

JOIN US!

Liveable Cities Lab

RESILIENT PUBLIC HEALTH SYSTEMS

2 June 2021 (Wed) | 3:00 - 5:00 p.m.

SPEAKERS



DR. MANUEL DAYRIT

Former Secretary of Health
Former Dean, Ateneo School
of Medicine and Public Health



MAYOR VICO SOTTO

Pasig City



DR. LEOPOLDO VEGA

Undersecretary
Department of Health

CO-PRESENTERS



**LIVEABLE CITIES
CHALLENGE**



Sign up now!

<http://bit.ly/resilienthealthsystems>

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Globe

Liveable Cities Lab: Resilient Public Health Systems

Manuel M. Dayrit MD, MSc
Adjunct Professor & former Dean
Ateneo School of Medicine & Public Health

Liveable Cities Challenge, Webinar
June 2, 2021

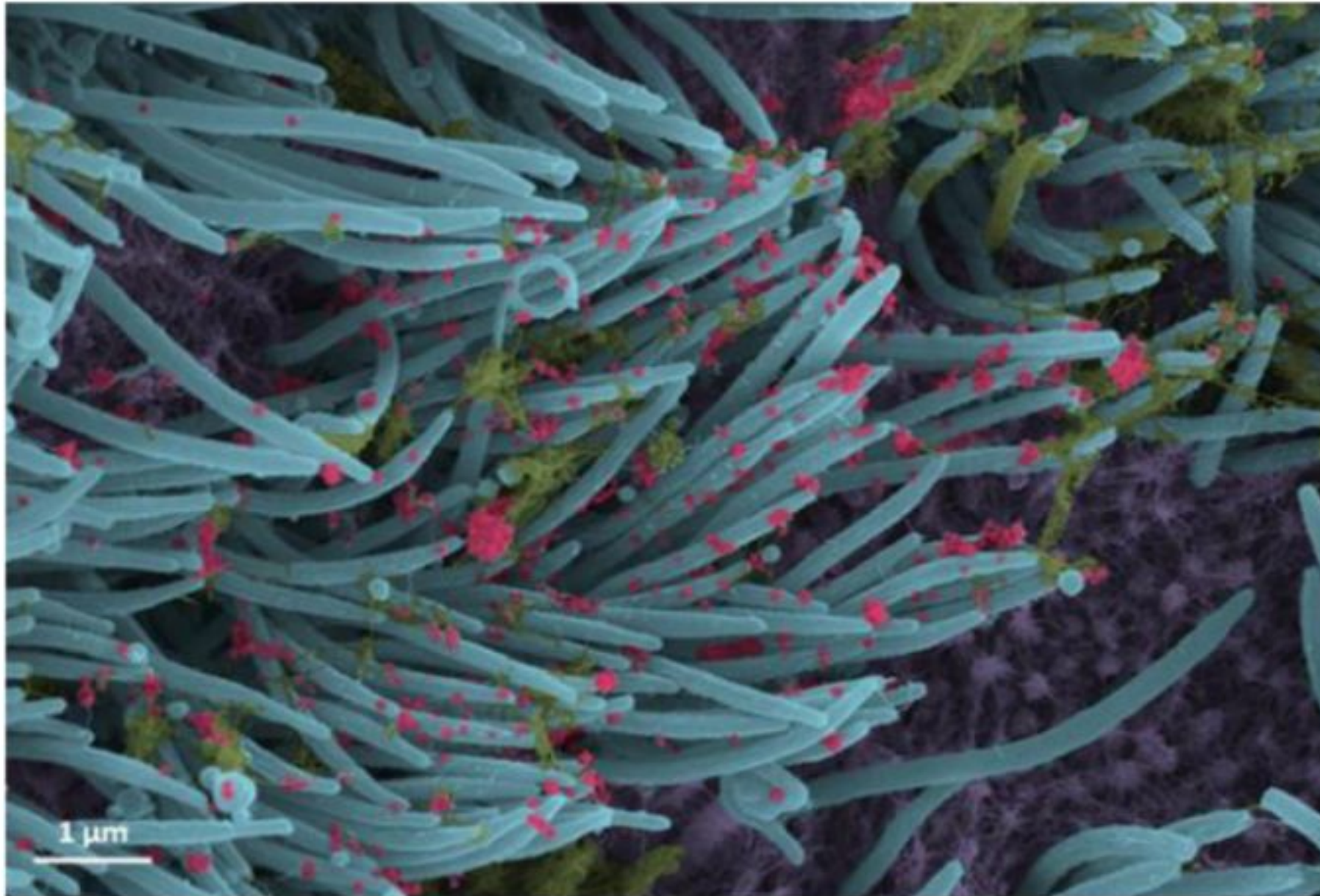


LIVEABLE CITIES
PHILIPPINES

Outline

- **Part 1:** The health system – a city perspective
- **Part 2:** The city's response to COVID-19 – a health systems perspective

The viral threat: a close-up of COVID-19 in Lung cells

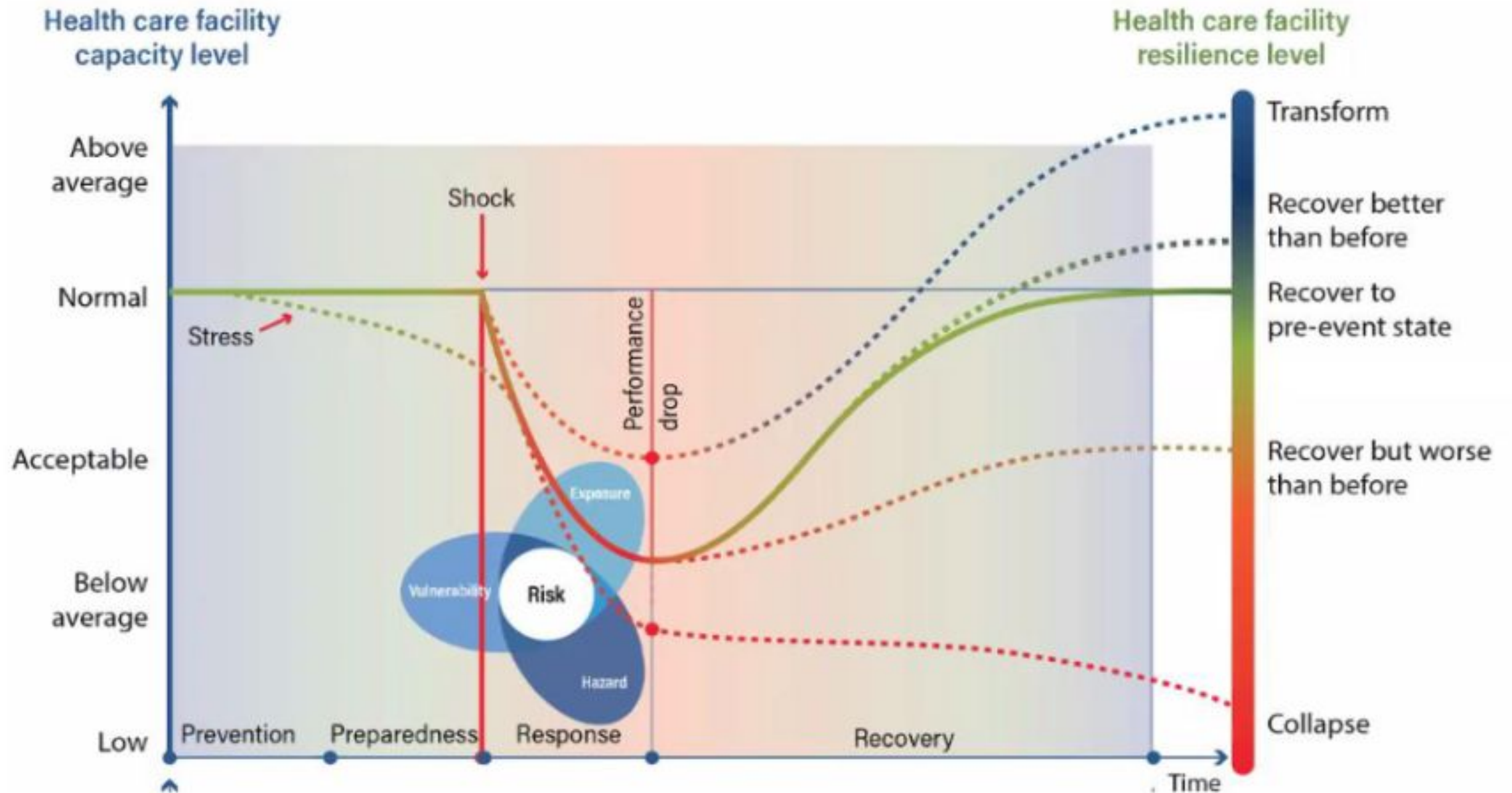


This colorized scanning electron microscope (SEM) image shows SARS-CoV-2-infected human lung cells (purple) covered in hair-like cilia (blue). Those cilia line the inner surface of the airways and help to clear mucus (yellow-green) containing dust and other debris from the lungs. Emerging from the surface of those infected airway cells are many thousands of coronavirus particles (red). In a lab dish containing about a million human cells, they've witnessed the virus explode from about 1,000 particles to about 10 million in just a couple of days.

Source: Dr. Francis Collins, NIH, Dec2020

Source: SARS-CoV-2 infection of airway cells. Ehre C. NEJM. 2020 Sep 3;383(10):969.

Health system resilience for COVID-19



Source: Adapted from WHO Guidance on Climate resilient and environmentally sustainable health facilities



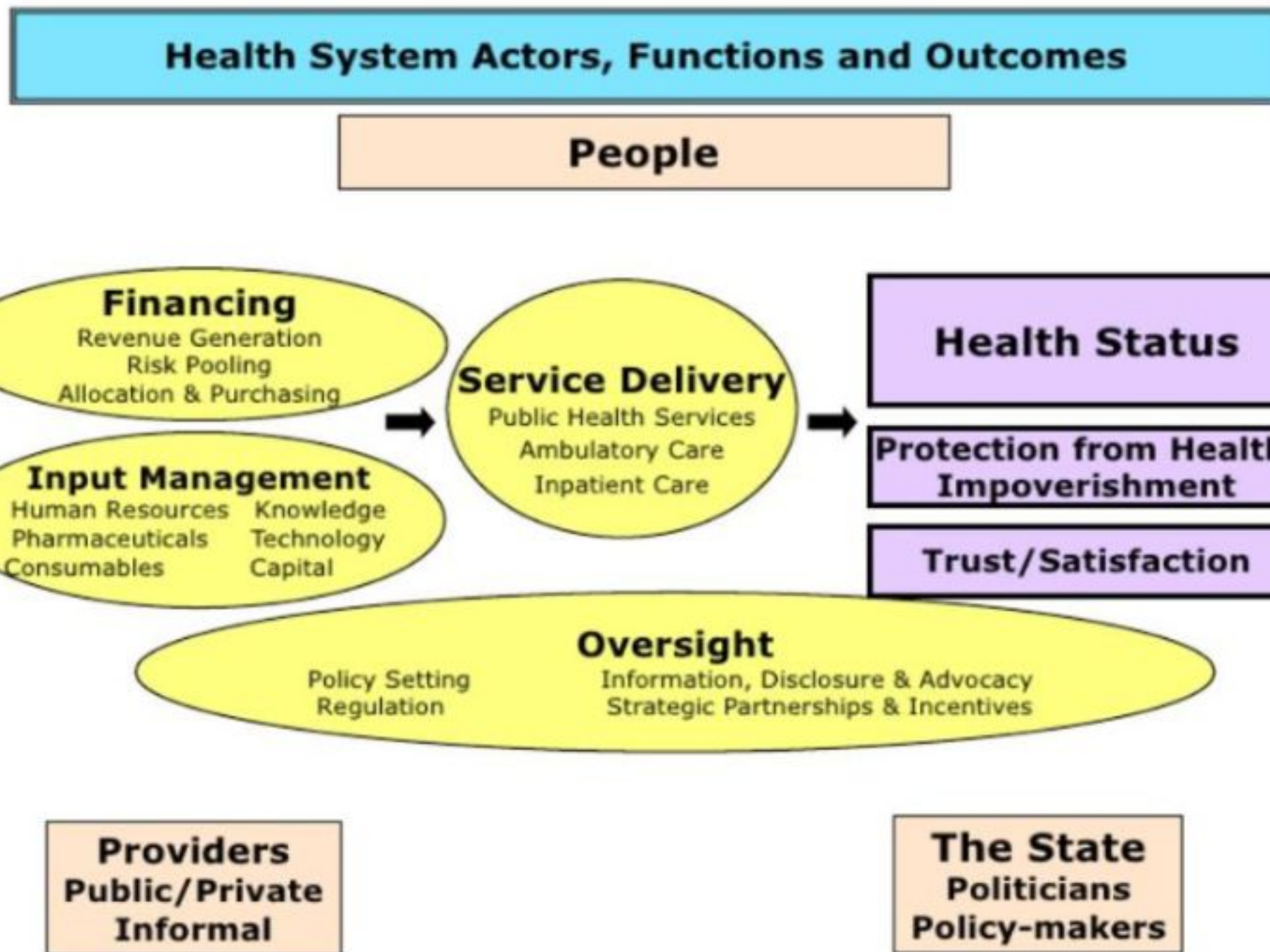
LIVEABLE CITIES PHILIPPINES



Source: <https://ramboll.com/megatrend/liveable-cities-lab>

Protecting people...



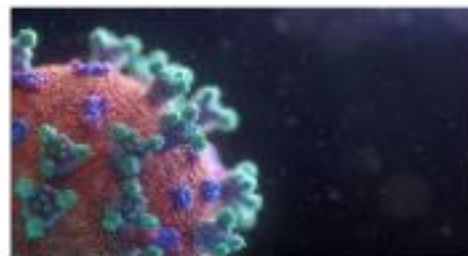


WHO definition

- A **well-functioning health system** working in harmony is built on having trained and motivated **health workers**;
- a well-maintained **infrastructure** (hospitals, clinics, labs etc);
- a reliable supply of **medicines and technologies**,
- backed by adequate **funding**;
- strong **health plans** and **policies based on good evidence and health information**;
- At the same time, because of the interconnectedness of our globalised world, health systems need to have the **capacity to control and address global public health threats** such as epidemic diseases and other severe events.

<https://www.who.int/healthsystems/about/progress-challenges/en/>

COVID-19 unmasked many health system challenges

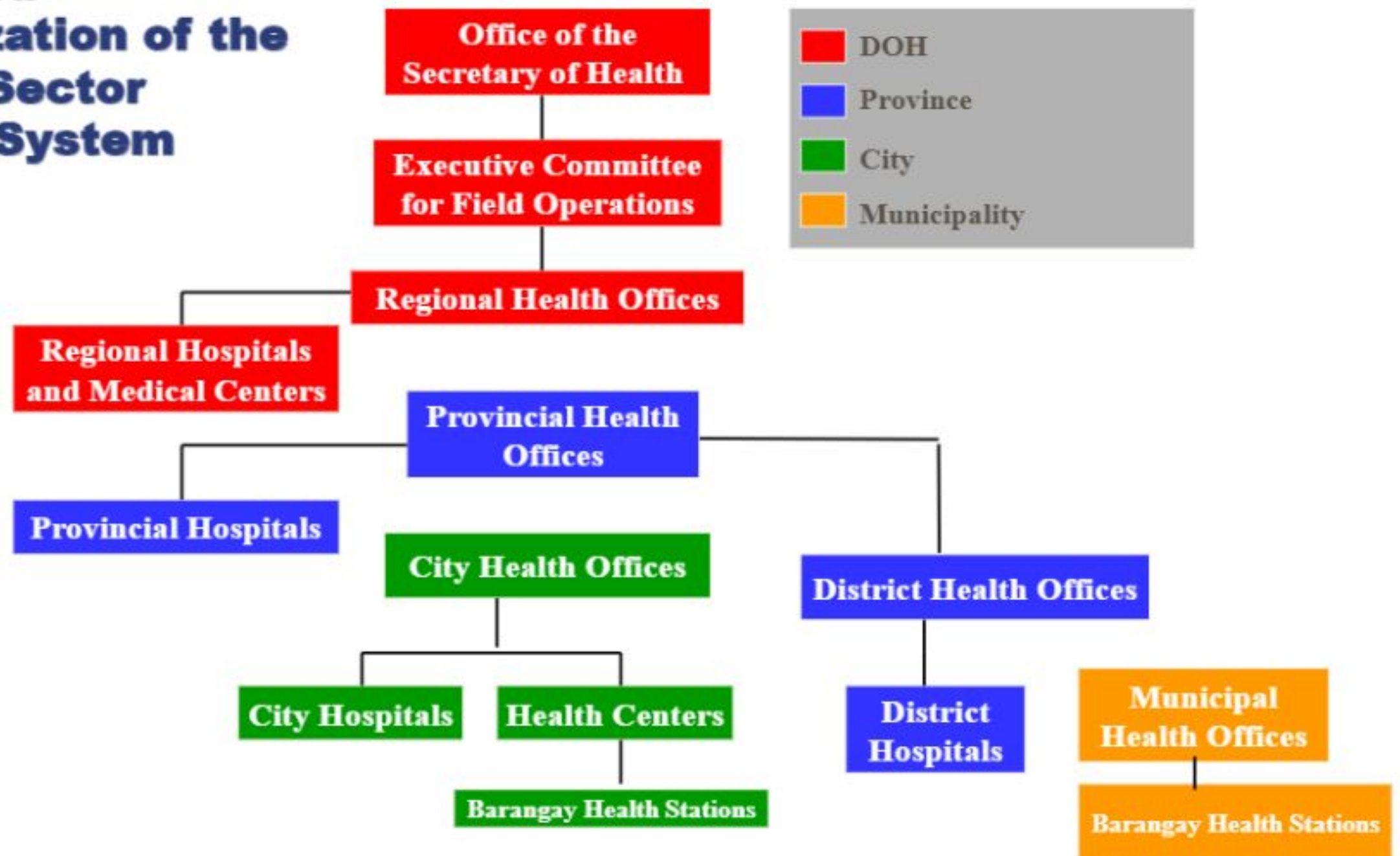


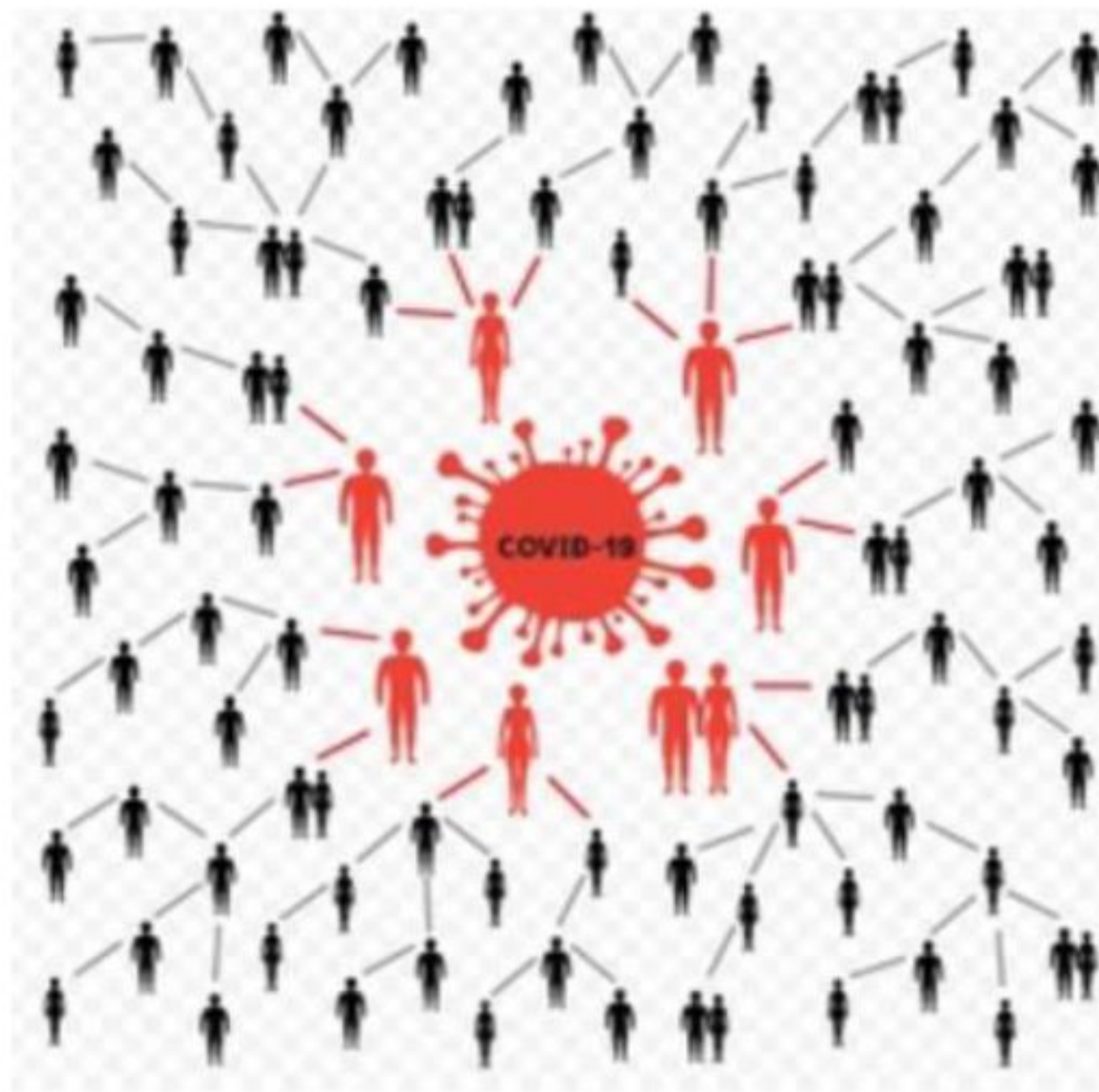
- Clarity in **governance**, local implementation
- Building capacity/**facilities** to test, trace, treat, vaccinate
- **Data** management – delayed, incomplete, now improved & improving
- **Human resources** for health – illness, deaths, exhaustion, shortage
- **Financing** (PhilHealth woes) – inadequate coverage, delays, scandal
- Procuring **supplies, medicines, vaccines**
- Communicating to the public
- Restoring public confidence
- Reviving the economy
- Opening Public transport
- Opening schools

There is no perfect health system (Britnell, 2015). COVID-19 overwhelmed even the most developed. What can we learn from others?



Devolved Organization of the Public Sector Health System





We must not underestimate the ability of the virus to grow exponentially, surge, mutate cause illness and death.

Our health system response must be equal to the viral threat.

Forecasted R Value for December 17, 2020: NCR Municipalities

R AVERAGE OVER TIME PERIODS (50% CREDIBLE INTERVAL, 90% CREDIBLE INTERVAL)

LGU	R (MEAN)
MALABON	1.3779
PATEROS	1.2304
NAVOTAS	1.1522
SAN JUAN	1.1493
MANDALUYONG	1.1263
MARIKINA	1.1133
PASAY	1.1093
VALENZUELA	1.0907
MUNTINLUPA	1.0914
PASIG	1.0679
MANILA	1.0197
QUEZON CITY	1.0295
LAS PINAS	1.014
MAKATI	1.038
PARANAQUE	0.9868
TAGUIG	0.9618
CALOOCAN	0.7792
NCR	0.9824

As of 17 Dec 2020

**Please
Interpret with
Caution.**

**(Shown values
are forecasted
values of R.)**

Source: EpiNow (FASSTER)

14 out of 17 municipalities in NCR:
Mean **R Value of >1.0**

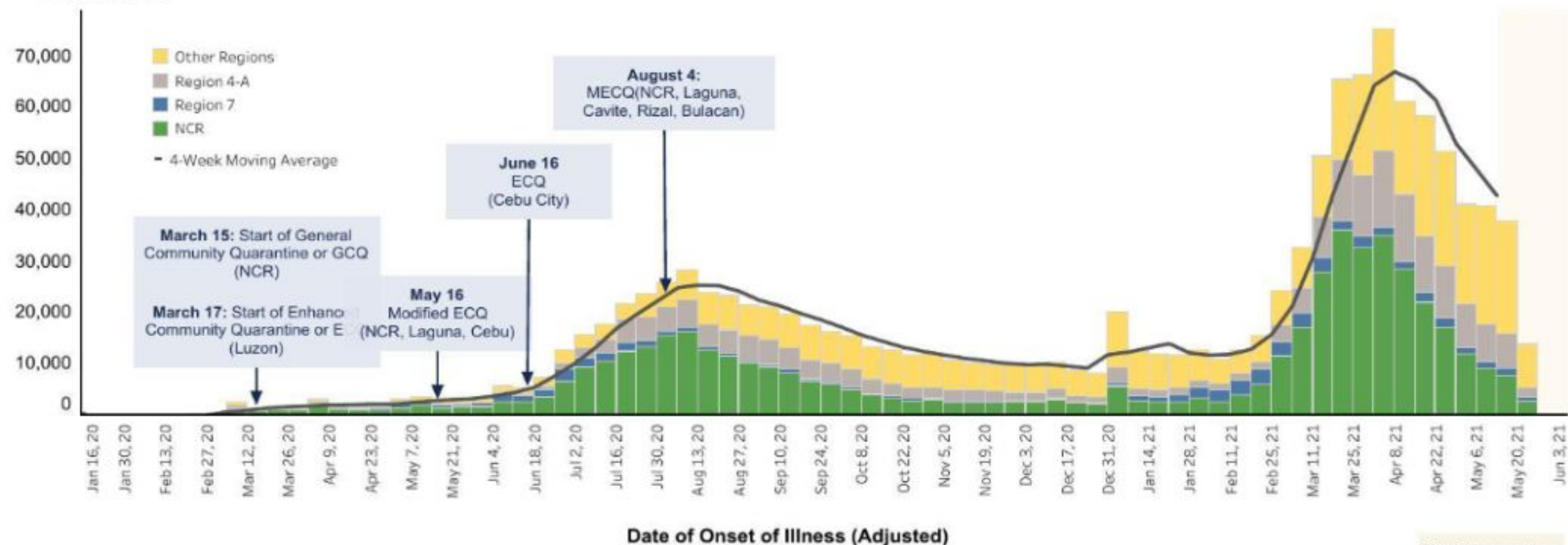
NCR projected Rt for Dec 17:
0.9824 (**higher** vs Nov 27 Rt of 0.9692)

Top 5 LGUs with highest Rt:
Malabon
Pateros
Navotas
San Juan
Mandaluyong

Confirmed COVID-19 Cases by Date of Onset of Illness (N=1,209,154)

Philippines, as of May 28, 2021

No. of Cases



*Incomplete Week

Note: Date of specimen collection(minus 3) or date of report(minus 9) were used as proxy if date of onset is unavailable

Data in the area above may change due to incoming reports



Department of Health, Philippines

Protecting lives, livelihoods, the economy...

- Protect the **vulnerable**;
- Minimize **deaths and illness**;
- Activate **social safety nets**;
- Keep **essential economic services** operating in the midst of the pandemic;
- **Protect workers** at front-line services;
- **Sustain supply chains** for food, essential goods, services.

Resilient pandemic control in the city

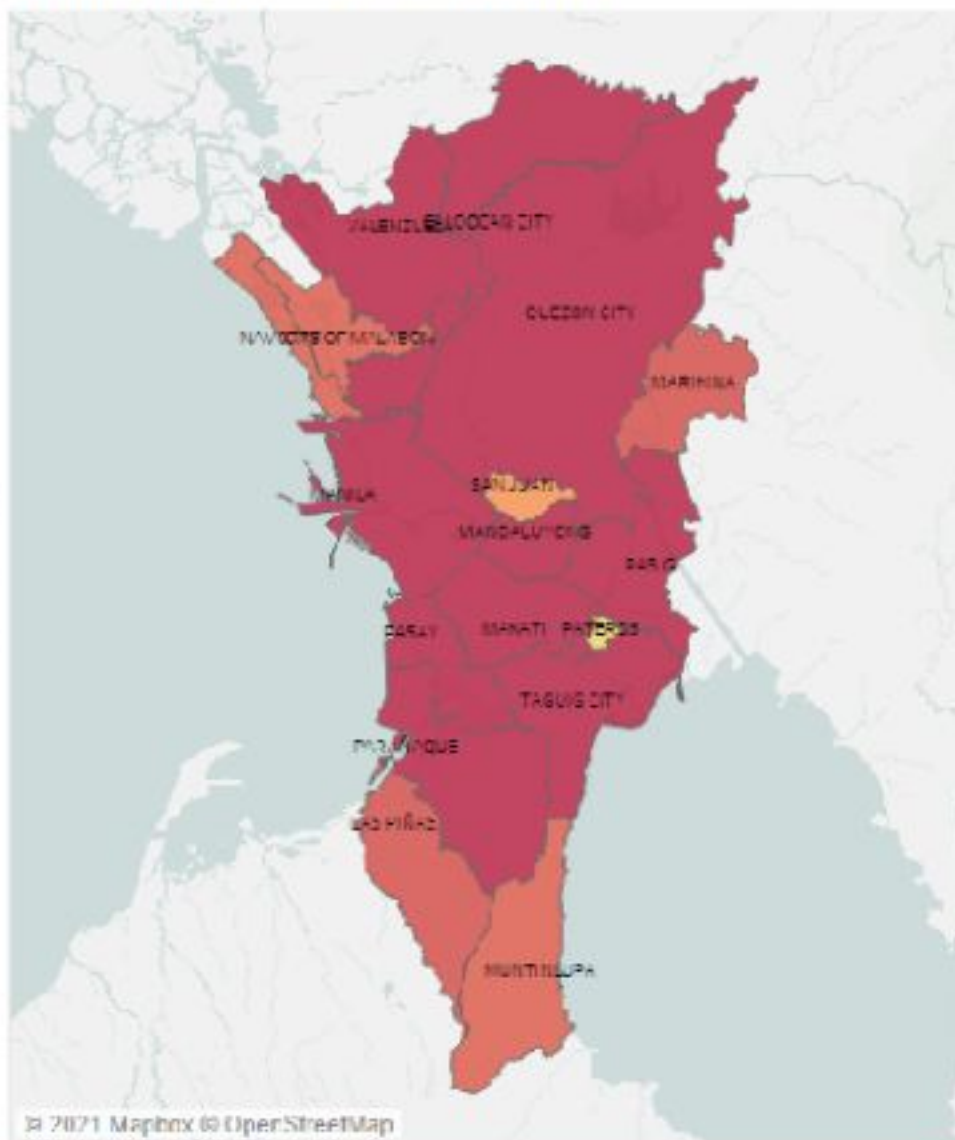
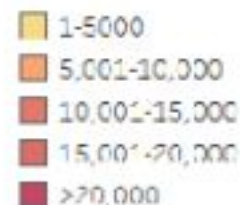
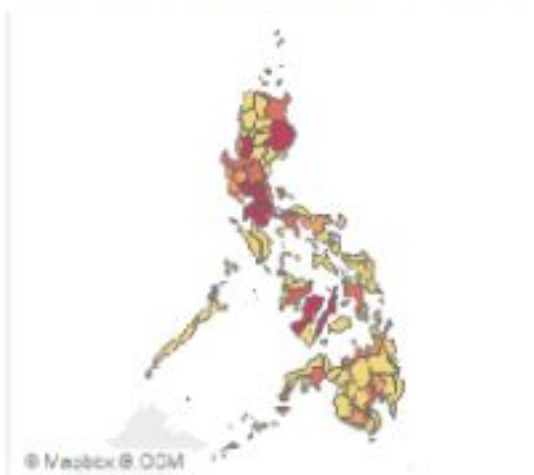
- Optimizing the **current capacity**; building **new capacity** of the health system to respond to the pandemic
- Setting up **laboratory facilities** and COVID-19 testing protocols for general public, economic workers, returning overseas Filipinos;
- Mobilizing **quarantine and isolation facilities** by re-purposing existing facilities or constructing new ones;
- **Trace contacts** of confirmed cases for appropriate intervention;
- Expanding **critical care facilities** in hospitals;
- **Vaccinate** to achieve individual and population protection.

Examples of building the health system during pandemic

- Exemplary performance of NCR LGUs in the roll out of the **vaccination program** (set up vaccination sites, storage, data systems);
- Collaboration between public and private sector in **capacity building for pandemic control** eg. ramp up of testing, procurement of supplies, scale up of quarantine facilities, roll out of vaccination program;
- Setting up of **databases and dashboard** to track epidemic and vaccination program.

Map of Confirmed COVID-19 Cases by Province

Map of Confirmed COVID-19 Cases by City / Municipality

**500,742**

Confirmed COVID-19 Cases

12,029

Active Cases

481,426

Recoveries

7,287

Deaths

	Total Confirmed Cases	Active Cases	Recoveries	Deaths	Case Fatality Rate
QUEZON CITY	101,359	2,841	97,116	1,402	1.4%
MANILA	64,055	1,261	61,645	1,149	1.8%
CALOOCAN CITY	36,707	1,067	34,948	692	1.9%
PASIG	35,235	1,113	33,440	670	1.9%
TAGUIG	24,086	604	33,146	246	0.7%
MAKATI	33,049	840	31,746	463	1.4%
PARAÑAQUE	20,848	580	25,997	271	1.0%
PASAY	21,123	380	23,785	258	1.1%
VAL ENZUELA	21,377	549	20,453	375	1.8%
MANDALUYONG	20,640	399	19,900	266	1.3%
LAS PIÑAS	17,964	602	17,134	228	1.3%
MARIKINA	17,877	443	17,143	291	1.6%
MALABON	14,086	216	13,623	247	1.8%
MUNTINLUPA	14,008	467	13,350	191	1.4%
NAVOTAS	11,304	159	10,974	171	1.5%
SAN JUAN	9,675	226	9,321	129	1.3%
PATEROS	4,679	142	4,498	39	0.8%



National Capital
Region (NCR)

500,742

Confirmed COVID 19 Cases

	Projected Population (2020)	Total Confirmed Cases	AR/100K	Active Cases	Recoveries	Deaths	Case Fatality Rate
QUEZON CITY	3,147,571	101,350	3,220.2	2,841	97,116	1,402	1.4%
MANILA	1,908,353	61,055	3,356.6	1,261	61,615	1,149	1.8%
CALOOCAN CITY	1,698,054	36,707	2,161.7	1,067	34,948	692	1.9%
PASIG	809,695	35,235	4,351.6	1,113	33,446	676	1.9%
TAGUIG	862,881	31,086	3,950.2	851	33,116	216	0.7%
MAKATI	674,560	33,049	5,291.6	840	31,746	463	1.4%
PARAÑAQUE	713,774	26,040	3,761.4	500	25,997	271	1.0%
PASAY	446,510	24,423	5,460.6	380	23,785	258	1.1%
VALENZUELA	665,101	21,377	3,217.1	519	20,153	375	1.8%
MANDALUYONG	414,095	20,648	4,986.3	399	19,983	266	1.3%
LAS PIÑAS	631,305	17,964	2,845.5	502	17,134	220	1.3%
MARIKINA	1,83,203	17,877	3,699.7	113	17,113	291	1.6%
MAI ARON	391,850	14,086	3,594.7	216	13,623	247	1.8%
MUNTINLUPA	540,843	14,000	2,590.0	467	13,350	191	1.4%
NAVOTAS	267,420	11,304	4,226.0	150	10,074	171	1.5%
SAN JUAN	130,979	9,676	7,387.4	226	9,321	129	1.3%
PATEROS	58,438	4,679	5,836.8	142	4,498	39	0.8%

Attack Rate per 100,000 people



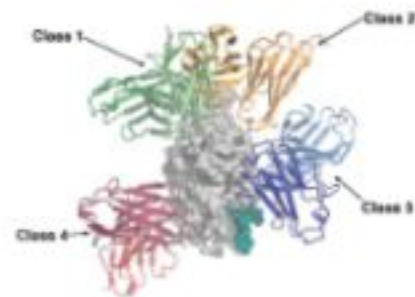
0.0 7,387.4

Case Fatality Rate



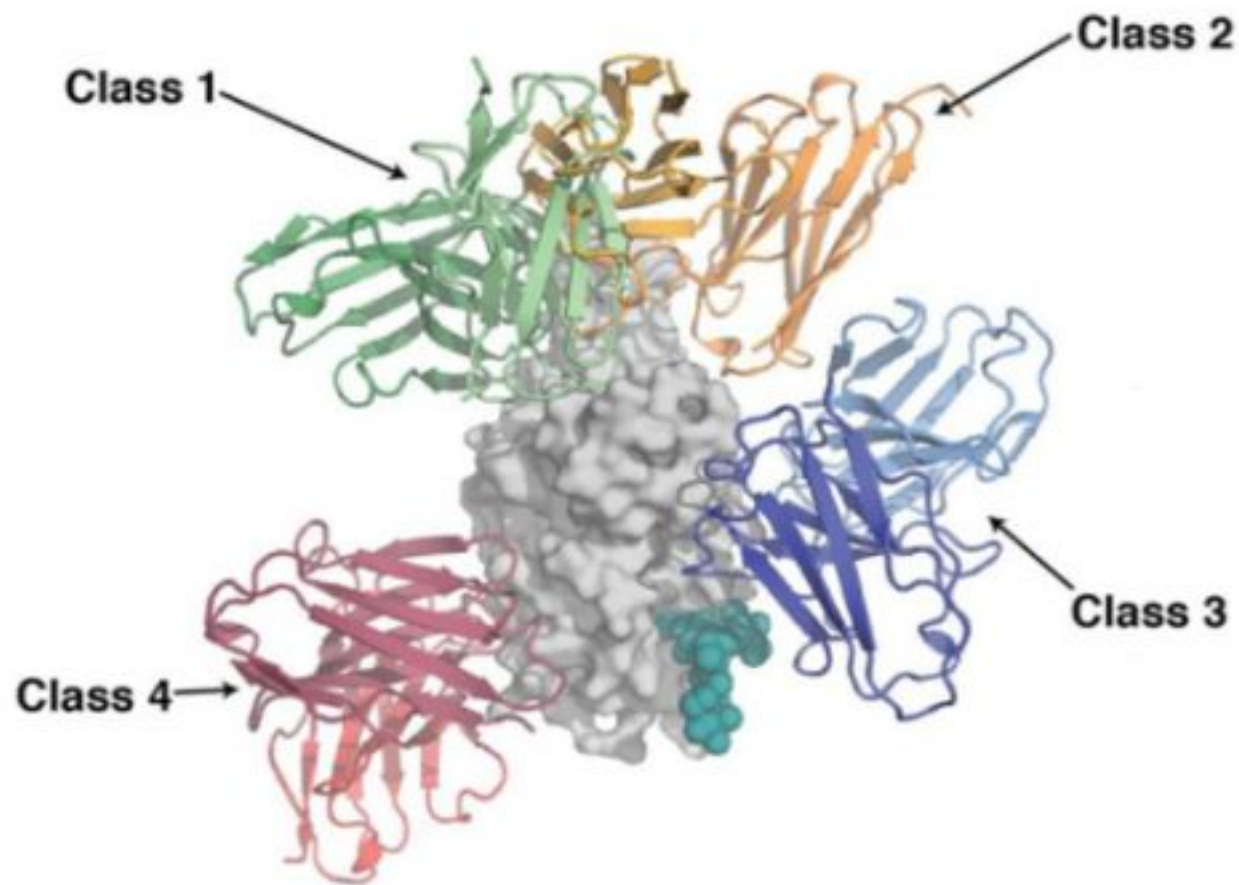
0.0% 5.0%





Our goals for 2021 and beyond

- **Minimize COVID-19 transmission**, prevent deaths.
- Undertake an **effective vaccination program** to build herd immunity against COVID-19.
- Re-gain consumer confidence, return to **positive economic growth**.
- Modernize and **transform our health system**



Four classes of neutralizing antibodies against SARS-CoV-2 bind to a part of the virus's spike protein called the receptor binding domain (RBD) (gray). Photograph by cryo-electron microscope (cryo-EM). Photo by Christopher Barnes, California Institute of Technology

Source: NIH Director's Blog (Dr. Francis Collins)

<https://directorsblog.nih.gov/2020/12/03/caught-on-camera-neutralizing-antibodies-interacting-with-sars-cov-2/>

Summary: top tips and takeaways

- Learn the governance lessons of the pandemic -- **modernize** our health system;
- **Invest** wisely in improving our health system and use resources well
- Achieve **excellence in governance**, synergy between national and local governments;
- Practice **exemplary leadership** and unity among sectors of government and society;
- **Educate and inspire the youth** and the next generation of health workers.

Thank you.

