



Transforming healthcare by staying one step ahead - Abbott Pandemic Defense Coalition

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1985: HIV-1 Testing Becomes a Reality



Announcing the 1st HIV assay for blood screening and diagnosis: HHS, FDA, & Abbott



The 1st kit: Abbott HTLV III EIA

Infectious Disease Leadership: 29 years of viral surveillance at Abbott



Since 1994, the Abbott Global Virus Surveillance Program has collaborated with partners in over 40 countries on six continents worldwide in the race to discover rare groups and new strains of viral pathogens.

150+ publications

100,000+ samples

1. Vallari et al J Virology. 2011
2. Berg et al., PLoS Pathogens 2015
3. Rodgers et al., Virology 2017
4. Junqueira et al., AIDS Res Hum Retro 2020

Today's emerging pathogen becomes tomorrow's global pandemic

ONGOING RISK

Globalization, international travel, changes in the environment/climate, encroachment of humans into natural habitats and contact with animal reservoirs **all lead to increased risk for novel pathogenic threats**

↑ *E.G., Ebola, Zika, SARS-CoV-2, MPXV, Ad-41, EV-D68, Marburg*

+

UNMET DIAGNOSTIC NEED

Acute respiratory tract infection

15%–30%

Meningitis/encephalitis

50%–70%

Gastroenteritis

30%–50%

Hepatitis

10%–15%*

AND

Undiagnosed acute
and chronic diseases

=

PANDEMIC THREAT

The Abbott Pandemic Defense Coalition (APDC) will anticipate, react to and stop new pathogens

*Non A-E undiagnosed.

Abbott Pandemic Defense Coalition

An elite global network of collaborators

APDC sites are comprised of dynamic, active scientific partnerships, each bringing:



Access to patient samples from unexplained illnesses or high-risk populations



Infectious disease experts on staff who are skilled in spotting unique cases and trends



Strategic locations in high-exposure or high-risk geographies (with proximity to migrant and animal reservoir populations)



Excellence in technical capabilities



Abbott Pandemic Defense Coalition

20 sites monitoring infectious diseases on 5 continents

USA – Rush University
UCSF
Stanford University
SUNY-Buffalo

Georgia – National Center for Disease Control (NCDC)
Pakistan – Aga Khan University (AKU)
Egypt – Ain Shams University (ASU)

Senegal – IRESSEF
Sierra Leone – OneHealth/University of Sierra Leone
Cameroon – University of Yaoundé

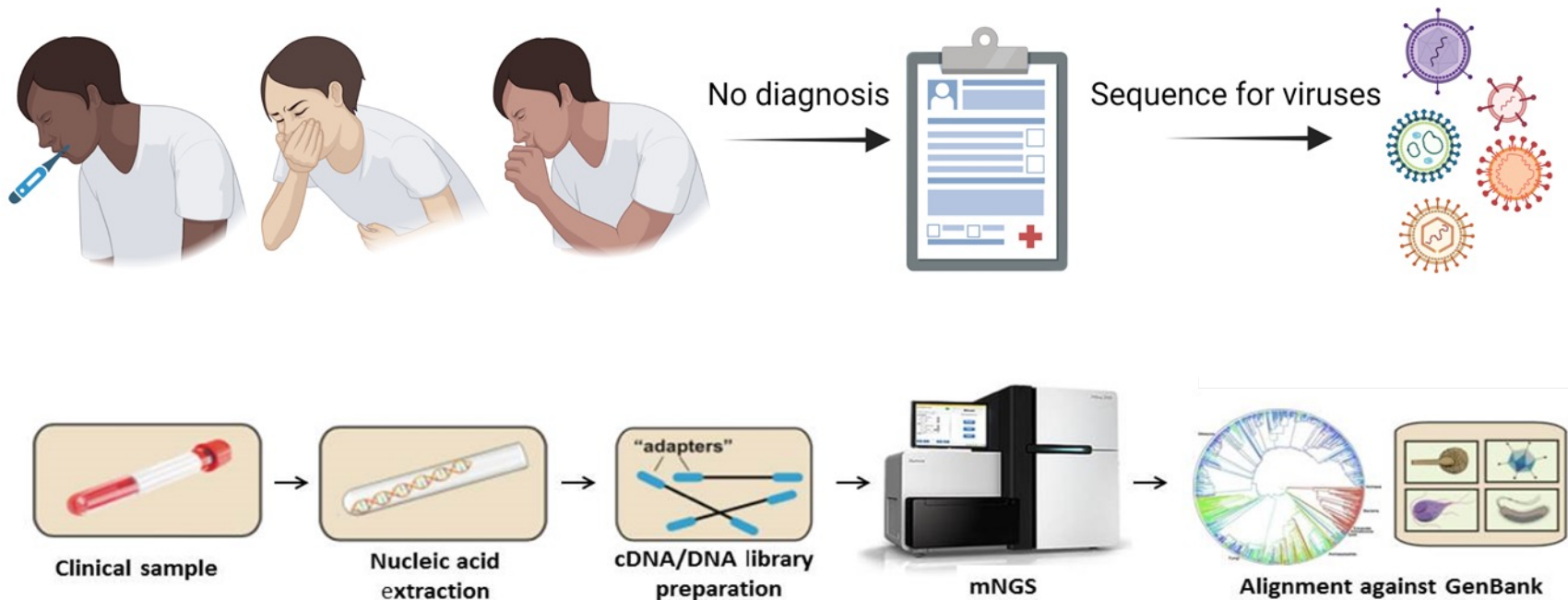
India – YRG Care
Thailand – Mahidol University

Haiti – Quisqueya University
Jamaica – University of the West Indies (UWI)

Colombia – OneHealth/Universidad Nacional Colombia
Peru – Universidad Peruana Cayetano Heredia (UPCH)
Brazil – University of São Paulo (USP)

Uganda – Uganda Viral Research Institute (UVRI)
Zimbabwe – University of Zimbabwe
South Africa – Centre for Epidemic Response and Innovation (CERI)

Case finding and metagenomics



Changing the course of an outbreak before it becomes a pandemic

As new pathogens emerge, time is of the essence.
Earlier detection gives us a head start to:



IDENTIFY

a new pathogen
and then generate
and publish
a complete
genome sequence



DEVELOP

molecular,
serologic and
rapid diagnostic
assays with
samples from
initial cases



DEPLOY

tests around the
world for
translational
research and
pandemic
prevention



CONDUCT

initial surveillance to
understand how many
are affected, where it
has spread and risk
factors (e.g., age, pre-
existing conditions)



ASSIST

the public health
community in
taking appropriate
and measured
responses



ANTICIPATE

threats...and
stop them in
their tracks

APDC Impact

- **9,822** specimens were sequenced, leading to the discovery of **12** new viruses under investigation, **27** new prototype tests, and **47** publications
- Identified **1** significant outbreak in Colombia – oropouche virus
- Through this work **94** new virus hunters have been trained to date

PANDEMIC DEFENSE COALITION STUDIES

Researching infectious disease threats is important to help protect global health and to understand the viruses of today that could impact our future. Below are published studies and papers resulting from the ongoing work of the Abbott Pandemic Defense Coalition and its partners.

2023 STUDIES	
LAST UPDATED DATE: APR 3, 2023	
EFFECTS OF VACCINATION AND SARS-COV-2 INFECTIONS ON ANTIBODY LEVELS	+
2022 STUDIES	
LAST UPDATED DATE: APR 3, 2023	
ABBOTT PANDEMIC DEFENSE COALITION OVERVIEW	+
COVID-19 MU VARIANT IN COLOMBIA	+
DETECTING COVID-19 VARIANTS	+
DRIED BLOODSPOTS AS VIABLE ALTERNATIVE SAMPLE TYPE TO DRAWN BLOOD	+
IDENTIFICATION OF VACCINE BREAKTHROUGH INFECTIONS IN PEOPLE USING NUCLEOCAPSID PROTEIN OF SARS-COV-2	+

APDC: training future virus hunters

EPIDEMIOLOGISTS

8 TEPHINET awardees in 2022

10 awarded in 2023



ID SCIENTISTS

1 Ph.D. student at CERI

1 nursing student at Rush

3 medical fellows at Rush

10 APDC staff at Abbott Park

10 short-term NGS trainees at CERI

6 summer interns at Abbott Park

2 GVN postdoctoral fellows

2 on-site NGS trainees at YRG

BIOINFORMATICISTS

20 APDC staff virtual sessions by KRISP

2 fellows at CERI



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APDC Partners

