for local government units LGUs throughout the country.

LGUs were tasked to do everything from cascading proper information about the virus, implementing the initial stages of the lockdown, institutionalizing health and safety protocols, ensuring that testing is available, and that hospitals are fully equipped with beds, medicines, doctors, nurses, healthworkers, and later on, that vaccination is fast, safe, and accessible to people.

The reality though was we were tasked to do "everything" but we could NOT have done "anything" without the partnerships and extraordinary spirit of bayanihan from different sectors of the community.

It was also essential that LGUs were guided by a national strategy and implemented it with a multistakeholder approach. There was a level of cooperation and engagement between the LGU, private sector, and national government that was unprecedented though much of it was unreported.

These almost daily meetings were where much of the work was done–albeit between a lot of heated debates as different perspectives clashed but it allowed us to see the bigger picture and helped us make better decisions.

It was March 2020 when local governments were set at the forefront of battle. It was when the national government announced that the country would be on lockdown. LGUs were tasked to curtail movement, establish stringent checkpoints, and release quarantine passes. This was not an easy task. In Taguig, home of one of the country's financial capitals, it was a little easier because we have been talking to stakeholders since late January. We were already working closely with Ayala, SM, Vista, and Megaworld malls as my team and I personally met with their managers to explain the situation before any lockdown was announced.

LGUs also bore the responsibility of disseminating information, distributing relief assistance to those who have lost their jobs and businesses, and assure every household had food on their table. A few days into the lockdown, there were talks

of possible riots as there were isolated cases of looting and theft reported that could have triggered something bigger. This is where engagement with key stakeholders such as barangay officials, homeowners association officers, building managers and community leaders helped us establish trust and areas of cooperation by having an open line of communication. We reached out through our weekly town hall meetings and transparently shared information in the form of daily COVID-19 reports and summarized weekly reports and updates from our data gathering team and City Epidemiological Disease Surveillance Unit that we made available on our website and social media sites- Facebook, Twitter, Instagram, and Viber.

Aside from addressing social concerns, we also implemented the Prevent, Detect, Isolate, Treat, Re-integrate (PDITR) strategy as tasked by the Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF) and based on the Department of Health's epidemiological playbook. We had to provide accessible testing, contact tracing measures, isolation and quarantine facilities, stockpiling necessary therapeutics, and later on acquiring vaccines as it was available for emergency use.

None of this could have been addressed properly, equally, and with the speed needed if not for the exceptional cooperation between the national government and the private sector. A good example of this was when testing was rolled out. While we were able to test aggressively, it was nowhere near the numbers we needed. As we prepared to scale-up, the national government through Secretary Vince Dizon reached out and informed us that together with the Task Force T3 (Test, Trace, Treat), they are building mega-testing sites and one of which will be at Enderun Colleges in Taguig. This dramatically increased testing in Taguig and nearby areas. The set-up also served as a model for us to emulate.

Soon after, in April 2020, Taguig was able to establish the first drive-thru testing site in the country. Ayala and the Fort Bonifacio Development Corporation provided the venue and our city-procured testing kits were processed either by the national government at the Research Institute for Tropical Medicine or the Philippine Red Cross laboratory. We were able to focus on establishing the workflow, fixing work arrangements of our health workers, and building an online appointment system. This was followed shortly by an early "gamechanger" for Taguig as we were able to bring testing to all our 31 health centers afterwards.

This served as the early model and template for the partnership the national, local and private sector needed to embrace in its most crucial period – vaccination.

Task Force T3 and private companies we engaged with directly shared their knowledge, capacities, and expertise with no restraint - from helping streamline the vaccination process, cold-chain storage, delivery, to distribution coupled with their strong and compelling communication programs and materials, helped us convince and mobilize people to get inoculated. The competence and proficiency that these private companies exhibited, helped fill the gap in government service delivery to ensure that people get vaccinated safely and swiftly.

Aside from our community vaccination hubs and mobile vaccination buses, with the help of the private sector, our largest vaccination sites were in our malls – Vista Mall, Venice Grand Canal, Uptown, SM Aura, and BGC High Street. True to their word, as we established the supply chain and generated demand, the national government came through with the vaccines.

The cooperation between the national government, LGUs, and Task Force T3 during the pandemic was the epitome of private-public-partnership. Their engagement from policy formulation to implementation, assessment and policy revision is truly something that we have never witnessed before. This rapport we built allowed us to gain people's trust and confidence in our pandemic response.

As of April 2022, after more than two years of sacrifices and hearts poured to good work, the City of Taguig has a case fatality rate of 0.76% and 52 deaths per 100,000 population. It fares among the lowest numbers in highly urbanized cities across the world. Although no pandemic response is perfect, I believe that the partnership and system of engagement with the private sector established by Task Force T3, the national government through the IATF, and various local government units should be our model moving forward - not just to prepare for future scenarios but to address today's problems in a more effective, expedient, and inclusive way.

7.32 Vaccinating Quezon City's Population: How we Mobilized Resources, Built Partnerships, Provided Services

Esperanza Anita Escaño-Arias, MD, MPH
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Quezon City, a constant forerunner in the implementation of all regular health programs of the Department of Health (DOH), put its assets to good use in its handling of the COVID-19 pandemic. Indeed, despite seemingly insurmountable odds in the early days of the pandemic, the city government more than found its footing and looks back on its response to an unprecedented public health emergency with valuable learnings and new tools going forward.

This article is an account of the vaccination program as part of the pandemic response of the Quezon City government, specifically of its Health Department (QCHD) and Task Force Vax to Normal, an ad hoc group formed to plan and prepare for the arrival and administration of vaccines. Through it we aim to share our experiences with other partners as a reference for future emergencies.

Quezon City: NCR's Most Populous

Of the 16 cities in the National Capital Region (NCR), Quezon City has the highest population at 3.2 million in 2022—or more than a fifth of the NCR total. Although it is also the largest in the NCR in terms of geographical area, the city includes some of the most densely populated residential areas in all of the metropolis. From the outset, containing an unknown and fast-spreading virus seemed like uphill climb, in uncharted territory.

With containment as the aim, lockdowns became the go-to course of action of the national or local governments. But these led to many households losing incomes as businesses closed or went on hiatus. As the pandemic wore on, it became clear that the only way out of it without the economy and morale collapsing was a vaccine.

Vaccination in Quezon City before and during the Pandemic

Pre-pandemic, Quezon City often achieved 100% of its yearly target. In 2018, more than 173,000 infants were vaccinated in the city's district health centers. These vaccines included Bacille Calmette Guérin, hepatitis, Diphtheria, Pertussis, and Tetanus, polio, and measles. Including other categories, total vaccinations for 2018 went up to nearly 360,000. If we consider this as baseline, the vaccination target against COVID-19 massively exceeded it. To achieve 'herd immunity,' the city aimed

to vaccinate 70%, or 1.8 million, of the city's adult population from March to September 2021—or within just six months!

By the end of June 2022, Quezon City had more than 2.17 M of its adult population fully vaccinated, far exceeding its target. Pediatric vaccination did not quite get the same results. While a good 75% of 12–17-year-olds had been fully vaccinated by 30 June 2022, only about 20% of 5–11-year-olds were.

Notable challenges, particularly in the first few months, were (A) the erratic **supply** of vaccines from the national government, (B) insufficient **access** points for vaccination, (C) insufficient **workforce** to serve the increased number of vaccination sites, and (D) lack of **information** or wrong information about the vaccine, brand preference, and fear associated with side effects, especially among the pediatric group.

The city government's initiatives to address these are discussed below.

Challenge #1: Managing Supply and Storage

To achieve herd immunity, 70% percent of all Quezon City residents 18 years of age and older—or 1.8 million individuals—must be fully vaccinated. By definition as of this writing, "fully vaccinated" meant an individual who has had two doses of the COVID-19 vaccine (or a single dose of J&J/Janssen). For a two-shot primary series for each person, this meant a vaccine supply requirement of 3.4 M doses. This number does not yet include doses for the pediatric primary series and booster doses for all eligible.

Purchase of Additional Vaccines

The bulk of the vaccines as well as the supply of syringes for Quezon City's use was provided by the DOH through its regional office, the National Capital Region - Center for Health Development (NCR-CHD).

The city government, for its part, procured, through **R.A. 11525** or the **COVID-19 Vaccination Program Act of 2021**, an additional 1.1 M AstraZeneca (AZ) doses for 550,000 individuals, to supposedly augment the supply from the national government. Delivery of the AZ vaccines, however, was delayed so the city had to depend on the national government for further supplies. The bulk of the AZ vaccines were delivered in December 2021 onwards as demand for vaccines was slowing down.

Storage and Logistics

The volume of vaccines required to immunize close to two million people at the shortest time possible needed not just large but reliable storage, with assurance of uninterrupted electricity, as the vials had to be kept at very specific low temperatures. Daily movement of vaccines to service the increasing number of vaccination sites which, eventually totalled 455, also demanded a reliable logistics system. The city thus partnered with Zuellig Pharma, Inc. for storage and distribution. Vaccines coming from the DOH were stored at Zuellig's cold storage facility in Parañaque City. Security of the daily transport of vaccines to the vaccination sites was ensured through police escorts from the Quezon City Police District (QCPD).

In November 2021, Quezon City established its own permanent cold storage facility to save on the high cost of outsourcing storage and distribution services to a private provider. The new warehouse is located at Scout Reyes Street in Barangay Paligsahan and served as storage facility for COVID-19 vaccines and other vaccines used in the city government's regular immunization programs.

Challenge #2: Widening Access to Vaccination

Quezon City started with six vaccination sites in March 2021—one in each of the city's six districts, with a capacity of about 1,000 jabs a day. But the vaccination targets required more sites to be put up.

By April 2021, each district added one more vaccination site, for a total of twelve across the entire city. While a significant addition, these sites were still not enough. Many residents had difficulties going for vaccination due to work schedules, distance from the health center, mobility restrictions, or having medical conditions that put them at higher risk for infection. The city had to look for more ways to bring vaccination services to people.

By May 2021, vaccination sites started sprouting all over the city, as a result of the city government partnering with several sectors to make the COVID-19 vaccines more accessible.

The number of sites increased steadily. As of this writing, **455 sites** were operational for the vaccine rollout as shown below:

- permanent **(84)**,
- pop-up **(110)**,
- homeowners/subdivision **(220)**, and
- private partners **(41)**

Vaccination at QC Health Facilities

From the district level, Quezon City committed more facilities into service so that from October 2021 to March 2022, vaccination services progressively became available at Quezon City's 66 health centers, eight social hygiene/sundown clinics, and 10 lying-in clinics. This was part of the plan to make COVID vaccination part of the city's regular immunization program in the coming years.

Pop-up Vaccination Sites

To widen access to the COVID-19 vaccine and accommodate more people, the QCHD worked with malls, churches, schools, theaters, subdivisions, closed institutions, hospitals, private companies, and government agencies to set up pop-up vaccination sites.

Bakuna Night: Night Vaccination for Day Workers

Bakuna Night, held after office hours and up to as late as 2 a.m., was started in May 2021 to accommodate workers unavailable for vaccination during daytime work hours. It was later expanded to **Bakuna All Day**, which ran from 8 a.m. to 9 p.m. or even later on weekdays, and open on weekends.

Vaccination in Homes, Restricted Institutions, and Jails

Health Care Workers went house-to-house to service the bedridden and those with mobility difficulties. They also visited restricted facilities such as monasteries, seminaries, orphanages, drug rehabilitation centers, and home care institutions to vaccinate seniors, debilitated persons, eligible children in lockdown, and staff of these premises. Working with the medical teams of the Bureau of Jail Management and Penology (BJMP) and the QCPD. HCWs also visited the Quezon City jails (male and female dormitories) and various police precincts to vaccinate persons deprived of liberty (PDLs).

Other means of Outreach

There were other measures taken which, though smaller in scale, were helpful in reaching those in more specific situations. For instance, confirmed COVID-19-recovered individuals admitted at any LGU-run temporary treatment and monitoring facility (TTMF) were given shots, as applicable, prior to discharge. In areas where a regular vaccination site could not be set up, vaccination was done in a modified house-to-house fashion or through Bakuna on Wheels, a barangay vehicle used as a mobile vaccination service. Some pop-up vaccination sites were 'drive-thru' and, in some regular vaccination sites, a 'drive-thru' option was set up for PWDs and senior citizens.

Some private companies purchased their own vaccine supply through GoNegosyo under a tripartite agreement. They set up their own vaccination sites at company premises. The city government provided the briefing for the company's medical teams and oversaw the whole operation.

Challenge #3: Augmenting the Workforce

As Quezon City had to open several additional vaccination sites, it needed more health workers to man these sites. The growing workforce need was augmented through the following:

Service Providers

Providers of organized medical teams were tapped to supply health workers during the early months of the vaccine rollout. **The NCR-CHD, through the Human Resources for Health Deployment Program, sent 65 HCWs—nurses, midwives, and medical technologists—and an additional 44 nurse vaccinators for posting in various vaccination sites.**

Protektodo Volunteers

Protektodo volunteers—medical doctors, nurses, and graduates of other allied medical fields—were assigned to selected vaccination sites to boost existing medical teams. Interested persons simply signed up at the Quezon City government website to enlist as Protektodo volunteers, after which they waited for a call to go on duty.

Multisector Volunteers

Volunteers from government, nongovernment, and religious organizations including the Tzu Chi Medical Foundation Philippines, Inc. provided medical services at no cost to the city and made it possible to post medical teams at locations such as SM North Sky Dome, New Frontier Theater, and Araneta Coliseum. St. Luke's Medical Center, New Era General Hospital, and Providence Hospital provided venues and manpower. Private companies such as Ayala Healthway and San Miguel Corporation sent volunteers as part of their corporate social responsibility initiatives. The Philippine National Police-Quezon City and the BJMP provided volunteers as well.

Challenge #4: Fighting Misinformation

As viruses spread, so did information which was misleading, e.g., vaccines given emergency use authorization (EUA) are potentially unsafe. This was a common concern during the initial vaccination rollout.

Quezon City's Public Affairs and Information Services Department (PAISD) promoted the spread of correct information regarding COVID-19 and was thus a 'lifeline' for local media. Daily or weekly updates on the city's vaccination activities and schedules and statistical reports were posted on the city government's website and Facebook account. The city government also started a **health promotion webinar series, Sa Totoo Lang**, in which experts discussed COVID-19 related topics.

National information drives by the National Vaccination Operation Center (NVOC) of the DOH were supported by the QCHD.

Exceeding the 70% target

By the end of June 2022, Quezon City had fully vaccinated 2.17 M adults, exceeding its original target of 1.8 M.

For booster doses, 1,001,048 adults have gotten their first booster dose while only 94,872 have gotten a second booster. The low turnout for the second booster shot is a matter of concern at a time when COVID-19 cases are on the rise again and given that vaccine immunity has been found to wane by six months after the last vaccination.

Why the low uptake of booster doses? The following explanations were given:

- as the number of new cases declined, people felt no need for a booster;
- some people believed that the primary series conferred full protection;
- some people were influenced by the pronouncement of President Rodrigo Duterte that a booster shot was not necessary, in what turned out to be an old video;
- booster doses were not made mandatory by national government authorities; and
- the second booster was offered to priority groups only.

Pediatric Vaccination

Vaccination for 12–17-year-olds started in the last quarter of 2021. It was supposedly much awaited by parents, to protect their children in preparation for face-to-face classes and the anticipated relaxation of mobility restrictions. More than 100% (250,048, against the target of 230,164) of the age group have been fully vaccinated by 30 June 2022.

Vaccination of children aged 5–11 years, however, has been a challenge. As of the end of June 2022, only 97,487 out of 277,825 eligible children—or a measly 35%—are fully vaccinated.

Some of the explanations for the low turnout of vaccination, particularly for 5–11-year-old children, were:

- a "wait and see" attitude among parents;
- a rumor regarding an alleged adverse reaction in a vaccinated individual;
- negative perceptions of vaccines due to the Dengvaxia fiasco, especially among parents of children studying in public schools; and
- the policy of the Department of Education that vaccination of children is not mandatory for the resumption of face-to-face classes.

Vaccine Supply and Demand

Over the span of 16 months since the COVID-19 vaccines first arrived, Quezon City grappled with fluxes in the vaccine supply and demand.

When cases surged in February and March 2021 due to the Alpha and Beta variants, supply of vaccines was thin and priority was given to health workers and senior citizens. Along with the limited supply, demand at the time was quite low due to widespread apprehension from the fact that all vaccine brands were only given EUA by the Philippine Food and Drug Administration (FDA). There were also several articles from around the world that stoked this fear.

The second quarter of 2021 saw vaccination growing steadily, with the inclusion of workers and the rest of the adult population among those eligible. However, the vaccine supply was not coming in as steadily. At the time, supply was solely dependent on the allocation from the national government, as delivery of vaccines procured by the city government and private companies were delayed.

Vaccination peaked from July to September in 2021, during the Delta variant surge. Government directives declaring complete or selective community quarantine during the various surges enabled the city to reach more people, as most workers and their household members stayed home. At the time, the vaccine supply from the national government was also at its highest, so the increased demand was met.

Cases went down in the last quarter of 2021, and so did the interest of the adult population in getting their COVID-19 booster doses. At this point, vaccination of 12–17-year-olds started, followed by a drastic drop in the number of cases. There were only a few cases in the last quarter of 2021, which prompted the government to drastically loosen mobility restrictions and open up the economy. It gave way to another surge, this time due to the Omicron variant, from the last week of December 2021 to the first two weeks of 2022.

Vaccine Preference

Some people preferred certain types or brands of vaccines over others, and this affected uptake. Many preferred Pfizer, even over Moderna, and would not accept anything else. Some members of the Chinese-Filipino community also asserted a preference for Sinovac.

Limiting Vaccine access when Supplies are Plenty

Prioritization by categories was crucial when vaccine supplies were limited. We believe that uptake would have been better if the national government opened up vaccine access to all when supplies became sufficient.

Partnerships

The Quezon City government leveraged good relationships with various sectors and successfully harnessed the 'community spirit' that grew stronger during the pandemic toward getting everyone to help out in its pandemic response.

The success of the city government's vaccination program was possible because of the initiatives that came out of collaboration. National government offices located in Quezon City provided venues for vaccination. Other partners from the government and the private sector are listed below.

Local Government

- Office of the City Mayor
- Office of the City Administrator
- Investment Affairs Office
- Local Economic Investment Promotion Office
- Disaster Risk Reduction and Management Office
- Quezon City Engineering Department
- Business Permits and Licensing Department
- Market Development and Administration Department
- Barangay and Community Relations Department
- Department of Public Order and Safety
- Task Force Disiplina
- Schools Division Office
- Quezon City Police District

Private Sector

Provided manpower at the vaccination sites:

- Philippine Red Cross
- Tzu Chi Medical Foundation Philippines, Inc.
- D & L Medical
- Carl Balita medical team
- Medicard medical team
- Ramon Magsaysay High School
- San Miguel Corporation
- Ayala Healthway

Provided venue or space for vaccination:

- Araneta Group (Araneta Smart Coliseum, New Frontier Theater)
- Megaworld (Eastwood Mall)
- Robinsons (malls)
- SM (malls and cinema)
- Ayala Corporation (malls)
- Mallers Management Corporation (Fisher Mall)
- Philippine Medical Association
- Christ, King of the Universe Parish
- Sacred Heart of Jesus Parish
- Ina ng Buhay Parish
- Good Shepherd Parish
- Parokya ng Pagkabuhay Parish
- Immaculate Heart of Mary Parish
- Ateneo de Manila University
- Claret School
- St. Theresa's College
- Trinity University of Asia
- St. Joseph's College
- Miriam College
- Saint Pedro Poveda College
- Colegio de San Bartolome de Novaliches
- Homeowners Associations
- Selected Jollibee outlets
- Light Rail Transit station in Cubao
- Other private companies

Provided both manpower and venue for vaccination:

- St. Luke's Medical Center
- New Era General Hospital
- Providence Hospital
- Far Eastern University - Dr. Nicanor Reyes Medical Foundation, Inc.
- Quezon City General Hospital
- Maclang General Hospital
- Novaliches District Hospital
- Commonwealth Hospital and Medical Center
- University of the Philippines Diliman

Closing Reflections

Living through the crisis as well as being part of the response team have left impressions on us, and we wish to share a few:

The LGU must be on top of the situation. The role the local government plays in finding solutions and strategies is vital. Local leaders must be decisive and thus aware of what is going on, at all times. We are proud of what we achieved.

Make plans, but be ready to change them. Against an unknown enemy such as SARS-CoV-2, strategies are subject to trial and error, and no initial plan will be perfect. Flexibility is important. The local government needs to be agile.

We all have a stake in it. In the second and third quarters of 2021—the height of vaccine roll-out—work usually started before dawn and ended close to midnight. This covered monitoring of vaccine delivery up to assessment of the day`s operations.

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08 VACCINE CERTIFICATE

8.33 VaxCertPH: The Vaccine "Passport"

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As more and more countries were advancing in vaccinating their populace, efforts now centered onsafely reopening the economy locally and internationally. There was a need to document the status of an individual's vaccination in a manner that was internationally recognized. The first body that came up with standards was the World Health Organization when they published Digital Documentation of Covid-19 Certificates (DDCC) on August 27, 2021. This became the basis for us to develop VaxCertPH.

Due to the criticality of opening the Philippine economy that is heavily dependent on Overseas Filipino Workers (OFWs) and tourism, there was an urgent need for the development of the Philippines' Digital Vaccination Certificate. It was opportune that colleagues from Ernst and Young were partnered with the Department of Information Communications and Technology (DICT) supporting National Vaccine Operations and Data Management. Ernst and Young India was heavily involved in the development of the Covid-19 Digital Certificate of India. This multi-national and multi-sectoral partnership enabled us to develop VaxCertPH, the Philippines' DDCC, in record time and we launched the service on September 6, 2021.

The launch of VaxCertPH did not come without any teething pains. During the implementation phase of VaxCertPH, there were numerous policy reiterations and emphasis on the timely and accurate submission of the linelist records through the use and utilization of Digital Vaccination Administration System (DVAS) and/or Vaccination Administration System (VAS) line list uploader. The emphasis of getting these records uploaded was important since this is where VaxCertPH was getting its data from. In the first month, there was only a six out of 10 chance that a certificate could be generated due to records not being found, or incorrect data. The poor initial success rate of VaxCertPH was traced to the lack of timeliness in uploading individual vaccination records by the Local Government Units (LGUs) to the national database. There was also a lack of appreciation of the importance of records accuracy at the vaccination site level. Through the assistance of the Department of Interior and Local Government (DILG), Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF), and the National Vaccine Operations Center (NVOC), LGUs soon realized that these missing records were affecting our constituents in acquiring a proof of vaccination in order to travel outside the country.

The next few months after the launch were spent in improving the success rate of VaxCertPH. The excel template used in the submission of records was slowly replaced with the online DVAS. The system allowed seamless synchronization of records to the VaxCertPH system. We intensified our efforts in training LGU data managers to improve records submissions. Roadshows were done. Unfortunately, the majority of LGUs did not have access to the internet in vaccination sites so adoption of DVAS was very low. Some LGUs did not have computers. We then developed the Offline DVAS that enabled encoding of records even without the internet and using the lowest version of Android. This enabled LGUs with very low internet penetration and meager financial resources to still have the capacity for timely and accurate reporting.

The lack of manpower and constant workforce change in the LGUs negatively affected the operational execution of VaxCertPH. There were LGUs who had no manpower resources to assist with the concerns related to VaxCertPH, and if there were, these resources had other roles and tasks that were outside the scope of VaxCertPH. Local Chief Executives (LCEs) of non-performing LGUs were scheduled for focus group discussions in which we had to understand problems in execution, including discussions on the assistance we can provide to these LGUs. The consultation centered on putting importance to manpower for both data submission requirements on linelist and VaxCertPH. With manpower as a major concern, calls for volunteers during National Vaccination Drives were put up to augment the need for encoders for data submission. To sustain this, the Department of Labor and Employment (DOLE) was entrusted to provide data encoders through internships and apprenticeship programs for manpower augmentation. The same support was also realized from the Department of Health and the Philippine National Police.

Training sessions on records reporting were delivered weekly to ensure the accuracy of uploads to the national database. Devices for encoding such as tablets were donated by the DICT to LGUs.

With these efforts, we saw that VaxCertPH has greatly improved. There is now a nine out of 10 chance of getting a certificate at first try and a correction facility that will allow urgent needs to be addressed within 48 hours. There is also the acceptance of the certificate in 75 countries worldwide.

As we learn through this experience, we realized that involving Local Chief Executives, early in the initiation phase, would have benefited the implementation at the local level. The LCEs participation, commitment, and support to the program were seen to have great effect in improving the requirements to operate VaxCertPH. Setting up a readiness matrix and communicating them prior to the implementation phase would have improved organizational readiness of all the agencies involved and the LGUs. DICT's inclusion in the Bayanihan budget would help accelerate

outsourcing, and scaling of VaxCertPH. And lastly, we realized that there is a need to budget for manpower resources at the local level, national level, including budget for food, transportation for volunteer encoders to cover for the needed human power in this project.

8.34 Diplomatic Efforts to Promote the International Recognition of VaxCertPH

Eric Gerardo Tamayo, Assistant Secretary, Department of Foreign Affairs

As a member of the Sub-Technical Working Group on the Philippines digital vaccination certificate, VaxCertPH, the Department of Foreign Affairs (DFA) is responsible in engaging with foreign countries and other relevant foreign entities on the recognition and acceptance of the PH-issued digital vaccine certificate through bilateral and multilateral agreements as well as facilitating acceptance of foreign countries on the utilization of the public key.

The COVID-19 pandemic has had the most disruptive and transformative impact on the global economy: production shut down, trade decreased, travel was reduced to practically nil. The resumption of the movement of vaccinated persons was deemed crucial to restarting the global economy and resume the flow of goods and services. The need to facilitate the travel of vaccinated persons while preserving the prerogative to manage risks became paramount. Various countries began exploring establishing bilateral and regional arrangements covering green corridors, travel lanes and sandbox arrangements utilizing digital technology.

The Philippines was among the first countries in the world that utilized a digital vaccine certificate while some countries were still navigating the complexities of presenting COVID-19 vaccination requirements. In addition, the Philippines Bureau of Quarantine (BOQ) has adopted the Digital Documentation of COVID-19 Certificates: Vaccination Status (DDCC:VS) the World Health Organization (WHO) guidelines and began issuing an updated International Certification of Vaccination and Prophylaxis (ICVP) or Yellow Card. The traditional Yellow Card is recognized by 196 parties to the International Health Regulations (2005) of the WHO.

There is no international standard for a global vaccine certification. However, the emerging consensus is that any COVID-19 vaccine certification must contain minimum information, be digitally portable, and verifiable. To spur the adoption of universally readable digital documentation for COVID-19 vaccination, the WHO proposed its Digital Documentation of COVID-19 Certificates: Vaccination Status (DDCC:VS) guidelines. Meanwhile, there have been various initiatives for an integrated vaccine certification verification system such as the International Air Transport Association's (IATA) Travel Pass, the International Civil Aviation Organization's (ICAO) proposed Visual Digital Seal (VDS) initiative, and the European

Union Digital COVID Certificate (EU DCC). Association of Southeast Asian Nations (ASEAN) Leaders have also directed the facilitation of vaccinated travelers under the ASEAN Travel Corridor Arrangement Framework.

One of our initial policy considerations is each country's vaccination and quarantine policies. Given the uncertainty around vaccination immunity, the VaxCertPH served only as a proof of COVID-19 vaccination status and not as immunity to infection. This allowed us the liberty to adjust with our own testing and quarantine protocols without compromising the agreements we have with other countries.

The campaign to promote widespread acceptance of the VaxCertPH was done through diplomatic representations to both the diplomatic missions in Manila and the various Philippine Foreign Service Posts (FSPs).

The FSPs' role was crucial in undertaking diplomatic representations in their respective host governments to further bolster the acceptance and recognition of VaxCertPH. Parallel with FSP efforts, the DFA, together with the Department of Information and Communications Technology and BOQ, met with diplomatic missions in Manila to brief and inform them of VaxCertPH. These bilateral meetings and engagements served as a venue in articulating the Philippine government's policy with regard to the mutual recognition and acceptance of vaccine certificates.

To date, there are currently 64 countries and territories that have formally recognized VaxCertPH as an official document confirming an individual's COVID-19 vaccination status. This number is expected to increase further as our onboarding to the EU system is finalized.

We continue to work with foreign governments in the area of inter-operability and interconnectivity to streamline verification processes. We remain steadfast in our efforts in expanding the recognition and acceptance of VaxCertPH to ensure a seamless cross-border travel for our citizens.

09

SCIENCE FOR DECISION MAKING

9.35 A Glimpse into the "Scientific Backroom" of the DOST Vaccine Expert Panel

Nina G. Gloriani, MD, PhD, Chair, DOST Vaccine Expert Panel (March 2020-March 2022)

The World Health Organization (WHO) declared COVID-19 a public health emergency of international concern on January 30, 2020 and a pandemic on March 11, 2020. Numerous public health measures were quickly put in place such as lockdowns, quarantine, isolation and adherence to the minimum public health precautions. Alongside these, the scientific community vigorously pursued the development of vaccines for COVID-19 which moved at an unprecedented pace.

In the Philippines, we have little capacity to join the race for the development of vaccines and had to rely on the more advanced nations to come up with their vaccine candidates for COVID-19. The availability of such safe and effective vaccines required stringent evaluation and approval processes, and eventually, selection, procurement and deployment to a massive scale.

The Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF-EID) led the development of a series of National Action Plans (NAP) for the management of the COVID-19 pandemic. In these action plans, vaccination has been identified as one of the most important strategies that would be needed to curb the pandemic.

With the issuance of the IATF of **Resolution No. 65** on August 20, 2020 that required that **"All applications for clinical trials for COVID-19 vaccines should first be submitted to the Vaccine Expert Panel, reviewed by designated Ethics Boards and submitted to the Food and Drug Administration (FDA) for review and approval for conduct of clinical trials"**, the Vaccine Expert Panel participated in consultation meetings with the Philippine Health Research Ethics Board (PHREB), Single Joint Research Ethics Board (SJREB) and FDA on how the said process would be operationalized.

As a response, the Department of Science and Technology (DOST) came forward in assisting the regulatory bodies in the evaluation of as many vaccines as possible as it established the Task group on Vaccine Evaluation and Selection (TG-VES), and more specifically, the VEP for this purpose. Initially, this involved reviewing applications for Vaccine clinical trials and later, the VEP role expanded to also evaluating applications for Emergency Use Authorization (EUA) of these vaccines for the control of the COVID-19 pandemic.

Upon receipt of the documents from the Philippine Council for Health Research and Development (PCHRD) VEP Secretariat, the VEP chair assigned documents and/or sections of the EUA application to the VEP members for evaluation. En-banc virtual meetings were held to discuss the EUA application. The decision of the VEP was collegial and always had the best interests of the Filipino people.

A. On Vaccine Selection and Evaluation

An important achievement of the VEP even before it started screening and evaluating applications for Clinical trials was the streamlining of the processes for technical, ethical, and regulatory reviews of both old and novel vaccine platforms. This took some three months of consultations with the Philippine FDA, the Single Joint Review Board (SJRB) for ethics clearance, and other stakeholders. Other government agencies that worked with the VEP in accomplishing its mandate included the Department of Health (DOH) Public Health Services Team (PHST), the National Vaccine Operations Center (NVOC), and the rest of the Task Group for Vaccine Evaluation and Selection (TG-VES) including the Research Institute for Tropical Medicine (RITM), Department of Trade and Industry (DTI), Department of Foreign Affairs (DFA), National Development Council (NDC), and the Department of Finance (DOF).

These consultative meetings led to the development of the streamlined process flow and timelines for evaluation, and clarified the documentary requirements of the VEP, SJREB and FDA as eventually reflected in FDA Circular No. 2020-029 "Guidance on Applications for the Conduct of COVID-19 Clinical Trials".

What was initially a long process of vaccine technical evaluation that often lasted six months to even a year, was shortened to only 40 days when complete documents were submitted with the clinical trial applications.

The 9-member panel provided key experts advice in developing criteria for shortlisting COVID-19 vaccines that the Vaccine Cluster through its Task Group on Procurement and Finance considered for negotiation and procurement. The criteria developed by the VEP for technical evaluation of COVID-19 Vaccines adapted the World Health Organization (WHO) Criteria for COVID-19 Vaccine Prioritization and WHO Target Product Profiles for COVID-19 Vaccines with additional criteria and considerations suited for local needs.

As of February 21, 2022, the VEP has evaluated a total of 24 COVID-19 vaccine clinical trial applications. The FDA has referred a total of 17 EUA applications for review of the VEP. As we all know now, nine COVID-19 vaccines received approval for emergency use authorization in the country, and eight of these were actually deployed. By end of March 2022, the VEP held 84 meetings for the evaluation of COVID-19 vaccines, and has participated in close to 300 meetings of the TG-VES, the Vaccine Cluster and the All-Experts Group (AEG) of the DOH. The AEG is composed of semi-independent bodies providing recommendations to the Department of Health and the COVID-19 Vaccine Cluster on matters related to vaccine deployment and immunization. The VEP participated in all of the 19 AEG meetings called by the DOH.

An important undertaking of the VEP as early as June 2020 was putting together the **WHO Solidarity Vaccines Trial Teams**, identifying criteria for experts in Vaccine trials and the overall clinical trial investigators, clinical trial sites and their compliance with regulatory requirements.

The VEP also prepared the core proposal for the **DOST Mix and Match Study on COVID-19 vaccines** and identified the Philippine Society for Asthma, Allergy, and Immunology **(PSAAI)** as the lead specialty group to implement the project. Both the WHO Solidarity Vaccines Trials and the Mix and Match studies are envisioned to provide our own local data on vaccine safety, immunogenicity and efficacy, including real world effectiveness.

B. Technical briefings/meetings with potential vaccine collaborators and other scientists:

At the onset of this health crisis, DOST as early as March 2020 coordinated with its international partners for possible collaborations on the development of safe and effective COVID-19 vaccines. Recognizing the need for collaboration in the field of vaccine development for the country, as well as the urgency of the situation, DOST immediately pursued vaccine collaborations with China, Russia, South Korea, Taiwan, and the United Kingdom. The VEP members participated in meetings with bilateral or multilateral partners, especially those aimed at providing technical briefings about COVID-19 vaccine candidates and later on meetings aimed at providing updates on COVID-19 vaccines with EUA in the Philippines.

Since then, there were a total of 43 foreign pharmaceutical and biotechnology companies from fourteen countries that: **(1) expressed interest or are currently conducting clinical trials in the country of their candidate COVID-19 vaccine; (2) expressed interest in applying for emergency use authorization for the immediate supply of their COVID-19 vaccine in the Philippines; and/or (3) are working on the transfer of their vaccine technology to local manufacturers.**

Two significant events that selected members of the VEP participated in was a Visit to the Serum Institute of India (SII) (March 9-10, 2021) which included a site visit to the manufacturing plant of Covovax and technical discussions with the SII vaccine developers/scientists. The other one was the **Expert-to-Expert Meeting with Israeli scientists (June 24, 2021)**. The Philippines organized a meeting with an official delegation from the Israeli Ministry of Health to provide an opportunity for the Israeli delegation to share with us various vaccination roll-out models, efficient cold chain and logistics practices, and reporting and data management strategies. As it turned out, the Israeli delegation also learned much from how we were implementing our vaccination program for COVID-19.

C. Information and Communication Advocacies of the VEP:

More than the scientific rigor used in the above processes, was the other contributions of the three VEP in information and communication advocacies, addressing social concerns related to vaccine confidence and hesitancy, at the grassroots level.

The activities of the VEP in helping educate the public about COVID-19 vaccines safety and efficacy as well as the challenges and learnings by the Panel have been extensive in the form of webinars, town hall meetings, Kapihan, media briefings, professional society conventions and seminars, engagement with virtually all possible sectors and levels of the society including educators, patient groups, students, political and local government groups, lawmakers, colleagues in the health sector, to name a few. The VEP members participated in hundreds of such engagements, the last two years.

D. Challenges/ Problems Met:

The DOST-VEP encountered several challenges and problems as it carried out its mandate. From a technical standpoint, some clinical trials or EUA applications did not meet the minimum documentation requirements of the VEP, the SJREB or the FDA, or were lacking in detail in terms of presentation of data and results. Some documents submitted did not meet standard expectations for the presentation of scientific results. Some also have formatting issues (e.g. no table of contents, no pagination) and results were not properly translated to English from the original language. Such scenarios contributed to the deferral and delays of the vaccine clinical trial or EUA application upon initial evaluation.

In a few cases, very short timelines were allotted for the evaluation of some EUA applications or amendments. Nevertheless, the VEP team managed to deal with such “stressful” deadlines for the sake of the pandemic response.

In the implementation of approved clinical trials, some issues which were not within the scope of the function of the VEP were referred by Clinical Research Organizations or Clinical Trial Investigators to the Panel for consultation such as **(1) Overlapping of requested sites between two trials, (2) Involvement of some principal investigators in two or more ongoing trials, (3) Issues on professional recruiters for clinical trials, and (4) Standardizing patient compensation.**

During some of our media interviews, some of the scientific information we presented or discussed were misquoted or misunderstood, but we managed to correct those with the help of the health promotion team of the DOH.

Referral of concerns on the National COVID-19 Vaccination Program which were not directly within the scope of the function of the VEP anymore were also received such as but not limited to management of adverse events following immunization, missed administration of 2nd doses, and mistakes in vaccine administration. The VEP obliged in providing advice on such matters and looked at these referrals as a way to also know and understand the problems and challenges of the vaccine implementation at the ground level. Indeed, it was a whole-of-government, whole-of-society science-based approach used for the control of the COVID-19 pandemic.

Overall, the DOST, through the TG-VES and the VEP, with its very dedicated and efficient technical support secretariat contributed much to the achievement of the national goals in making available safe, and efficacious COVID-19 vaccines for our people. This humble contribution to the COVID-19 pandemic response is our legacy to the Filipino people.

The success we are now seeing in curbing the COVID-19 pandemic, we owe to all the people who worked with us and supported us in this mission.

(This article is based on the VEP End of Term Report [ETR] submitted to the DOST last March 30, 2022. The VEP ETR showcases the body, brain, heart and soul of everyone who were with us during these very difficult times.)

10 REOPENING THE ECONOMY

10.36 Balancing Lives and Livelihoods: The Foundation for Economic Freedom's Partnership with the IATF

Alfredo Ayala, President and CEO, AC Education
Jon Canto, Acting Managing Partner, McKinsey & Company (Philippines)

Context and objectives

In late April 2020, Secretary of Finance Sonny Dominguez asked Cabinet Secretary and Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF) Co-Chairperson Karlo Nograles, Asian Development Bank (ADB) Executive Director Paul Dominguez, Foundation for Economic Freedom (FEF) Vice Chairman Romy Bernardo and Ayala Corp Chairman Jaime Augusto Zobel de Ayala to organize a series of dialogues between the government and the private sector.

The Foundation for Economic Freedom (FEF), led by designated point Fellows, Fred Ayala and Romy Bernardo, spearheaded these private sector interactions with the Inter-agency Task Force. These had two primary objectives: (1) balance health and economic priorities in the country, protecting both lives and livelihoods, by presenting an independent perspective, initially, on how to keep parts of the economy open at the height of the COVID-19 pandemic in 2020, and later how to re-open safely and effectively; and (2) foster greater public-private sector dialogue that would allow the parties to understand pain points and provide support to each other in time of crisis.

Structure and nature of interactions

The collaboration was structured around several, sector-specific working groups, each composed of independent, private sector experts (e.g. McKinsey, Asian Development Bank) and relevant government agencies (e.g. Department of Education, Department of Transport, Department of Trade and Industry, Department of Tourism, etc). Each group set-up a regular cadence of working sessions that aimed to understand the on-going impact of COVID-19 on each sector, discuss considerations for re-opening and relaxing restrictions, and highlight support needed.

In the day-to-day, we felt we were all part of a large, cross-functional team, where the objectives were aligned with no agenda, we all just wanted to help. We all had the collective ability to pull in expertise and resources where needed. As private citizens – working with numerous individuals from various government agencies, from the executive to the frontline level, who were tireless in their efforts and dedication to our country – we were a team filled with pride.

Given the all-encompassing impact of the pandemic, we tackled our mandate across a broad range of sectors.

- **Labor:** increased flexibility required to reduce unemployment and craft protocols for return to work.

- **Education:** phased approach to face-to-face classes including vetted safety protocols, flexible learning options, and urgent support (e.g. affordable connectivity and technology to support remote learning).

- **Tourism:** interventions to protect and boost domestic tourism, upgrade infrastructure and over communicate to mitigate perceptions around security and safety.

- **Construction:** prioritization of projects for restart (e.g. essential - quarantine facilities, priorities - Build Build Build and residential developments), detailed safety protocols, support for displaced workers and micro, small and medium enterprises

- **Retail - malls:** tailor safety protocols across different quarantine levels (e.g. ECQ vs. MECQ vs. GCQ), guidelines to re-open dine-in restaurants, provided support needed to restore consumer confidence (e.g. incentives, communication) and accelerate business recovery (e.g. resolve labor shortages)

- **Public Transportation:** safe easing of restrictions in the transport to trigger rider confidence and economic activity, while moving in the same direction towards long-term sector reform (more public transport, less private vehicles).

Among all the areas of collaboration between FEF and the IATF, transport was probably the most impactful. Through global case examples and a robust epidemiological model adapted to the Philippine public transport context, a clear case was made that reopening public transport safely would not increase COVID-19 transmission. Together with a well thought out protocol for each mode of public transport (rail, bus, jeepney, tricycle), restrictions were adjusted in terms of social distancing and capacity limits. Longer-term changes such as service contracting and dedicated bus lanes were also proposed (illustration on the next page).

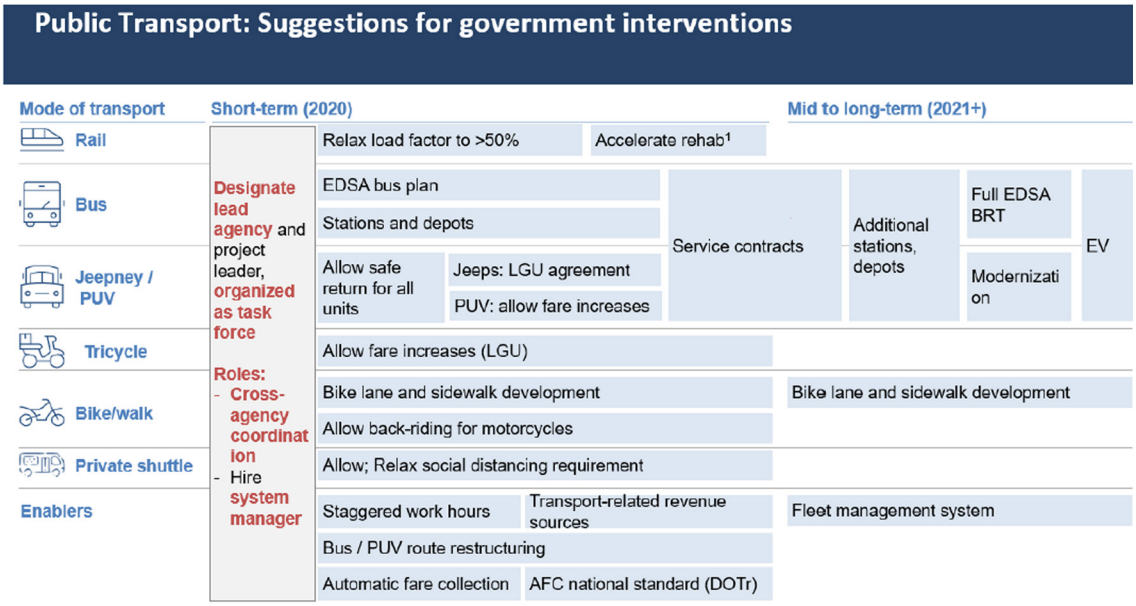

Figure 10.1: Suggestions for interventions in Public Transport for safe mobility during the pandemic

On top of sector-specific topics, a few cross-cutting themes were also part of the collaboration:

- **Fiscal stimulus:** In order to respond to the pandemic, fiscal measures were required, with the key questions around: a) how much stimulus was required, b) how to utilize the stimulus package across the various priorities (from healthcare to economic sector support).

- **The Philippine COVID-19 response index ranking:** towards the latter half of 2021, the Philippines had ranked last on the two most recognized COVID-19 response polls, Bloomberg and Nikkei. There was a need to analyze the situation and more importantly, see how we could improve, not for the sake of a ranking, but to substantially improve the overall situation for Filipinos. These discussions focused on the approach to double down on vaccinations, manage re-opening the economy in a data-driven way, and improve public confidence and quality of life.

Lessons Learned

Looking back at FEF's collaboration with IATF, there are a few reflections which may have potential implications on future ways of working between the public and private sector.

- **Co-sponsored public-private working groups.** Having one clear owner from each party and clear objectives are an effective construct for dialogue and action. The groups should enable each other: government shapes and de-bottlenecks through policy and the private sector pulls together resources (expertise, proven approaches).

- **Fact-based decision-making.** Availability of a global fact base (e.g. benchmarks, best practices) and seasoned experts who can contextualize solutions to our local context was critical to making decisions grounded by facts, not solely on individual judgment.

- **Mechanisms needed to quickly translate decisions to action.** Even with the best intentions, decisions made in high-level IATF meetings still take time to be cascaded through various groups, who further need to develop an action plan --- during crises, we do not have the luxury of time. It would make sense to proactively and formally create " Public – Private Task forces" in the areas that are the government's top priorities. If these task forces met regularly and had clear key performance indicators for key initiatives, better alignment and execution would be higher during both normal and crisis periods.

10.37 The Transition from Pandemic to Endemic COVID-19

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On March 11, 2020, the World Health Organization (WHO) declared that the COVID-19 outbreak that had begun just a few months earlier in Wuhan, China, was a global pandemic. A dictionary of epidemiology defines a pandemic as "an epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people."[1] More significantly, however, the immediate experience of a pandemic triggered by a novel pathogen like SARS-CoV2 is often a public health emergency that requires population-wide efforts to mitigate disease and death. This certainly was the global experience of the COVID-19 pandemic, which led to lockdowns of varying intensities in all of the countries of the world.[2]

Pandemics are often public health emergencies for one or two reasons. First, they are emergencies because they can be associated with high hospitalization rates. Thus, the scale of disease transmission can overwhelm the health care infrastructure of a society, indirectly leading to an increase in deaths from causes that could have been treated in a hospital. Second, pandemics are public health emergencies because they can be associated with high intrinsic mortality rates. The pathogen simply kills many people. As we experienced with the COVID-19 pandemic, both scenarios are not mutually exclusive: SARS-CoV2 increased both hospitalization rates and death rates around the world.

How does a pandemic end? In one of two ways. First, the novel pathogen could simply be eradicated. This can happen if the pathogen is easily detectable and controllable. Second, the novel pathogen can be tamed. This happens when the pathogen evolves such that it leads to lower hospitalization rates and/or fewer deaths. At this point in time, it appears that the COVID-19 pandemic is moving down the second path. It is moving from pandemic to endemic COVID-19. This transition began with the appearance of the Omicron variant of SARS-CoV2 in Q4 of 2021.

The passing of the Omicron variant in January of 2022 has given the Philippines a period of respite from the COVID-19 pandemic. Unlike many of our neighbors in East Asia like Japan and South Africa, our daily case numbers, both in the National Capital Region (NCR) and nationwide, though increasing slowly from the BA.5 variant, are still relatively low. How do we explain the current period of calm? Simply, the Filipino people are enjoying the protection of significant hybrid immunity from both the Delta and Omicron surges, and the success of our ongoing national vaccination campaign, especially in our highly urbanized areas. Hybrid immunity is the population immunity that we see in a society that has experienced both high numbers of previous infections and high vaccination rates.

Here in the Philippines, our Omicron surge was the largest COVID-19 wave that we have experienced so far. However, our official numbers of cases were not as dramatic as the ones being reported in South Korea or Vietnam because we had significant natural immunity from the Delta, and maybe Beta, surges, and we were not testing as much as our neighbors. Nonetheless, back-of-the-envelope calculations that I have performed using the random COVID-19 testing numbers published by the Department of Transportation in the NCR suggest that up to half of the population in Metro Manila were infected by the Omicron variant. Modeling work from the Institute for Health Metrics and Evaluation at the University of Washington, Seattle, suggests that this approximation is a reasonable one.[3]

What does this mean going forward? We have to continue to vaccinate and to booster our people to prolong the hybrid immunity that we possess at this time. Our current population immunity is waning gradually – it is slowly disappearing – which is why we are seeing the gradual increase in cases over the past several months. However, this should not be a cause of grave concern. Though antibody-mediated immunity wanes quickly – the missiles of our body's army – cell-mediated immunity – the tanks of our body's army – is more robust. These cellular tanks should give our Filipino people enough immunity to prevent severe disease and death from COVID-19. Nonetheless, it will be important to continue boosting our senior citizens and other vulnerable kababayans to help them be as protected as possible going forward.

For now, we have to continue to prepare for this endemic stage of the pandemic. We need to train our healthcare workers to triage COVID-19 positive patients so that most of them will remain at home to recover from their Omicron illness. We need to build stockpiles of antivirals that can help our more vulnerable neighbors who get sick to fight off the infection in their homes. And we have to strengthen our healthcare infrastructure to be able to withstand future COVID-19 seasons when numbers ebb and flow. We have to establish healthcare teams and clinics that can treat our fellow citizens who will suffer from long-COVID, which is a general term

used to describe the range of ongoing health problems people can have after their initial infection.

A question I get all the time: When will COVID-19 become endemic? Is it only about numbers? No. Endemicity is not merely a medical or biological phenomenon. In fact, in my view, it is primarily a sociological one. COVID-19 will become endemic once it does not threaten the healthcare infrastructure of our country. With endemic COVID-19, Filipinos will still get COVID-19, some of them will be hospitalized, and tragically, a few will still die. However, if most of them survive and most of them recover at home, then COVID-19 will cease to be the public health emergency that is at the heart of a pandemic.

Finally, I should note that there are global scientific experts who have suggested that COVID-19 will become endemic when sufficient numbers of people in a population have been infected with COVID-19 a handful of time. This claim emerges from the observation that naturally acquired immunity appears to be more long-lasting than vaccine induced immunity which decays faster. They propose that our COVID-19 vaccinations have now protected our societies enough that we should not be overly concerned with the ongoing transmission of mild variants since these mild cases will in fact accelerate the transition to endemic COVID-19. As more and more citizens recover from a natural infection, we expect the future surges of COVID-19 to become progressively smaller in size until a steady-state endemic stage is achieved.

In sum, we thank God for the relative calm that we are experiencing at this time in the pandemic. We do not need to be afraid of COVID-19. The emergence of the Omicron variant has made the transition to endemic disease much more likely. We have to work together to accelerate this transition.

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2 H. Onyeaka et al., "COVID-19 pandemic: A review of the global lockdown and its far-reaching effects," Science Progress 104.2 (2021): 1-18.
3 Christopher J.L. Murray, "COVID-19 will continue but the end of the pandemic is near," The Lancet 399.10323 (2022): P417-P419.

10.38 Preparing for the next pandemic: What should LGUs do?

Manuel M. Dayrit MD, MSc, Former Secretary of Health, Department of Health

On June 3, 2022, Nikkei Asia announced that two countries, Vietnam and the Philippines, had shown their best performances in Nikkei Asia's Recovery Index for the month of May. Both countries had eased restrictions while keeping infections low. Vietnam jumped 48 places to 14th spot, while the Philippines climbed 40 spots to 33rd in the rankings. The index ranked 121 countries on infection management, vaccination coverage, and social mobility using information from various global databases. Vietnam and Philippines had ranked last in the Nikkei list in 2021.

This was a significant development for the Philippines. It showed that the country was now firmly in an endemic state where the coronavirus and the population co-existed in placid equilibrium. Population immunity was now at levels which prevented rapid viral transmission. Cases were mild and deaths were few. The government had still not lifted all pandemic restrictions but public fear was gone and communities and businesses were opening up to face-to-face interactions, albeit with masks.

This was a good time to take stock. Over two years earlier, starting in March 2020, the situation had been chaotic. Serious cases overwhelmed the hospitals. The health system was unprepared to protect the population from the airborne viral invader which infected persons through the respiratory route, via the upper airways down to the lungs where it caused difficulty of breathing and death in 1 to 2 percent of cases. Statistics-wise, the rate of fatalities among cases looked deceptively small but with hundreds of thousands infected, fatalities mounted. Over the last two years, the Philippines counted 3.69 million cases and 60,456 deaths as of June 8, 2022.[1]

What was going on in the hospitals was really only the tip of the iceberg. Mostly hidden from view were the goings-on at the community level where the virus would first take a foothold and then spread. By the time serious cases were arriving in hospital, the infection was beyond the capacity of the public health system to contain. To prevent spread, it was necessary to identify and alert contacts of confirmed cases early so that they could quarantine themselves.

Flashback to April 17, 2020: with COVID case count at 5,878 and COVID deaths at 387, Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF) Resolution 25[2] was issued defining the collaborative roles the Department of Interior and Local Government (DILG) and the local government units (LGUs) in contact tracing[3]:

"The IATF adopts a national government-enabled, local government unit-led, and people-centered response to the COVID-19 health event.

In materializing the aforementioned general principles, all agencies are directed to recommend sector-specific plans, strategies and targets to the IATF. The National Task Force (NTF) for COVID-19 is likewise directed to develop the necessary operational plans. LGUs are enjoined to pursue regional cooperation in leading the fight against COVID-19.

The Department of the Interior and Local Government (DILG), in coordination with Local Government Units (LGUs), shall hereafter lead the contact-tracing efforts of the government."

Local governments created their own initiatives to control COVID-19 in their political jurisdictions. In Pasig City, the Mayor deployed disinfectant drones and converted hotels into quarantine facilities. In Marikina City, the Mayor made haste to set up a Reverse Transcriptase - Polymerase Chain Reaction (RT-PCR) testing laboratory as did Valenzuela City which set up a mass testing program for its residents. Markets-on-wheels were set up to bring the market to neighborhoods.[4]

Contractual workers were hired to do contact tracing. Quezon City employed 2,000 additional personnel for contact tracing, disease surveillance, and data encoding tasks[5]. Baguio City hired 265 workers[6]. Bohol Province received 11 surveillance staff from Region VII to undertake data collection and reporting of cases[7].

Local governments struggled with the tasks of contact tracing and isolating RT-PCR positive persons, probably the two major functions that had to be undertaken at the community level. Contact tracing applications which had worked so well in countries like South Korea and Vietnam did not reach any credible level of functionality to be used extensively in the Philippines. The lack of capacity for pandemic control particularly at the community level was the hallmark of Year 2020.

Fortunately, the outlook steadily changed through 2021 when COVID-19 vaccines became available. The country literally clawed and crawled its way towards acquiring population immunity through vaccination despite initial indications of

vaccine hesitancy and the fear that the fallout from the Dengvaxia controversy would scuttle the government's vaccination drive. By February 2022, when the cases started to drop, 62M of the targeted 90M Filipinos had received their second dose of vaccine[8]. While no seroprevalence studies were done to document the levels of population immunity, the steady drop in cases signaled the beginning of the pandemic's end in the country. LGUs played a major part in the success of the vaccination program, paving the way for the remarkable performance in the Nikkei Asia index ranking in May 2022.

It behooves each local government to conduct a thorough assessment of its pandemic response in order to learn specific lessons which it can use to assure its pandemic preparedness.

In March to April 2022, the author led a 3-person team in doing a virtual rapid assessment of three LGUs to determine their perceptions about their pandemic preparedness capacities. Respondents from Baguio City, Bohol, and Maguindanao were asked to rate themselves using international instruments which focused on pandemic functions of epidemiology and surveillance, laboratory testing, and hospital operations[9].

The respondents from the three LGUs rated themselves at four on a 5-point scale indicating their belief that after fighting the pandemic for two years, their respective LGUs had acquired new capacities for pandemic response in the areas of epidemiology and surveillance. For laboratory testing, their self-assessment was at two or three. For hospital care, self-assessment was at very good to excellent.

The results need to be interpreted with caution given the subjective nature of the responses, the limited number of LGUs involved in the assessment, and the lack of more rigorous criteria to measure actual capacity. Nonetheless, the study provided key lessons as well as draft recommendations for institutionalizing pandemic preparedness into the province-wide and city-wide health systems (P/CWHS) of LGUs.

Editor's Note: *As of this writing, the draft report is being reviewed and finalized for official release. Recommendations below are in no way official in nature and reflect the opinions of the author.*

First, it is recommended that LGUs conduct an After Action Review (AAR) of its capacities and response to the pandemic in the coming months in order to analyze their strengths and weaknesses and take stock of their capacities in the various areas of pandemic control. AARs are standard processes recommended by the International Health Regulations particularly after a crisis. This stock-taking should

be accomplished as a first step in conserving whatever pandemic preparedness capacities have been built up. It also can lead to a plan for institutionalizing capacity going forward.

Second, with inputs from the After Action Review, LGUs can develop Local Investment Plan for Health (LIPH) to strengthen their pandemic control capacity. This means investing to modernize its technical, administrative, and logistical capacities. Administrative Orders of the Department of Health provide for this mechanism[10][11].

Third, LGUs should institutionalize an Incident Command structure within their health system from city/provincial level down to barangay, designate the staff, and train them. Quezon City, for example, has proceeded in this direction to ensure that its city-wide health system has a leadership team in place at all levels of the organization in case of another health emergency.

Fourth, LGUs should explore new collaborative arrangements which the pandemic brought into play. Continue to network with hospitals, other LGUs, and private sector partners for joined-up capacity building and operations. Can two or three LGUs support one laboratory which services all three LGUs, for example? Can service agreements with private sector entities work for training, laboratory services, IT services, provision of essential medicines, among others?

Fifth, LGUs should conduct regular drills and table top exercises on a yearly basis to test their pandemic preparedness and update their state of readiness.

This is an opportune moment for LGUs to capitalize on the experiences and lessons of the COVID-19 pandemic to modernize their respective local health systems working with national government and the private sector. Modernization will not happen overnight. But it should come with good planning, investments, and implementation.

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2 IATF-Resolution-No.-25 https://doh.gov.ph/sites/default/files/health-update/IATF-Resolution-No.-25 pdf
3 LGUs will now lead the fight vs COVID-19
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4 Mayors are keeping the Philippines afloat as Duterte COVID-19 response fails
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10.39 PPPs – Partnerships towards a Progressive Philippines

Romeo L. Bernardo, Vice Chairman, Foundation for Economic Freedom

It has often been observed that our best qualities as a people emerge during times of national catastrophes — typhoons, flooding, volcanic eruptions, earthquakes, tsunamis. This spirit is expressed in a word that does not directly translate to English: "Bayanihan". Defined as the enduring value of the Filipino "to help fellow countrymen in times of need without expecting anything in return", this comes from the word "bayani" (hero). Bayanihan is an invitation for heroes from all walks of life to work together.

The once-in-a-generation COVID-19 pandemic is perhaps the mother of all catastrophes, in terms of duration, global reach, and the suddenness and severity of its impact on peoples' lives and the economy — truly an existential threat to individuals and institutions. It is fortunate that our national response, both public and private, has been proportionate to the disaster, showcasing the best of public-private partnerships (PPP).

In April 2020, responding to a call from the government for a partnership to manage COVID-19, the private sector created Task Force T3 (Test, Trace, Treat). Starting initially with a small group composed of Ayala, AC Health, McKinsey, MPIC Hospitals, Philippine Disaster Resilience Foundation Inc. (PDRF), United Laboratories (Unilab), and Zuellig Pharma working with the Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF), Department of Health, the Asian Development Bank (ADB), Presidential Advisor Joey Concepcion's GoNegosyo, and the Foundation for Economic Freedom, under the baton of Bill Luz and Fred Ayala, T3 quickly expanded to cover the entire business community in a consortium working with government across many different fronts of the COVID-19 response.

At the outset, the work focused on expanding the Reverse Transcriptase - Polymerase Chain Reaction (RT-PCR) testing capacity nationwide from 4,500 tests per day in the third week of April 2020 to 30,000 by the end of May (and eventually to nearly 100,000 tests daily). A second job of increasing personal protective equipment (PPE) inventory was also given to the task force. Eventually, T3 worked on over a dozen projects all the way to the national vaccination rollout with Secretaries Charlie Galvez and Vince Dizon.

COVID-19 showed, in a tremendously tangible way, the power of Bayanihan in successfully meeting a massive challenge. I share the belief that this same spirit of partnership can likewise propel us to solve our most burning, persistent problems, and truly create a Progressive Philippines.

Key themes and lessons of T3

Partnerships work.

Both sides of the partnership complemented each other's strengths and covered for each other's limitations. For instance, the agility of the private sector made immediate response measures possible as the government realigned its budgets and mobilized its machinery. Meanwhile the public sector's size, reach, and resources made massive impact at scale possible, supplementing what the private sector had started. Building on these, key themes begin to surface on what truly made T3, as a cooperation model, successful.

Speed is of the essence.

As noted, the private sector's agility was crucial during the early stages of the crisis, while the more bureaucratic and massive ship of the State undertook the required legislation and organizational effort. We saw this quite clearly across all the partnership initiatives, from the earliest relief undertaking (Project Ugnayan) and in expanding testing capacity, building quarantine facilities, building up PPE supply, data management, communications, and vaccine deployment, among others.

Private sector investments in technology, supply chain, and human capital made the difference.

The resource base, capabilities, and access of the private sector taken together across industries, and most especially globally, appears to be at an advantage versus most governments. This was most evident in vaccine logistics and administration, data management and analytics, communications, and the development and application of internationally recognized best practice protocols and the latest scientific findings on the virus.

Task forces over traditional reporting lines.

A multifaceted catastrophe such as COVID-19, cannot just rely on official "boxes and lines" on who is responsible for what. In this case, this is not just a "public health crisis" that would normally fall under the Department of Health, which has historically been limited in its resources, but also a "socioeconomic crisis", as severely affected livelihoods ultimately translates to lives impacted.

We have heard many stories of Filipinos who were risking infection by continuing to make ends meet outside of quarantine: say in many ways, "Hindi nga ako mamamatay sa sakit, mamamatay naman ako sa gutom" (Yes, I won't die of disease, but then I'll die of hunger).

Initially, the Inter-Agency Task Force for the Management of Emerging Infectious Diseases used what was once considered as the strictest quarantines to control contagion, driven by understandably cautious health professionals. However, through well-organized, targeted consultations involving the government economic managers; and the severely impacted, but committed private sector groups across industries (healthcare, retail, transportation, construction, education, etc.); while drawing on the experience and expertise of other countries secured from global knowledge banks (Asian Development Bank, McKinsey, and Boston Consulting Group), the strategies and policies were refined that allowed us to eventually "dance with the virus" and minimize the adverse impact on our people. Proposed measures now had to go through this multi stakeholder group during their regular cadences before implementation. Thus, after a severe 9.6% contraction of the Gross Domestic Product (GDP) in 2020, we have bounced back and are enroute to full recovery.

Public sector scale augments private sector speed.

While the private sector can contribute early and quickly, especially technological resources not available to the government, the reality is that for adversities of this magnitude, only the public sector has the massive financial resources, and legislative and executive powers needed to address them systematically. This is especially relevant as the private sector itself was severely impacted commercially and needed fiscal support from the government.

This was highly evident in the government's large-scale, and wisely diverse vaccine procurement — which built upon the initial vaccine procurement effort of the private sector for their stakeholders — the "ayuda programs", and the actual vaccination at the local government level, after private experts helped develop data-based strategies. All told, counting public spending, lending, fiscal stimulus, and the government's COVID-19 response amounted to P3 trillion or 15.6% of GDP from March 2020 to April 2022, according to the Department of Finance.

Inclusive Capitalism emerges as an idea whose time has come.

As these partnership efforts materialized alongside the government, a heightened sense of social responsibility and a greater appreciation of stakeholder impact appeared to manifest within private institutions. These have certainly long been present within the Philippine private sector and has been building up for many years through coalitions and alliances, such as the Philippine Business Groups (Financial Executives Institute of the Philippines, Management Association of the Philippines, Makati Business Club, Philippine Chamber of Commerce and Industry, Philippine Business for Education, Philippine Business for Social Progress, etc.), and the Philippine Disaster Resilience Foundation Inc., among others.

Amidst COVID-19, further strengthening its alignment to a stakeholder-centric model of doing business became a compelling proposition to the private sector. As a tangible expression of this, in November 2020, more than 20 business associations launched the Covenant for Shared Prosperity. This was inspired by a similar movement of the Business Roundtable in the United States.

PPPs as a platform for national development priorities

The pandemic was certainly an existential crisis. It is almost impossible to consider anything else that may be as severe, immediate, and all-encompassing in its impact to the nation and its people. Yet there are disaster-proportion adversities already upon us that are perhaps not so apparent, since they do not come in a big blow, but creep up on us slowly — the proverbial thief in the night, or the lobster in the boiling pot. I can point to subpar education and healthcare quality, outdated infrastructure, poor child nutrition, lethargic Foreign Direct Investments, poor ease of doing business metrics, and many others, as fundamental and persistent challenges that the country continues to suffer from.

There may be opportunities for harnessing more PPP to address these, based on more long-term commercial contracting commitments, rather than pure altruism for one-shot short-term undertakings during an existential crisis.

Fortunately, we have in place one of the more advanced PPP legal, regulatory, and governance frameworks that have yielded globally cited examples of successful partnerships benefiting the public. Since the passage of the Build-Operate-Transfer (BOT) Law, we have seen multiple examples of success in the expansion of our power, water, expressway, and airport infrastructure.

T3 only cemented the value of this engagement model with the private sector, given its tremendous contributions to the fight against COVID-19 and in bringing much-needed attention to our healthcare space.

Looking forward, we can build on these PPP successes in physical infrastructure and, in light of the COVID-19 crisis, the social sector to address some of these fundamental problems that we face.

I point to two critical challenges, which can gain so much from a well-structured and implemented PPP environment:

1) Boosting healthcare

Significantly adding healthcare capacity should be top priority. We need both "beds" and "heads" — hospitals and healthcare practitioners — if we truly want to future-proof our healthcare system. With 100,000 beds, our bed-to-population ratio of 1.0 remains under the World Health Organization (WHO) standard of 3.0. To reach a ratio of at least 1.25 by 2025, the country needs to increase capacity by at least 54,000 beds. This is a massive undertaking that the government cannot do alone. If we want to increase hospital bed capacity, we need to attract more private sector investments, through incentives and other mechanisms such as PPP arrangements, so we can entice more private players to be involved.

However, the other half of the challenge is the glaring gap in the country's pool of doctors, nurses, and allied health professionals. For example, we have 0.4 doctors per 1,000 population, well below the WHO-prescribed standard of 1:1,000. The next generation should be encouraged to pursue training in healthcare-related fields. The government should explore incentivizing universities and medical schools to lower tuition costs and increase class sizes. PPPs can also be harnessed to establish more medical schools and training facilities, further empowering Filipinos all over to take on the call of service as healthcare providers.

Part and parcel to the government's plan of strengthening Philippine healthcare is the implementation of Universal Health Care (UHC) law. Private healthcare providers should be encouraged and incentivized to establish primary healthcare facilities, in coordination with local government units, to support the roll-out of UHC. Furthermore, as the private sector continues to innovate with new mechanisms in line with UHC, the government should also be flexible in its regulations, able to adapt and evolve with these new business models. The private sector is eager to support UHC and, like how we dealt with the pandemic, cooperation and collaboration with the government are key if we want to see UHC through.

Finally, the Philippine Health Insurance Corporation (PhilHealth) plays a vital role. To ensure PhilHealth's future success and build resilience in the healthcare system against the future unpredictability with the pandemic, there are clear opportunities that should be addressed now, particularly on improving technology and systems for claims processing, fraud detection, and collections and reimbursements. The private sector can help by lending its collective wealth of technical knowledge and experience with global best practices. Should PhilHealth need to outsource certain functions or consult on what are the best strategies as it reforms, the private sector is readily available to help and provide support where needed.

2) Addressing Our Learning Crisis

The pandemic has aggravated a Learning Crisis that has been creeping upon us for decades but has been highlighted in recent years with our dismal placings in several international assessments of learner competencies, and most recently with the World Bank's staggering data showing us at the bottom of the heap in almost all categories. Using data from Programme for International Student Assessment, Trends in International Mathematics and Science Study, and Southeast Asia Primary Learning Metrics, the World Bank (2021) estimates that 90% of 10-year olds cannot read a simple story.

There are three areas with great opportunity for a strong Public-Private Partnership to make a difference:

A. Improving the Voucher System to Accelerate School Opening and Learning Recovery

The government has been successfully running large scale education subsidy programs in high school. In school year 2021-22, about a million private junior high students are Education Service Contracting grantees while in senior high, about a million students are voucher recipients.

The positive impact is clear cut. In August 2020, an ADB study concluded that the programs promote the efficiency of the mixed public-private education system, enable greater choice, empower the parents and the learners and promote diversity of providers. But there is much more potential to expand and refine these programs such as (1) increasing high school slots, (2) redesigning programs towards the adoption of a universal voucher across eligible grade levels; (3) adding grades 1-6; (4) differentiating the grant amount using parameters such as socio-economic status, school location, Senior High School (SHS) tracks or strands; (5) quality assuring all participating schools and (6) prioritizing disadvantaged students such as children with disabilities and indigenous peoples.

In Higher Education, the government is spending massively by subsidizing state colleges and universities offering free tuition for all. As has been pointed out by Philippine Institute for Development Studies (PIDS), the government's think tank, this is sub optimal: there is not enough financial support for the truly needy students (tuition is only a portion of the cost), leakages to the non-poor, and inimical effects on private institutions, many of which are much more efficient in providing education than their public counterparts.

To address these shortcomings, a PPP model wherein a portable voucher is provided exclusively to the poor that would allow them to enroll in the post-SHS school of their choice, whether public or private, can be adopted. This is more efficient in using taxpayer money, and by empowering students to choose, provides a market test of the quality of public provision.

Additionally, vouchers need not be limited to college, but can also be deployed for other post-SHS training programs more attuned to the needs of our country, e.g. digital skills.

B. Improving Digital Connectivity and 21st Century Teaching and Learning

Improved availability of good digital connectivity in urban centers has partially addressed the inability to do face-to-face classes in the last two years. However, this has widened the digital divide in terms of access to remote education platforms.

A possible PPP solution to this would be for the government to tap the technological and management expertise of telecommunication companies to expand their reach into those areas. Financially supporting their infrastructure and facilities rollout in areas that would not otherwise be commercially viable and providing subsidies to poor users using, for example, the Conditional Cash Transfer mechanisms would help solve this pressing problem.

But technology alone cannot solve the learning crisis. Guidance by trained and well-supported teachers is also needed for students to maximize the benefits of digital connectivity.

C. Education Commission 2

If Education Commission 2 is passed into law, it would be a golden opportunity for the Public and Private sectors to work together to reboot our educational systems.

Ideally, the reboot should be informed by a holistic, data-driven assessment led by PIDS. Its review should cover legislative, policy, and administrative gaps, including the assessment of budgetary requirements to support public and private education sectors equally. The private sector could take the lead in providing technical assistance for a truly reimagined education system focused on improved learning for all.

Healthcare and education are just two areas that can flourish and create meaningful social impact through PPPs that are designed properly and implemented under the right enabling environment. I remain steadfast in my belief that there is a golden opportunity for us to build on the trust and collaboration gains created between the government and the private sector during our collective response to COVID-19's challenges, and channel these towards structured, well-designed, and longer-term contractual PPPs.

However, unlike the partnerships done during the pandemic — which are one-shot endeavors — contractual PPPs typically require long-term commitments, including significant capital from proponents and financiers. Thus, given the complex nature of such arrangements, such contractual PPPs need to be commercially viable, sustainable, and predictable.

Allow me to provide some recommendations to ensure that such a vibrant environment for contractual PPPs will emerge:

1) Institutionalize Public-Private dialogues for each of the government's priority sectors, and supplement these with a Steering Committee, Secretariat, and regular cadence.

While these may sound mundane, a continuous series of regular monthly dialogues with clear accountabilities and next steps will be much more effective than the current approach of ad hoc and irregular meetings when crises arise. The T3 experience validates this arrangement.

2) Place the spirit of partnership and collaboration at the center of joint initiatives.

Partners should recognize the strength of the private sector and limitations of government, and vice versa, and seek to bridge these gaps through cooperation. We note that the government has had difficulty in the building and operating projects, especially those that are complex and require high levels of technical expertise (e.g. IT projects, massive infrastructure initiatives, etc.). The private sector can certainly fill in these gaps, but under the appropriate environment of trust and genuine partnership.

3) Respect the basic principle of risk allocation.

Parties that can best manage particular risks should be the primary ones to carry these. Thus, on the issue of Material Adverse Government Action (MAGA), such risks should not and cannot be borne by the private sector, as this may result in unviable projects that do not generate interested qualified bidders.

4) Respect the sanctity of contracts.

Business thrives in an environment of predictability and consistency, with internationally recognized mechanisms existing to resolve disputes between parties. Robust PPP arrangements would greatly benefit from this environment of respect for private partners, their contracts, and the decisions of international arbiters in cases of disputes.

5) Design globally competitive PPP contracts.

Connected to the above, arrangements that are investment-friendly attract the highest quality local and global players that can best meet the requirements of the government and the public at the least cost, while promoting healthy competition. The amendments to the Public Services Act that allows 100% foreign ownership in key infrastructure projects is a step in the right direction. However, the proposed amendments to the BOT Law's Implementing Rules, covering exclusions to what constitutes MAGA, uncertainty in determining "reasonable" rates and returns, and removing arbitration as a dispute-settlement mechanism, among others, are a worrying development.

To close, the COVID-19 pandemic appears to have ushered in unprecedented levels of trust and a much tighter partnership within the private sector, and between the private sector and the government — the "Bayanihan" spirit coming to life. I believe that there is no other more opportune time than this post-pandemic period to build on these gains and create an environment where public-private partnerships, broadly defined, become a critical vehicle for addressing our several development challenges in delivery of needed public services and infrastructure, both hard and soft. The government's limited fiscal resources at this time requires that it spend these more wisely, and leverage the same with private financial resources, technical and management know-how.

I am grateful for valuable inputs from Fred Ayala, Paolo Borromeo, Bill Luz and Paolo Monteiro. Mistakes are all mine.

ANNEXES

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List of Participants

Contributor's List

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VACCINE ROLLOUT		
Carlito Galvez Jr.	IATF	Public
Vivencio Dizon	IATF	Public
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Myrna Cabotaje	DOH	Public
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Kezia Rosario	DOH	Public
Shaymae Ufano	DOH	Public
Jehan Abdelkawi	DOH	Public
Ted Herbosa	DOH	Public
Sarah Lazaga	DOH	Public
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Name	Organization	Sector
VACCINE ROLLOUT		
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Jules Jurado	McKinsey	Private
Calvin Lim	McKinsey	Private
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Julian Cua	BCG	Private
Tiffany Uy	BCG	Private
Emily Serazin	BCG	Private
Josh Kellar	BCG	Private
Dennis Chua	BCG	Private
Ana de Leon	BCG	Private
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Maxine Yee	BCG	Private
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Christian Chua	SGV	Private
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DATA

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JV Poe	Thinking Machines	Private
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VACCINE CERTIFICATE

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Maline Padlan	OHCC	Public
Em Branzuela	OHCC	Public
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Enrique Razon	Bloomberry
Samuel Ang	Chinese General Hospital
Francis Del Val	Cobena
Dennis Uy	Converge
Jorge Consunji	DM Consunji
Junie Del Mundo	EON
Romoe Bernardo	FEF
Federico (Piki) Lopez	FirstGen/Lopez
Robert (Bobby) Aquino	Globe
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Gully Go	JG Summit
Ato Salud	JG Summit
Lance Gokongwei	JG Summit
	KCCP Group
Jose Alfonso	LRT Corp
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Basilio Yap	Manila bulletin
Ruy Moreno	MAP
Coco Alcuaz	MBC
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Name	Organization	Sector
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Anthony Fernandez	Smart	Private
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Pao Syling	Thinkwell	Private
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Christian Gonzalez	ICTSI	Private
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Jopin Romero	GoNegosyo	Private
Rafael Jose Consing Jr.	ICTSI	Private
Ricky Razon	ICTSI	Private
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Joey Ochave	Unilab	Private
HUMAN RESOURCE FOR HEALTH		
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Cliff Basco	NTF	Public
Francel Taborlupa	OPAPP	Public
Karlo Nograles	Cabinet	Public
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Eduardo Año	DILG	Public
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Mike Salalima	MMDA	Public
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Name	Organization	Sector
PRIVATE SECTOR PARTNERS		
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Richard Gordon	Red Cross	
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Robina Gokongwei	Robinsons Corporation	
Ramon Ang	San Miguel	
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HOSPITAL GROUPS		
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Chairman,
Metro Manila Development Authority

Benjamin Abalos Jr is a lawyer and politician who served as the Chairman of the Metropolitan Manila Development Authority (MMDA) from 2021 to 2022. Previously, he served as the city mayor of Mandaluyong for five terms, and as congressman and councillor of the same city. He is also the incoming Secretary for the Department of the Interior and Local Government.

Reynaldo Aguilera

Supply Chain Consultant

Rey Aguilera has 38 years of solid corporate experience in Supply Chain, Logistics and Manufacturing as Director of Operations from different multinational companies last of which is Unilever Philippines Inc. He is a master coach in Sales and Operation Planning (S&OP), formulated Supply Chain Preparedness Index (SCPI) for Business Recovery and Resiliency Plans and conducted several logistics consultancy jobs after his retirement. He provided Technical support to DOH-SCMS under ADB.

Ermelindo Andal

President and Chief Operating Officer,
Filinvest Corporate Technologies, Inc

Ermelindo Andal is an independent Director of Sun Savings Bank. He was previously the President and Chief Operations Officer of Filinvest Corporate Technologies, Inc. He has a Master of Science degree in Mathematics from University of San Carlos. He, together with Ms. Gotianun-Yap, developed the COVID Documents Repository System which acts as a storage for all RT-PCR test results in the country.

Jessica Io O. Angeles

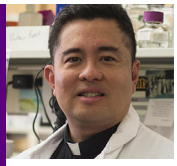
Project Associate,
Task Force T3

Jessica Io O. Angeles joined as a Project Associate under Task Force T3 of the Philippine Disaster Resilience Foundation Inc. (PDRF) in April 2022 and became Project Coordinator for its vaccination equity project with WHO until September 2022. She obtained her medical degree along with Masters in Business Administration in Ateneo School of Medicine and Public Health in 2018.

Vianca Jasmin Anglo

Project Associate,
Task Force T3

Vianca Anglo joined as a Project Associate for Taskforce T3 in August of 2020. She first worked in the policy, data, and communication workstreams in COVID-19 response and vaccination roll-out. Currently, she is one of the Program Coordinators of a WHO-funded project on vaccine equity.



Rev. Fr. Nicanor Robles Austriaco Jr.

Molecular Biologist and Catholic Priest,
University of Santo Tomas

Rev. Fr. Nicanor Robles Austriaco Jr. is a Filipino-American molecular biologist and Catholic priest. He is a professor of biology and professor of theology at Providence College in Rhode Island, USA and a research fellow at the Center for Theology, Religious Studies, and Ethics, at the University of Santo Tomas in the Philippines. He is also affiliated with OCTA as a Research fellow and has provided guidance and recommendations to the national government on COVID-19.

Alfredo Ayala

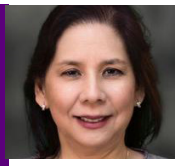
President and Chief Executive Officer,
AC Education

Alfredo Ayala is the President of iPeople, Ayala Corporation's education joint venture with the Yuchengco Group, and Managing Director and member of the Management Committee of the Ayala Group. He obtained his MBA from the Harvard Graduate School of Business Administration and his BA in Economics and Development Studies from Brown University. He was involved in setting up Taskforce T3 in April 2020, and worked closely with Testing Czar Secretary Vince Dizon in the expansion of RT-PCR testing in the Philippines.

Raymund Azurin

Senior Vice President, Corporate Affairs,
Zuellig Pharma Asia Pacific

Raymund Azurin is currently the Senior Vice President, Corporate Affairs, Zuellig Pharma Asia Pacific. This function covers Government Affairs, Sustainability and Corporate Communications. He has worked for the Zuellig Group in various commercial roles for over 15 years. Prior to joining Zuellig Pharma, he has had more than 12 years of senior management experience, based in Sydney Australia, leading a number of healthcare businesses including pharmaceutical manufacturing, sales and marketing, distribution, IT and Patient Solutions. As an integral member of the T3, Ray shared his strong expertise and experience in healthcare supply chain, vaccine handling and distribution.



Margaret Bengzon

Chief Operating Officer,
QualiMed Health Network

Margaret Bengzon is the Chief Operating Officer at QualiMed Health Network Group. She was involved in COVID-19 vaccination planning and roll-out in the country.

Romeo Bernardo

Vice Chairman,
Foundation for Economic Freedom

Romeo Bernardo is the Vice-Chairman of the Foundation for Economic Freedom and GlobalSource Partners Philippine Advisor. He was Finance Undersecretary during Corazon Aquino and Fidel Ramos administrations and was a Trustee of the MWSS from 1995 to June 1996. He is a sought after commentator in the Philippine media for his vast knowledge of the country's economic development and dynamics. His long career spans roles in government, industry and the multilateral sectors.

Paolo Borromeo

President and Chief Executive Officer,
AC Health

Paolo Borromeo is the President and CEO of Ayala's healthcare arm, AC Health. He earned his Masters in Business Administration with honours from Wharton School at the University of Pennsylvania. He worked closely with Secretary Charlie Galvez, Secretary Vince Dizon, and the DOH throughout the pandemic - increasing the testing capacity, ramping up COVID beds, bringing in medicine and antivirals, and rolling out the vaccination drive.

Dr. Myrna C. Cabotaje, MPH, CESO III

Undersecretary, Department of Health
Chair, National COVID-19 Vaccination Operations Center

Dr. Myrna C. Cabotaje has four decades of broad public health practice with exposure to field operations having worked extensively in the Cordillera and Ilocos Regions and the Technical Bureau of the Department of Health. Most recently, she was the Undersecretary for Field Implementation and Coordination Team (FICT) for NCR and Luzon and chaired the COVID-19 National Vaccination Operations Center.

Jon Canto

Acting Managing Partner,
McKinsey & Company (Philippines)

Jon Canto is the Acting Managing Partner of McKinsey & Company in the Philippines. He has more than 15 years of experience working across the Philippines, Singapore and the United States specializing in strategy and performance transformation, having led large-scale private sector transformations across Asia. His background is in energy (Power, Oil & Gas) and infrastructure (Transportation, Logistics).

Atty. Joanna Eileen Capones

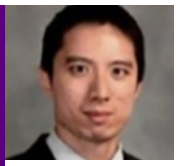
Vice President for Investment Promotions and Marketing,
Bases Conversion and Development Authority

Atty. Joanna Eileen Capones was Vice President for Investment Promotions and Marketing, Bases Conversion Development Authority where she has served for more than five years. She has supervised projects for COVID-19 under testing, swabbing, and quarantine facilities. She has taken her Masters of Law in Columbia Law School. Currently, she works in Bangko Sentral ng Pilipinas (BSP).

Mayor Lino Edgardo Cayetano

Mayor,
City of Taguig

Mayor Lino Cayetano was a former member of the House of Representatives for the 2nd district of Taguig and served as the Mayor of Taguig until June 2022. He previously served as the Representative of the legislative district of Taguig in 2013, and he was the Barangay Chairman of Fort Bonifacio from 2010 to 2013.



Christian Edmund Chua

Director,
SGV & Co - Ernst & Young Philippines

Christian Edmund Chua led a small team to design, develop and operate the Vaccination Operations Reporting System. Together with DOH's Centers for Health Development and DICT's Regional Clusters, they produced the daily vaccination accomplishments data of 1,600+ LGUs during regular, national and special vaccination days.

Jose Concepcion III

Presidential Adviser,
Entrepreneurship and Chairman, GoNegosyo

Jose Concepcion III is the Presidential Adviser for Entrepreneurship and Chairman of GoNegosyo. He was one of the Ten Outstanding Young Men of the Philippines and was acknowledged by Time Magazine as one of the Global 100 List of Young Leaders of the New Millenium. He was involved in A Dose of Hope which was a public-private sector vaccine procurement initiative during the COVID-19 pandemic.

Rafael Jose Consing Jr.

Senior Vice President and Chief Financial Officer,
International Container Terminal Services, Inc. (ICTSI)

Rafael Jose Consing Jr. is the Senior Vice President and Chief Financial Officer of the International Container Terminal Services, Inc. (ICTSI). He is the founder and chairman of The Orange Platform. He is also a six-time Corporate Governance Asia Awardee for Best CFO (Investor Relations) for Asia from 2016 to 2021.

Manuel M. Dayrit, MD, MSc

Former Secretary of Health, Department of Health Philippines
Adjunct Professor and Former Dean, Ateneo School of Medicine and Public Health

Dr. Manuel Dayrit is Professor and former Dean of the Ateneo de Manila University, School of Medicine and Public Health. He was Secretary of Health when he led the Philippines' response on Severe Acute Respiratory Syndrome (SARS) outbreak in 2003. He provided technical advice to T3 during the COVID pandemic.

Director Althea De Guzman MCHM, PHSAE

Director IV, Epidemiology Bureau,
Department of Health

Althea De Guzman is a physician and currently Director IV of the Epidemiology Bureau under the Department of Health.

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Assistant Secretary,
Department of Information and Communications Technology (DICT)

Evamay dela Rosa served for six years as the Regional Director for Northern Mindanao and CARAGA in the Department of Information and Communications Technology in 2015. She currently serves as the OIC Assistant Secretary and Lead for Vaccine Information Management System (VIMS) including VaxCertPH.

Secretary Vivencio B. Dizon

Deputy Chief Implementer,
National Task Force Against COVID-19 Testing Czar,
Inter-Agency Task Force for the Management of Emerging Infectious Diseases

Secretary Vivencio Dizon is an economist who previously served as President and CEO of the Bases Conversion and Development Authority. He was appointed as the National Action Plan Against COVID-19 Deputy Chief Implementer contributing to the government's policies in response to COVID- 19, as well as, serve as the Testing Czar.

Maria Lourdes E. Eleria, MD, MPH, MDM

Chief of the Special Services Division,
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Maria Lourdes E. Eleria, is the Chief of the Special Services Division of the Quezon City (QC) Health Department and concurrently Action Officer for COVID-19 Vaccination of the city's Task Force Vax To Normal. A pediatrician and a public health expert, Dr. Eleria's vision for QC is "a premier city with a strong health-related private-public partnership, in the service of health-driven QCitizens."

Esperanza Anita Escaño-Arias MD, MPH

Population Program Officer V,
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Esperanza Anita Escaño-Arias is the Population Program Officer V and Officer-in-Charge of the Quezon City Health Department (QCHD). A pediatrician by training and public health professional by practice, Dr. Arias's life mission is to make full use of her God-given gifts and capabilities to serve, ease the burden of others, and multiply assets to secure the future generation; and for QCHD to be "the best and the benchmark."

Evaristo Francisco Jr.

Chief Executive Officer,
Center for Excellence in Governance

Evaristo Francisco Jr. has extensive Technical, Supply Chain, and Executive Leadership experience in FMCG's across Asia Pacific covering 38 years, of which the last 17 were with The Coca-Cola Company. He retired in June 2021 and is currently Chief Executive Officer of the Center for Excellence in Governance. He holds a B.S. degree in Mechanical Engineering, cum laude, from the University of the Philippines, Diliman. He provided Supply Chain & Logistics guidance to T3, focused on building systems and capabilities.

Secretary Carlito Galvez, Jr.

Chief Implementer, National Task Force Against COVID-19
Vaccine Czar, Inter-Agency Task Force for the Management of Emerging Infectious Diseases

Secretary Charlito Galvez, Jr. is the Chief Implementer of the COVID-19 National Task Force and the Vaccine Czar of the Inter-Agency Task Force on Emerging Infectious Diseases. Sec. Galvez is a retired four-star general and was the 50th Chief of Staff of the Armed Forces of the Philippines. He was appointmented as the Presidential Adviser on the Peace Process.

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Rhais Gamboa is the Chief Operating Officer of Mount Grace Hospitals, Inc., a company investing in hospitals. He also sits on the board of several tertiary hospitals.

Dr. Nina Gloriani MD, PhD

Chair,
DOST Vaccine Expert Panel

Dr. Nina G. Gloriani, Former Dean of the College of Public Health at the University of the Philippines Manila. One of the qualifications for the recognition is having a national or international prize for research. Dr. Gloriani received the 2021 Paulo Campos Award for Health Research, honoring her efforts in national leadership during the COVID-19 pandemic and pioneering research on epidemiology, diagnosis, and vaccine development for infectious diseases. She is currently the Chairperson of the Vaccine Expert Panel of the Technical Working Group for COVID-19 Vaccines under the Department of Science and Technology.

Jeremy E. Gorospe, MSc, DIH, RPh

Health Security Consultant,
Asian Development Bank

Jeremy Gorospe is a Health Security Consultant at the Asian Development Bank. She has 10 years' experience in Public Health in Asia and the Pacific Region, including extensive work at WHO and a history of volunteering commitments in the area of Global Health and Development. Jeremy is a Registered Pharmacist, holds an MSc in Public Health for Development from the London School of Hygiene and Tropical Medicine, as well as a Diploma in International Health from the University of the Philippines.

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Lourdes Josephine Gotianun-Yap is the Chairperson of the Board of the Filinvest REIT Corporation. She is also the Director, President and Chief Executive Officer of Filinvest Development Corporation, and holds positions in other companies within the Filinvest Group. She obtained her MBA from the University of Chicago. She developed the COVID-19 Data Repository System (CDRS) which stored all RT-PCR test results across all public and private COVID-19 testing facilities in the country.

Dr. Beverly Ho

Director, Health Promotion Bureau,
Department of Health

Dr. Beverly Ho is the Director of the Health Promotion Bureau of the Department of Health. She acquired her MD from the University of the Philippines and an MPH in Health Policy and Management from the Harvard T.H. Chan School of Public Health. She is also concurrently the Officer-in-Charge Undersecretary of the Public Health Services Team.

Jannette Jakosalem

Market Managing Director,
Zuellig Pharma

Jannette Jakosalem is the Market Managing Director of Zuellig Pharma. She manages the Distribution, Business Solutions and the consolidated Operations of the Philippines. She was mainly involved in the logistics and warehousing of COVID-19 vaccine supplies going in and around the country. She was involved in the eZVax/eZConsult, a digital app, that supported the efficient vaccine administration of the private sector. Currently she also serves as Vice President of the Pharmaceutical & Healthcare Association of the Philippines.

Maritess Jocson-Agoncillo

Executive Director,
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Maritess Jocson-Agoncillo is the Executive Director of the Confederation of Wearable Exports of the Philippines. She is an advocate in the long-term growth of the emerging industry on the production of locally-made, medical grade personal protective equipment.

Christian Lauron

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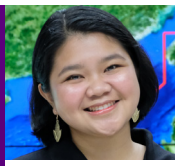
Christian Lauron is a Partner from SGV's Financial Services and Government & Public Sectors.



Melissa Lavente-Correa

Project Associate,
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Melissa Lavente-Correa is an Associate under Taskforce T3 since 2020. She led Project Kaagapay PDRF's effort to provide PPEs for Frontliners, and has worked closely with various workstreams for COVID-19 Response and other workstreams in the vaccination roll-out. She manages multiple volunteering commitments with her extensive development and humanitarian work.

Guillermo M. Luz

Chief Resilience Officer,
Philippine Disaster Resilience Foundation Inc.

Guillermo "Bill" M. Luz is the Chief Resilience Officer of the Philippine Disaster Resilience Foundation Inc. (PDRF). He is a proponent of Task Force T3 and the main convener of partners and organisations involved in T3. He was involved in brainstorming and strategizing programs and activities that are in alignment with the priorities of the government sector (testing, contract tracing, treatment, and vaccination).

Haraya Marikit Mendoza

Project Associate,
Task Force T3

Haraya Marikit C. Mendoza joined as a Project Associate under Task Force T3 of the Philippine Disaster Resilience Foundation Inc. (PDRF) in March 2022 and became Project Coordinator for its vaccination equity project until September 2022. Prior to PDRF, her main work as a research assistant at the Institute of Philippine Culture (IPC) concerned health systems research in the Philippines and in the ASEAN as well as knowledge dissemination efforts for relevant health topics.

Jose Ma. Miñana

Chief Sustainability and Public Affairs Officer,
Jollibee Food Corporation

Jose "Pepot" Miñana is the Chief Sustainability and Public Affairs Officer in Jollibee Food Corporation (JFC). He completed the course Advanced Management Program from Harvard Business School and earned his Masters in Business Administration from Asian Institute of Management. He is one of the core proponents of T3 and shared his knowledge on vaccine planning and roll-out.

Eugenio Jose F. Ramos, MD, MBA

President and Chief Executive Officer,
The Medical City Enterprise

Dr. Eugene Ramos is a diplomate and fellow of the Philippine College of Physicians and of the Philippine College of Cardiology. He was awarded Distinguished Fellow of the PCP in 1999. Dr. Ramos obtained his MBA in Health at the Ateneo Graduate School of Business (AGSB) in 2008 as a gold medalist. He is currently serving as president and CEO of The Medical City, one of the leading tertiary hospitals in the Philippines.

Kristine Romano

Managing Partner.
McKinsey & Company (Philippines)

Kristine Romano is the first Filipina to be elected partner in McKinsey & Company (Philippines). She has a Masters in Public Administration in International Development from John F. Kennedy School of Government at Harvard University. Her fields of expertise include economic development and public finances involving sectors like financial services, healthcare education, infrastructure, transportation, consumer goods and public sector.

Josephine Romero

Senior Adviser,
GoNegosyo

Josephine Romero is the Senior Adviser to the ASEAN Business Advisory Council Philippines Chair and GoNegosyo. She is the Project Leader of Project ARK (Antibody Rapid test Kits) and A Dose of Hope which helped in the expansion of COVID-19 testing and access to vaccines among the business community in the Philippines.

David San Pedro

President,
RelianceUnited

David San Pedro is the President of RelianceUnited. He earned his MBA from University of Virginia Darden School of Business and was involved in the COVID-19 vaccine planning, distribution and roll-out.

Mita Lourdes Angela Santiago

Project Associate,
Task Force T3

Mita Santiago joined Taskforce T3 as an Associate for One Hospital Command Center (OHCC) with 9 years of experience in public health research, specifically implementation research and health communications. In her work in Taskforce T3, she has worked heavily in the One Hospital Command Center (now National Patient Navigation and Referral Center), and Healthcare Worker Emergency Hiring workstreams in COVID-19 Response and the COVID-19 vaccination roll-out. When she is not doing public health work, she is involved in performing arts events as performer, coordinator, production staff, and/or producer.

Joey Singian

Consultant, Department of Information
and Communications Technology (DICT)
President, Liquidoo Brand Hunters Corporation

Joey Singian is a Senior Business Executive with experience leading operations of the largest corporations in the Philippines and various country lead roles in retail, franchising and sporting goods. He currently serves as a consultant for the Department of Information and Communications Technology handling the Vaccine Information and Management System (VIMS).

Assistant Secretary Eric Gerardo Tamayo

Assistant Secretary,
Department of Foreign Affairs

Assistant Secretary Eric Gerardo Tamayo holds a Chief of Mission Class 2 rank in the Philippine Foreign Service, currently assigned at the Office of the Undersecretary for Multilateral Affairs and International Economic Relations. He served as Chargé d'affaires, ad interim, and Minister and Consul General at the Philippine Embassy in Ottawa, Canada and as Alternate Representative to the United Nations International Civil Aviation Organization (ICAO). He spearheads the Task Group on Diplomatic Engagement and Negotiations of the Vaccine Cluster and oversees further diplomatic efforts in facilitating the design and development, as well as recognition by foreign governments, of VaxCertPH.

Kristan Jela Tambio

Core Project Associate,
Task Force T3

Kristan Jela Tambio joined the Taskforce T3 Core Team as a Project Associate on Policy, Strategy, and Communications workstreams in COVID-19 Response and in the COVID-19 vaccination roll-out. Currently, she continues her work in clinical and public health research, and is finishing her Masters in Health Social Science in DLSU.

Margot Torres

Managing Director,
McDonald's Philippines

Margot Torres is a multi awarded marketer, communicator and thought leader in the industry. She is the recipient of the Agora award for Marketing Management, Tambuli Chief Marketing Officer of the Year, Gawad PANATA lifetime awardee and CEO Excel Awards from IABC, Asia Marketing Federation's Women Marketer of the Year and Campaigns Asia's Women Leading Change award. Margot was tapped by private sector consortium Task Force T3 to be communications lead for the private sector and partner with government in addressing the COVID-19 crisis. She has been two-time President of PANA and IMMAP. She is currently the Managing Director of McDonald's Philippines, which is the largest market in Southeast Asia with close to 680 stores nationwide.

Shaymae Pearl Ufano

National Vaccination Operations Center,
Department of Health

Dr. Shaymae Pearl Ufano graduated with a degree of Bachelor of Science in Public Health at the College of Public Health – University of the Philippines Manila in 2011. She then continued and finished her medical education at the same institution. After passing the Physician Licensure Exam in 2016, she was deployed as a Doctor to the Barrio under the DOH DTTB program in Santo Domingo, Ilocos Sur. Afterwhich, she performed both policy and operations work in the rollout of the COVID-19 vaccination as one of the Medical Officers of the National Vaccination Operations Center (NVOC) until June 2022.

Leopoldo Vega

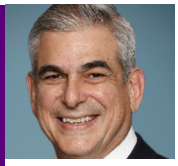
Undersecretary,
Department of Health
Chairman of Response Cluster,
Inter-Agency Task Force for the Management of Emerging Infectious Diseases

Undersecretary Leopoldo Vega is physician, surgeon and former hospital administrator. He served as an undersecretary of the Department of Health since 2020, and appointed as the Treatment Czar to the National Task Force Against Coronavirus under the IATF.

Dr. Marife Eufemia Yap

Senior Technical Adviser,
Thinkwell

Dr. Marife Yap is a Senior Technical Advisor in Thinkwell. She obtained her Masters in Community Health and Health Management in Developing Countries from the University of Heidelberg Institute of Tropical Medicine and Public Health. Her areas of specialisation are healthcare management, leadership and policy analysis.

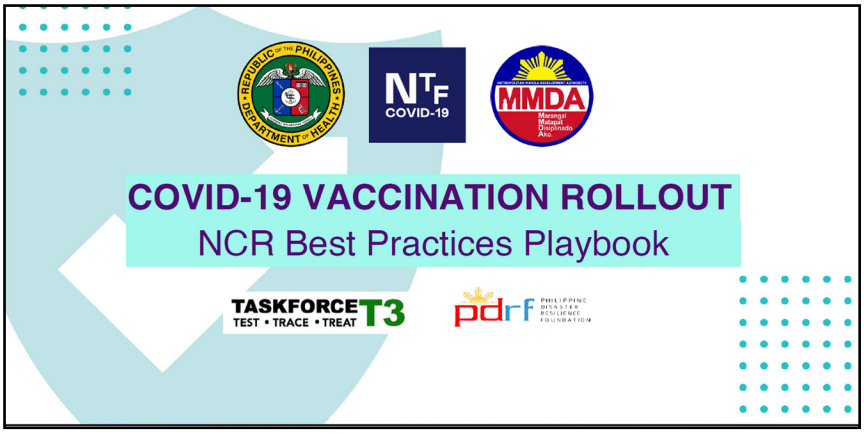


Jaime Augusto Zobel de Ayala

Chairman, Ayala Corporation
Co-Chairman, Philippine Disaster Resilience Foundation Inc.

Jaime Augusto Zobel de Ayala is the Chairman of Ayala Corporation and Co-Chairman of the Philippine Disaster Resilience Foundation Inc.

PLAYBOOKS



NCR Best Practices Source

Ingat-Angat Bakuna Lahat Local Government Units Communications Toolkit (Translated Materials)

Ingat-Angat LGU Activation Ideas

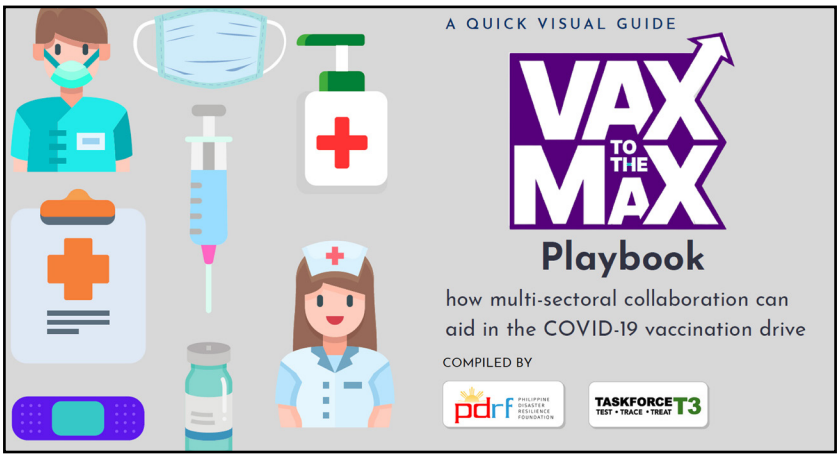
[Ingat-Angat Website]
[Ingat-Angat Facebook Page]

[BAKUNADO PANALO IMAGE 1]

[BAKUNADO PANALO IMAGE 2]

[BAKUNADO PANALO IMAGE 3]

[BAKUNADO PANALO IMAGE 4]



[Vax to the Max Playbook]

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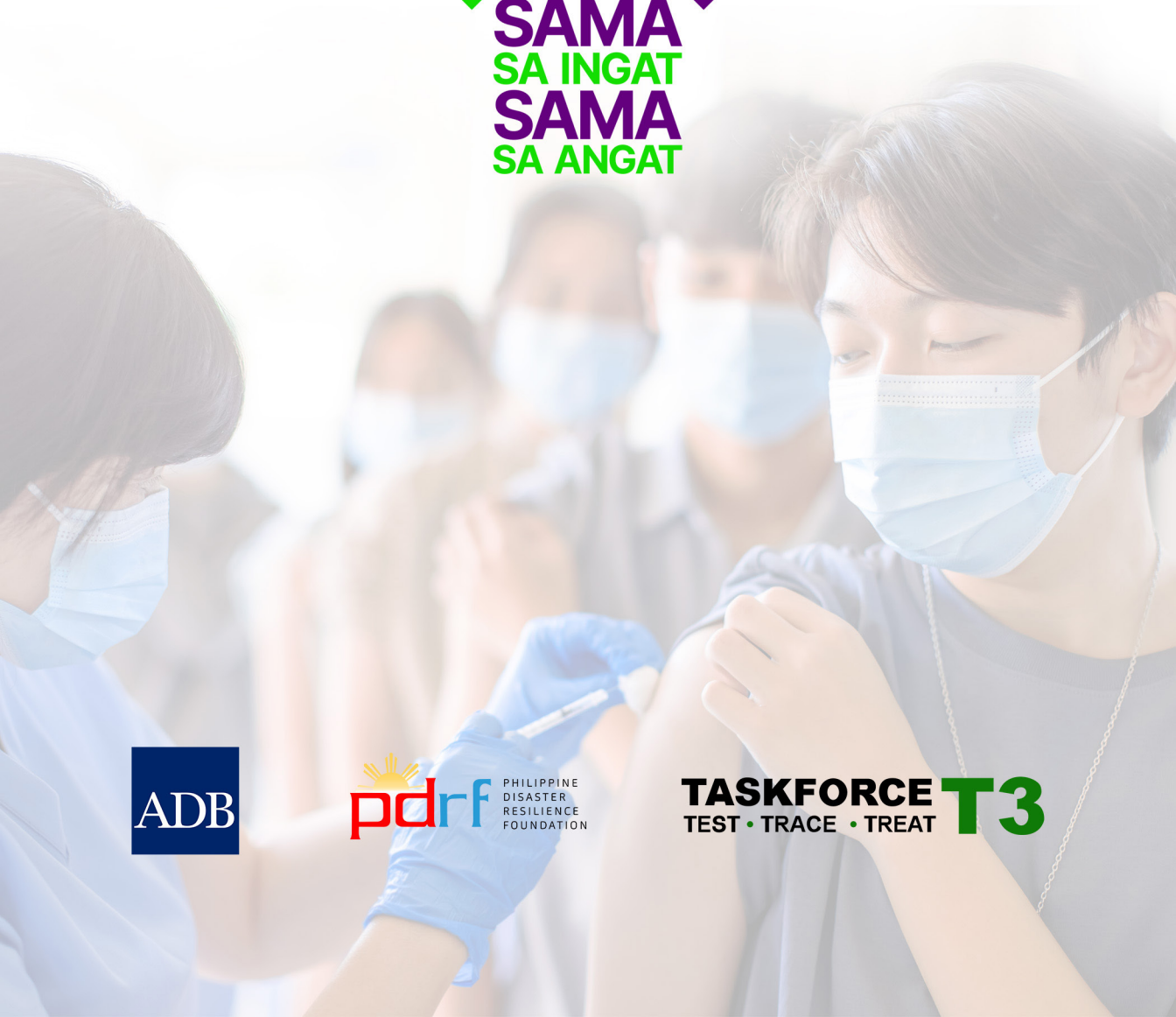

ADB

pdrf PHILIPPINE DISASTER RESILIENCE FOUNDATION

TASKFORCE T3
TEST • TRACE • TREAT