

OUR RESPONSE TO COVID-19**AGHAM AT KAALAMAN PARA SA BAYAN!****OFFICERS**

Gisela P. Concepcion, PhD
PRESIDENT

Edsel A. Peña, PhD
VICE-PRESIDENT

Lourdes Herold, PhD
SECRETARY

Anna Kristina Serquiña, MD PhD
TREASURER

BOARD OF DIRECTORS

Carlito Lebrilla, PhD
CHAIRPERSON

Rigoberto Advincula, PhD
Diana Aga, PhD
Joel Cuello, PhD
Alvin Culaba, PhD
Lawrence Ilag, PhD
Marjorie Peña, PhD
Mariano Sto. Domingo, PhD
Eizadora Yu, PhD
MEMBERS

PAASE

hosted by

PAASE Philippines, Inc.

A SUBSIDIARY OF PAASE

Marine Natural Products &
Biotechnology
Laboratories
The Marine Science Institute
Velasquez St.
University of the Philippines
Diliman, Quezon City

E-MAIL

gpconcepcion@gmail.com

paase2020manila@gmail.com

WEBSITE

www.paase.org

PAASE BULLETIN # 13**ON PAASE STRATEGIC ACTION GROUP 3: MASS TESTING & FAST-TRACKING**

Addressed to: COVID-19 IATF, NEDA, DOH, FDA

COVID-19 MASSIVE SCREENING USING ANTIBODY RAPID TESTING AND RT-PCR TESTING OF ASYMPTOMATICS AND SYMPTOMATIC INDIVIDUALS AND SECTORS OF INDIVIDUALS

PAASE strongly recommends the immediate implementation of a COVID-19 massive screening program

- A. PAASE recommends the following basic specifications to ensure that accurate and timely results are obtained from the COVID-19 testing program:
1. Use of rapid antibody testing¹ in combination with RT-PCR testing²
 2. Use only of PH FDA-approved antibody and RT-PCR kits with high quality specifications (specificity, selectivity, sensitivity-detection limit, ROC curve expressed as coincidence with RT-PCR, true positive rate vs. false positive rate, based on statistically significant number of samples), e.g. CE mark (Europe)
 3. Antibody and RT-PCR kit manufacturers must disclose their specifications; prospective users from the government and private sector must verify this critical information from the manufacturer/distributor
 4. Antibody tests must be performed by certified competent health workers and results analyzed and released by certified MDs/laboratories
 5. RT-PCR tests must be performed only at DOH-certified RT-PCR testing centers
 6. Antibody and RT-PCR tests must be performed in a timely way, simultaneously or in succession, with repeats, based on the clinical picture, e.g. asymptomatic, symptomatic, recovered.

- B. PAASE recommends regular updating from clinical and biomedical publications and official reports as source of most recent data on COVID-19:

1. Transmission and average incubation period
2. Levels of virus, IgM and IgG from day 0 onset of symptoms to 14 days, correlated with clinical picture
3. Reliability of individual RT-PCR and antibody tests^{3,7}, and significantly increased reliability when RT-PCR and antibody tests are combined^{3,*}, and correlated with the clinical picture

Visit:

<https://www.youtube.com/watch?feature=youtu.be&v=E93qxUQpg60&app=desktop>

To assist the DOH in updating its guidelines and implementation plan, PAASE recommends the creation of an advisory group of MDs, PhDs and other experts. Further, PAASE recommends the creation of a massive screening data monitoring system and dashboard.

- C. Proposed General Testing Standards for Rapid Antibody Testing and RT-PCR:

1. All symptomatic patients must go for medical consultation, impose self-quarantine and be tested via Antibody and RT-PCR. Negative results for both tests must be evaluated by an MD using other risk assessment tools (CTScan, pulse oximetry, epi history, etc.) and retests must be conducted to confirm non-COVID-19 status.

OUR RESPONSE TO COVID-19**AGHAM AT KAALAMAN PARA SA BAYAN!****OFFICERS**

Gisela P. Concepcion, PhD
PRESIDENT

Edsel A. Peña, PhD
VICE-PRESIDENT

Lourdes Herold, PhD
SECRETARY

Anna Kristina Serquiña, MD PhD
TREASURER

BOARD OF DIRECTORS

Carlito Lebrilla, PhD
CHAIRPERSON

Rigoberto Advincula, PhD
Diana Aga, PhD
Joel Cuello, PhD
Alvin Culaba, PhD
Lawrence Ilag, PhD
Marjorie Peña, PhD
Mariano Sto. Domingo, PhD
Eizadora Yu, PhD
MEMBERS

PAASE

hosted by

PAASE Philippines, Inc.

A SUBSIDIARY OF PAASE

Marine Natural Products &
Biotechnology
Laboratories
The Marine Science Institute
Velasquez St.
University of the Philippines
Diliman, Quezon City

E-MAIL

gpconcepcion@gmail.com

paase2020manila@gmail.com

WEBSITE

www.paase.org

2. All high-risk asymptomatic individuals must impose self-quarantine and be tested via Antibody and RT-PCR. Negative results for both tests must be evaluated by an MD using other risk assessment tools (CTScan, pulse oximetry, epi history, etc.) and retests must be conducted to confirm non COVID-19 status.

D. PAASE proposes massive screening by priority sectors:

1. To serve as basis for selective easing of quarantine and lockdown of essential on-the-ground members of the workforce ⁴, to ensure delivery of food, basic goods and services, and to ease the burden on the economy;. e.g.:
 - 1.1. Perform rapid Antibody testing or alternatively RT-PCR, on essential, on-the-ground workers, asymptomatics, without high risk conditions, e.g. 20-50 years old.⁵ Consider sample pooling of asymptomatics.⁶
 - 1.2. Two Antibody tests performed 5 days³ or TBD# days apart, both with NEGATIVE results, or two negative RT-PCRs, 5 or TBD days apart, would qualify for Q/LD-exempt WORKER PASS for a specified period. Renewable every TBD months after another 2 NEGATIVE Antibody or RT-PCR results, 5 or TBD days apart. If a worker tests positive in Antibody, the worker is subjected to RT-PCR test and quarantined until release of results. If the worker tests negative for RT-PCR twice, 5 or TBD days apart, the worker will receive a WORKER PASS (noting IMMUNE status) and not require additional testing.
 - 1.3. Management should protect the worker with TB BCG vaccine⁷, impose handwashing, face masks/shields, 2-meter physical distancing, provide reinforced nutrition, ensure adequate ventilation (air-exchange rate; open windows /open air) at the workplace; government should require reports, check compliance of workplace.
 - 1.4. Implement frequent (TBD days) testing and isolation or segregation of test positives (including asymptomatics) and the sick. In this way work can continue with the remaining healthy workforce. Strict social/physical distancing, and protection measures in place in these sectors will increase the chance that some workers may escape infection. Thus, there may not be need to revert to lockdown. In cases of severe noncompliance cases resulting in significant infections, revoke permit, revert to lockdown.
 - 1.5. Government office or private company should identify a dedicated health care provider partner to perform the antibody testing either in a clinic or through a roving testing vehicle, and identify the dedicated DOH-certified RT-PCR testing center to perform the RT-PCR testing.
2. to detect COVID-19 in contact-traced individuals, PUMs, PUIs (exhibiting symptoms) at pre-symptomatic and earliest symptomatic stages¹ to prioritize for triage and hospital-based treatment
3. to detect COVID-19 in frontliners; i.e., health care workers in hospitals and clinics, and law enforcers in the field
4. to monitor COVID-19 among symptomatics (mild, moderate, severely sick, convalescent, recovered) in the hospital, as basis to prioritize treatment, monitor recovery, issue discharge, identify candidate donors for convalescent plasma therapy, taken together with the clinical picture
5. to track transmission in community hotspots, rural and urban centers, with COVID-19 positive groups and exposed individuals, asymptomatics and early symptomatics
6. to test travelers at airports and ports and other entry points, those with elevated temperatures; to identify those required to be placed under Quarantine; combined

OUR RESPONSE TO COVID-19**AGHAM AT KAALAMAN PARA SA BAYAN!****OFFICERS**

Gisela P. Concepcion, PhD
PRESIDENT

Edsel A. Peña, PhD
VICE-PRESIDENT

Lourdes Herold, PhD
SECRETARY

Anna Kristina Serquiña, MD PhD
TREASURER

BOARD OF DIRECTORS

Carlito Lebrilla, PhD
CHAIRPERSON

Rigoberto Advincula, PhD
Diana Aga, PhD
Joel Cuello, PhD
Alvin Culaba, PhD
Lawrence Ilag, PhD
Marjorie Peña, PhD
Mariano Sto. Domingo, PhD
Eizadora Yu, PhD
MEMBERS

PAASE

hosted by

PAASE Philippines, Inc.

A SUBSIDIARY OF PAASE

Marine Natural Products &
Biotechnology
Laboratories
The Marine Science Institute
Velasquez St.
University of the Philippines
Diliman, Quezon City

E-MAILgpconcepcion@gmail.compaase2020manila@gmail.com**WEBSITE**www.paase.org

with strict enforcement of thermal scanning and declaration of travel history, and efficient contact tracing

7. to perform immuno-surveillance studies and monitor extent of herd immunity

#To Be Determined

+reported false positives and false negatives for both tests

*shown to have highest viral load and shedding, with average incubation of 5.1 days, stretching from 1-14 days⁹

D. PAASE proposes a prioritization of implementation of the above sector-based testing, and an online registration/application for testing and reporting system should be established.⁷

ANNEXES:

Figure 1: INFOGRAPHIC on Who to test

Table 1: Testing plan

Table 2: Test results

Figure 2: Example of implementation plan for asymptomatic essential workers

References:

<https://www.youtube.com/watch?feature=youtu.be&v=E93qxUQpg60&app=desktop>

¹PAASE BULLETIN # 9: Rapid Antibody Testing for Developing Treatment

²PAASE BULLETIN # 5: RT-PCR DOH TB DOTS Testing Centers

³Guo L. et al. 2020. Profiling Early Humoral Response to Diagnose Novel Coronavirus Disease (COVID-19). Clin Infect Dis. pii: ciaa310. doi: 10.1093/cid/ciaa310. [Epub ahead of print]

⁴PAASE BULLETIN # 3: Instituting a system of balanced COVID-19 suppression and the gradual rise to economic normality

⁵PAASE BULLETIN # 10: Age-based easing of lockdown measures

⁶PAASE BULLETIN # 4: Sample pooling in a resource-limited situation

⁷PAASE BULLETIN # 8: Tuberculosis vaccine to contain COVID-19 outbreak

⁸PAASE BULLETIN # 7: Healthy diet to combat COVID-19

⁹ Wu, Y., Guo, C., Tang, L., Hong, Z., Zhou, J., Dong, X., et al. (2020). Prolonged presence of SARS-CoV-2 viral RNA in faecal samples. The Lancet Gastroenterology & Hepatology, 1–2. [http://doi.org/10.1016/S2468-1253\(20\)30083-2](http://doi.org/10.1016/S2468-1253(20)30083-2)

Prepared by:

Gisela P. Concepcion gpconcepcion@gmail.com;

Leodevico Ilag, vilag2001@yahoo.com;

Isagani Padolina, idpadolina@pascualpharma.com;

Homer Pantua, pantuah@gmail.com;

Joyce Ibana, joyce.ibana@gmail.com;

Gonzalo Serafica, gonzaloserafica@gmail.com;

Anneke Padolina, anneke.padolina@gmail.com;

Noel Miranda, nlijmdc@gmail.com

OUR RESPONSE TO COVID-19**AGHAM AT KAALAMAN PARA SA BAYAN!****OFFICERS**

Gisela P. Concepcion, PhD
PRESIDENT

Edsel A. Peña, PhD
VICE-PRESIDENT

Lourdes Herold, PhD
SECRETARY

Anna Kristina Serquiña, MD PhD
TREASURER

BOARD OF DIRECTORS

Carlito Lebrilla, PhD
CHAIRPERSON

Rigoberto Advincula, PhD
Diana Aga, PhD
Joel Cuello, PhD
Alvin Culaba, PhD
Lawrence Ilag, PhD
Marjorie Peña, PhD
Mariano Sto. Domingo, PhD
Eizadora Yu, PhD
MEMBERS

PAASE

hosted by

PAASE Philippines, Inc.

A SUBSIDIARY OF PAASE

Marine Natural Products &
Biotechnology
Laboratories
The Marine Science Institute
Velasquez St.
University of the Philippines
Diliman, Quezon City

ANNEX A

Figure 1: INFOGRAPHIC on Who Should Test

E-MAIL

gpconcepcion@gmail.com

paase2020manila@gmail.com

WEBSITE

www.paase.org

Phase 1 Testing

Who to Test?

PUI

Symptomatics or contact with Covid19 +

Asymptomatics

Healthcare Workers

AFP/PNP

Basic Necessities Supply Chain (Food, Med, etc)

- Raw Material Providers
- Truck Drivers
- Warehouse Personnel
- Supermarket Personnel

What Tests?

Antibody + RTPCR

Antibody Test

Who Will Test?

Hospitals + Barangay HCWs and DTTBs, Mobile Testers

Hospitals/DTTBs

Barangay HCWs and DTTBs, Mobile Testers

What Actions to Take? (Refer to Table 2)

Quarantine all and Hospitalize those in respiratory distress

Positive Antibody Classified as PUI (Take the purple route)

Phase 2 Testing

Who to Test?

Asymptomatics

- BJMP and Prisoners
- Public Transport Personnel
- Communications personnel
- Public/Private Security
- Utilities and General Community Services (water supplies, drinking water stations, sanitation)
- LGU Personnel (barangay captains and staff included)

What Tests?

Antibody Test

Who Will Test?

Hospitals/DTTBs

Barangay HCWs and DTTBs,
Mobile Testers

What Actions to Take? (Refer to Table 2)

Positive Antibody
Classified as PUI
(Take the purple route)

OUR RESPONSE TO COVID-19**AGHAM AT KAALAMAN PARA SA BAYAN!****ANNEX B**

Table 1: Testing Plan

OFFICERS

Gisela P. Concepcion, PhD
PRESIDENT

Edsel A. Peña, PhD
VICE-PRESIDENT

Lourdes Herold, PhD
SECRETARY

Anna Kristina Serquiña, MD PhD
TREASURER

BOARD OF DIRECTORS

Carlito Lebrilla, PhD
CHAIRPERSON

Rigoberto Advincula, PhD
Diana Aga, PhD
Joel Cuello, PhD
Alvin Culaba, PhD
Lawrence Ilag, PhD
Marjorie Peña, PhD
Mariano Sto. Domingo, PhD
Eizadora Yu, PhD
MEMBERS

PAASE

hosted by

PAASE Philippines, Inc.

A SUBSIDIARY OF PAASE

Marine Natural Products &
Biotechnology
Laboratories
The Marine Science Institute
Velasquez St.
University of the Philippines
Diliman, Quezon City

E-MAIL

gpconcepcion@gmail.com

paase2020manila@gmail.com

WEBSITE

www.paase.org

Table 1. Testing Plan

Target Population	Implementing Plan	Timing	Testing Method	RT PCR Sample pooling	Result/Decision
PUI symptomatic	Testing at Point of Care	April-May 2020	Antibody/RTPCR	n/a	Refer to Table 2
PUI asymptomatic	Mobile Testing at place of quarantine	April-May 2020	Antibody/RTPCR	n/a	Refer to Table 2
Frontline Workers					
HCWs in High Risk Hospitals (Hospital that has treated COVID19 patients)	Testing at Hospital	April-May 2020	Antibody	applicable	If Ab test is positive, quarantine and do RT-PCR. Do sample pool of ALL HCW for RT-PCR. If RT-PCR pool is positive in Hospital X then proceed to individual testing. If negative, continue to monitor new sample pools every week
HCWs in Low Risk Hospitals (Hospital that has no exposure to COVID19 patients)	Testing at Hospital	May-June 2020	Antibody	applicable	If Ab test is positive, quarantine and do RT-PCR. Do sample pool of ALL HCW for RT-PCR. If RT-PCR pool is positive in Hospital X then proceed to individual testing. If negative, continue to monitor new sample pools every week
PNP/AFP in checkpoints	Mobile Testing	April-May 2020	Antibody	applicable	If Positive with Antibody test, quarantine confirm with RT PCR and monitor - refer to Table 2
Supply chain ecosystem for food and medicine					
Raw material suppliers	Mobile Testing	April-May 2020	Antibody	applicable	If Positive with Antibody test, quarantine confirm with RT PCR and monitor - refer to Table 2
Warehouse workers	Mobile Testing	May-June 2020	Antibody	applicable	
Transportation/Truck drivers	Mobile Testing	May-June 2020	Antibody	applicable	
Supermarket workers esp Cashiers	Mobile Testing	April-May 2020	Antibody	applicable	

OUR RESPONSE TO COVID-19**AGHAM AT KAALAMAN PARA SA BAYAN!****OFFICERS**

Gisela P. Concepcion, PhD
PRESIDENT

Edsel A. Peña, PhD
VICE-PRESIDENT

Lourdes Herold, PhD
SECRETARY

Anna Kristina Serquiña, MD PhD
TREASURER

BOARD OF DIRECTORS

Carlito Lebrilla, PhD
CHAIRPERSON

Rigoberto Advincula, PhD
Diana Aga, PhD
Joel Cuello, PhD
Alvin Culaba, PhD
Lawrence Ilag, PhD
Marjorie Peña, PhD
Mariano Sto. Domingo, PhD
Eizadora Yu, PhD
MEMBERS

PAASE

hosted by

PAASE Philippines, Inc.

A SUBSIDIARY OF PAASE

Marine Natural Products &
Biotechnology
Laboratories
The Marine Science Institute
Velasquez St.
University of the Philippines
Diliman, Quezon City

ANNEX C

Table 2: Test results

E-MAIL

gpconcepcion@gmail.com

paase2020manila@gmail.com

WEBSITE

www.paase.org

Table 2: Test Results			Status	Action
RT-PCR	IgM	IgG		
(-)	(-)	(-)	Patient does not have COVID-19 <i>or</i> It is too soon after initial exposure for test sensitivity <i>or</i> Symptoms due to another illness.	If PUI/exposed to COVID-19, quarantine and retest in 3-5 days. If second negative and asymptomatic release patient. Consider other illnesses and treat accordingly.
(-)	(+)	(-)	Active infection Too early for IgG to be produced. RT-PCR negative because body has cleared the virus and begun recovery or false negative.	Quarantine and Treat. Retest with RT-PCR and antibody until asymptomatic and RT-PCR and IgM are both negative
(-)	(+)	(+)	Active infection RT-PCR negative because body has cleared the virus and begun recovery or false negative.	Quarantine and Treat. Retest with RT-PCR and antibody until asymptomatic and RT-PCR is negative
(-)	(-)	(+)	Past infection If asymptomatic, body has cleared the infection. If symptomatic, late stage or secondary infection.	If asymptomatic, release patient. If symptomatic, Quarantine and Treat. Retest with RT-PCR and antibody until asymptomatic and RT-PCR is negative
(+)	(-)	(-)	Active infection. Too soon after initial exposure for antibodies to develop	Quarantine and Treat. Retest with RT-PCR and antibody until asymptomatic and RT-PCR is negative
(+)	(+)	(-)	Active infection Too early for IgG to be produced.	Quarantine and Treat. Retest with RT-PCR and antibody until asymptomatic and RT-PCR is negative
(+)	(+)	(+)	Active infection	Quarantine and Treat. Retest with RT-PCR and antibody until asymptomatic and RT-PCR is negative
(+)	(-)	(+)	Past infection <i>or</i> recurrent infection <i>or</i> Late stage infection <i>or</i> Symptoms due to secondary infection.	Quarantine and Treat. Retest with RT-PCR and antibody until asymptomatic and RT-PCR is negative

Table 2b

	Test Results			Status and Treatment
	RT-PCR	IgM	IgG	
Symptomatic	(-)	(-)	(-)	Patient does not have COVID-19 and symptoms are due to another illness <i>or</i> It is too soon after initial exposure for test sensitivity. Consider other illnesses and treat accordingly. Quarantine and retest in 3-5 days.
	(-)	(+)	(-)	Active infection. Too early for IgG to be produced. RT-PCR negative because body has cleared the virus and begun recovery or false negative. Quarantine and Treat. Retest with RT-PCR and antibody until asymptomatic and RT-PCR is negative.
	(-)	(+)	(+)	Active infection. RT-PCR negative because body has cleared the virus and begun recovery or false negative. Quarantine and Treat. Retest with RT-PCR and antibody until asymptomatic and RT-PCR is negative.
	(-)	(-)	(+)	Late stage or secondary infection. Quarantine and Treat. Retest with RT-PCR and antibody until asymptomatic and RT-PCR is negative. Consider other illnesses and treat accordingly.
	(+)	(-)	(-)	Active infection. Too soon after initial exposure for antibodies to develop Quarantine and Treat. Retest with RT-PCR and antibody until asymptomatic and RT-PCR is negative
	(+)	(+)	(-)	Active infection. Too early for IgG to be produced. Quarantine and Treat. Retest with RT-PCR and antibody until asymptomatic and RT-PCR is negative.
	(+)	(+)	(+)	Active infection Quarantine and Treat. Retest with RT-PCR and antibody until asymptomatic and RT-PCR is negative.
	(+)	(-)	(+)	Past infection or recurrent infection or late stage infection or symptoms are due to secondary infection. Quarantine and Treat. Retest with RT-PCR and antibody until asymptomatic and RT-PCR is negative.
Asymptomatic	(-)	(-)	(-)	Patient does not have COVID-19 <i>or</i> It is too soon after initial exposure for test sensitivity and symptoms to arise. If PUI/exposed to COVID-19, quarantine and retest in 3-5 days. If second negative and still asymptomatic, release patient.
	(-)	(+)	(-)	Active, mild infection. Infectious. Too early for IgG to be produced. RT-PCR negative because body has cleared the virus and begun recovery or false negative. Quarantine and retest with RT-PCR and antibody until RT-PCR is negative
	(-)	(+)	(+)	Active, mild infection. Infectious. RT-PCR negative because body has cleared the virus and begun recovery or false negative. Quarantine and retest with RT-PCR and antibody until RT-PCR is negative
	(-)	(-)	(+)	Past infection. Body has cleared the infection. Release patient.
	(+)	(-)	(-)	Active, mild infection. Infectious. Too soon after initial exposure for antibodies to develop Quarantine and retest with RT-PCR and antibody until RT-PCR is negative
	(+)	(+)	(-)	Active, mild infection. Infectious. Too early for IgG to be produced. Quarantine and retest with RT-PCR and antibody until RT-PCR is negative
	(+)	(+)	(+)	Active, mild infection. Infectious. Quarantine and retest with RT-PCR and antibody until RT-PCR is negative
	(+)	(-)	(+)	Active, mild, late stage infection <i>or</i> recurrent infection. Assume patient is infectious. Quarantine and retest with RT-PCR and antibody until RT-PCR is negative

OUR RESPONSE TO COVID-19**AGHAM AT KAALAMAN PARA SA BAYAN!****ANNEX D**

Figure 2: Implementation plan for asymptomatic essential workers

OFFICERSGisela P. Concepcion, PhD
PRESIDENTEdsel A. Peña, PhD
VICE-PRESIDENTLourdes Herold, PhD
SECRETARYAnna Kristina Serquiña, MD PhD
TREASURER**BOARD OF DIRECTORS**Carlito Lebrilla, PhD
CHAIRPERSONRigoberto Advincula, PhD
Diana Aga, PhD
Joel Cuello, PhD
Alvin Culaba, PhD
Lawrence Ilag, PhD
Marjorie Peña, PhD
Mariano Sto. Domingo, PhD
Eizadora Yu, PhD
MEMBERS**PAASE**

hosted by

PAASE Philippines, Inc.

A SUBSIDIARY OF PAASE

Marine Natural Products &
Biotechnology
Laboratories
The Marine Science Institute
Velasquez St.
University of the Philippines
Diliman, Quezon City**E-MAIL**gpconcepcion@gmail.compaase2020manila@gmail.com**WEBSITE**www.paase.org

Figure 2: Example of implementation plan for asymptomatic essential workers

