2021 in Review

Pandemic Response Initiative

UCSF

Institute for Global Health Sciences

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Two years into the COVID-19 pandemic, many scientific, policy and implementation questions remain. The UCSF **Pandemic Response Initiative** (PRI) is responding to emerging needs, focusing our efforts at the global, regional, and local levels. Our work through 2021 has spanned advocacy and policy, social and behavioral research, and public health implementation projects that address the needs of low- and middle-income countries (LMICs) in their fight against COVID-19. Combining forces with other leaders in the field to mitigate the impacts of the pandemic, we have developed new partnerships with academic, government and civil society colleagues around the world. Our team also continues to leverage the vast expertise available within the University of California San Francisco, collaborating across the Institute for Global Health Sciences (IGHS), UCSF School of Medicine and UC Global Health Institute.

The Pandemic Response Initiative is committed to advancing health equity through global advocacy for pandemic response and preparedness in LMICs, development of evidence to policy initiatives for low resource settings, and support for and participation in locally driven research agendas and interventions.

Our partners:

University of California Global Health Institute

IDinsight

UPSWELL

Pandemic Action Network

Pandemic Initiative for Equity and Action

UCSF University of California San Francisco

Survival for Women & Children Foundation

Indraprastha Institute of Information Technology Delhi

UT Southwestern Medical School

digitalMEdIC

Postgraduate Institute of Medical Education and Research Chandigarh

Baja California — Gobierno del Estado

Maya Health Alliance Wuqu' Kawoq

Global

ADVOCACY & POLICY

- Joined the Pandemic Action Network, a multi-sector network of 89 organizations, supporting a coordinated global response to the COVID-19 pandemic. With the network, PRI advocated for a US-led global COVID-19 summit, served as a US physician media liaison, advocated that countries meet vaccination targets at the G20, and created a global action plan framework for world leaders
- Published article in *Health Affairs* advocating for continued investment in and allocation of COVID-19 diagnostics for LMICs

KNOWLEDGE DISSEMINATION

- Hosted webinar in December 2021 on global landscape of COVID-19 vaccines and treatment
- Published a blog in Health Affairs on the need for a strategic lens when considering application of monoclonal antibodies in LMICs

RESEARCH, IMPLEMENTATION & PARTNERSHIPS

- Supported development of a multi-year US government Global Health Security grant for Latin America, the Middle East, and North Africa with IGHS colleagues
- Published a review of repurposed drugs under investigation for COVID-19 treatment in the *American Journal of Tropical Medicine & Hygiene*

Regional

ADVOCACY & POLICY

- Co-authored in-depth case study on US COVID-19 response and supported Mexican case study for the World Health Organization's Independent Panel for Pandemic Preparedness and Response; created a framework of lessons learned for pandemic response in the Americas and globally

KNOWLEDGE DISSEMINATION

- Mapped current pandemic-related work led by the University of California and collaborators in Central America to build a community of practice and share findings for policy impact

RESEARCH, IMPLEMENTATION & PARTNERSHIPS

- Awarded, with UCLA collaborators, an incubator grant from UC Global Health Institute to launch the Latin American Pandemic Coalition to create partnerships in Latin America, advancing evidence into action
- Created a large network of Central American academics and non-profits working to address the pandemic to apply for two multi-million dollar CDC grants

Community

ADVOCACY & POLICY

- Prepared a panel proposal which was accepted to the Consortium of Universities for Global Health on community health leaders' work on vaccine acceptance in Guatemala, India, Kenya, the US, and Zambia

EDUCATION & KNOWLEDGE DISSEMINATION

- Shared lessons learned on improving community acceptance of COVID-19 vaccines through online community storytelling panel
- Presented lessons from piloting Mexico's first COVID-19 contact tracing program at the American Public Health Association Conference

RESEARCH, IMPLEMENTATION & PARTNERSHIPS

- Awarded a Vaccine Confidence Fund grant to design and evaluate a social media campaign to dispel misinformation and increase vaccine uptake in Guatemalan indigenous communities
- Supported a Vaccine Confidence Fund grant to evaluate the feasibility of deploying a COVID-19 education bot to WhatsApp groups of pregnant and breastfeeding mothers in northern India
- Provided technical assistance to Secretariat of Health, Baja California, and Mexico to launch the first contact tracing program in Mexico and advised on school re-opening plan

Building on our strengths

In addition to the pioneering work of PRI, IGHS has collectively devoted its energy and expertise to the pandemic response in the US and globally. This work has attracted US$88 million in funding and includes:

- Altering the course of the pandemic domestically and internationally by capacitating the public health workforce to develop incidence tracking systems, perform robust contact tracing, stand-up vaccine call centers, and provide school health resources;
- Strengthening vaccine campaign efforts in Angola, through social media-focused research and subsequent health communications efforts;
- Addressing pressing critical care and anesthesia training gaps in Uganda while also creating a COVID-19 critical care communication education portal for LMICs; and,
- Supporting governments in Latin America and Africa to improve pandemic preparedness, including in laboratory and surveillance systems.

So much more is required, as COVID-19 continues to exact a devastating social and economic toll, and the world remains woefully unprepared for the next pandemic. In response, IGHS is building on its strong track record and exceptional network of international partners by creating a **Center for Global Health Security and Pandemic Preparedness**.

UCSF leadership has committed US$1 million to launch the Center, and IGHS will soon announce the appointment of an outstanding global health scientist to provide ongoing strategic leadership. In the interim, the Center will be led by Dr. Eric Goosby, former U.S. Global AIDS Coordinator and member of President Biden's COVID-19 transition team.

The Center will bring together the impressive array of pandemic expertise at IGHS, including PRI, to create a world class capacity to address both COVID-19 and future pandemics. As with all IGHS work, the Center will be guided by a commitment to equity and to training and empowering the next generation of leadership in global health security.

The mission of the Center for Global Health Security and Pandemic Preparedness is to strengthen global health security by working collaboratively with local communities, academic institutions, and national governments to prepare for, prevent and respond to pandemic threats.

CORE AIM 1:
Prepare, prevent and respond

- Develop disease surveillance systems, including focus on emergence of zoonotic diseases
- Build laboratory capacity for pathogen discovery and diagnostics
- Conduct real-time epidemiologic, implementation science and operations research

Investment example: Create a Regional Pandemic Hub for the Americas to strengthen laboratory and public health capacity in the region. The Center will leverage collaborations with leading institutions such as the US Centers for Disease Control and Prevention (CDC), Chan Zuckerberg Biohub and the UC Davis One Health Institute.

CORE AIM 2:
Educate

- Fund scholarships for students from LMICs, preparing a new generation of leaders to manage evolving health security threats
- Collaborate with country partners to develop innovative educational resources for health professionals and students; for example, trainings in pandemic science and virtual reality simulations

Investment example: Establish a named Visiting Scholar for Global Health Impact where an emerging leader from an LMIC serves in a one-year rotating position at UCSF to teach, advise, mentor and assist in developing new partnerships that address pressing public health challenges.

CORE AIM 3:
Innovate

- Establish Innovation Fund for development of high-risk, high reward approaches to solve complex global health challenges and to quickly stand up rapid response efforts
- Work with local partners to better model future threats, employing new paradigms in computing, including machine learning algorithms and cutting-edge modeling systems

Investment example: Develop a Pandemic Device Testing Laboratory to act as clearinghouse to evaluate devices and instruments developed for clinical care that flood the market during outbreaks.

CORE AIM 4:
Collaborate

- Be an international resource center of pandemic lessons learned, best practices, and innovations into which the global health community can tap
- Leverage the skills and expertise across UCSF in the basic and clinical sciences to support interdisciplinary public health research and policy projects that address pandemic preparedness and response

Investment example: Develop open access toolkits for domestic and international partners, including evaluation tools and training materials that are based on rigorous research.

Appendix: In-depth look at PRI research, implementation projects and collaborations

Who to trust: combating COVID-19 vaccine misinformation through trusted messengers and social networks in indigenous communities in Guatemala

PRI received funding from the Vaccine Confidence Fund to address vaccine hesitancy in indigenous communities in Guatemala. A recent Guatemalan government/USAID study of vaccine acceptance found widespread fear of the COVID-19 vaccine among rural indigenous groups, driven by disinformation, inadequate health literacy and longstanding mistrust of government programs. Working with Wuqu' Kawoq| Maya Health Alliance, UpSwell and Digital Medic at Stanford University, we are developing and implementing a social media campaign aimed at indigenous communities in select Guatemalan municipalities. The messaging will feature accurate scientific information presented in accordance with research on social and behavioral change. The team will evaluate which messages increased vaccine uptake and why, with the aim of improving vaccination rates throughout Guatemala and beyond.

WhatsApp bots for overcoming vaccine misinformation and increasing vaccine confidence among pregnant women in Northern India

PRI is supporting a team of UCSF and Indian researchers studying low vaccination rates among pregnant and postpartum women in Northern India. Evidence from India and elsewhere shows that COVID-19 causes significant maternal mortality and morbidity as well as fetal and neonatal complications. The researchers will develop a social media bot to interact with users over WhatsApp, a hugely popular platform in India. The use of social media allows for rapid dissemination of accurate information, and the bot will tailor information to individual needs. The bot will interact with users belonging to a WhatsApp group facilitated by the Survival for Women and Children Foundation (SWACH), providing them with accurate scientific information on vaccines using health behavior change science.

Deepening pandemic preparedness and response systems in Latin America

PRI, in collaboration with IGHS researchers, secured an incubator grant from UC Global Health Institute to coordinate a UC-wide research collaborative to advise Latin American governments and stakeholders. To date, we are in contact with researchers and academics in Belize, Brazil, Colombia, Costa Rica, Ecuador, Guatemala, Mexico, Panama and Peru. PRI has also worked extensively with the Baja California Secretariat of Health to develop the first contact tracing program in Mexico and are currently supporting contact tracing data analysis to help the government make sustainable, evidence-informed decisions.

CDC Central American health security and health systems strengthening

PRI, with academic colleagues at IGHS and multiple Central American universities, in addition to several large organizing bodies such as the International Organization on Migration, supported the development of a US government grant proposal to build public health capacity and strengthen public health systems in eight countries to ensure: a) increased and improved public health surveillance systems; b) strengthened non-outbreak-related public health activities impacted by outbreaks; c) enhanced public health laboratory capacity and; d) enhanced outbreak response. UCSF received notification that possible funding for this work may be available at a later date.

CDC Health enhancing global health security strengthening public health surveillance systems and preparedness globally

This large, funded grant spans multiple countries in Latin America and the Middle East and Northern Africa (MENA) countries with the aim of effectively preventing, preparing for, and responding to future global health security threats. The project aims to ensure improved domestic and international health security by supporting wide improvements in global public health systems, including surveillance of endemic and novel diseases, development of associated technology and data collection, and creation of linkages between hospitals and lab systems. UCSF built a consortium of 64 academic institutions, governmental entities, foundations, private sector partners and NGOs, and was chosen to work in the Latin America and MENA regions. PRI provided grant writing support to the main IGHS team developing this project.