Confronting the Coronavirus Pandemic

Essential Activities by Schools and Programs of Public Health

April 3, 2020
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Schools and Programs of Public Health Perform Essential Activities in Education, Practice, Research, and Service

Introduction

Schools and programs of public health are integral to American efforts to combat the deleterious effects of the novel coronavirus pandemic on our citizens and communities. Member institutions of the Association of Schools and Programs of Public Health (ASPPH) are engaged in essential discovery, education, and response activities to respond to the pandemic and mitigate its effects on the health and safety of our country. Whether working to develop an effective vaccine for prevention; identifying methods for treatment and immunity building; educating lawmakers and the public; creating data and models for analysis, tracking, and forecasting; sharing knowledge and information across institutions; curating resources; or sharing their expertise with the media, faculty, staff, and students at schools and programs of public health are responding to the urgent needs wrought by this global public health threat. This report is a snapshot of the range of activities that our members are engaged in to address the pandemic as of April 3, 2020. It is not intended to be a comprehensive report of all response activities in which our members are engaged.

Education

The primary mission of schools and programs of public health is educating undergraduate and graduate students. In 2019, nearly 70,000 students were served by ASPPH member institutions.

Generating, imparting, and sharing knowledge, both within the enrolled student population and to the outside world, is crucial to an informed, effective response to novel coronavirus. Schools and programs are engaged in educational activities including professional and public symposia and forums, podcasts, Facebook Live sessions, website pages of FAQs, training sessions, and courses.

As early as February 10, 2020, just weeks after the first case of COVID-19 was identified in the United States, UCLA Fielding School of Public Health offered a public symposium to share information. University of Maryland School of Public Health, Harvard University T.H. Chan School of Public Health, and Dornsife School of Public Health at Drexel University, among many other institutions, held similar events soon thereafter. Posting the recordings of these symposia on YouTube and other social media makes expert faculty knowledge and insights available to the wider public.
In association with the Harvard forum, the Global Health and Learning Incubator at the university posted a resource pack online that comprises reports, fact sheets, data, articles, and a teaching case which is freely accessible for download.

Public health faculty are preparing instructional materials for use by colleagues, peers at other institutions, community and government organizations. Ranging from infection prevention and infectious agents exposure reduction for first responders, to resiliency training for leaders, to principles of crisis communications, a variety of training materials are available online at no charge.

A full and complete response to the coronavirus crisis provides rich opportunities for interprofessional collaboration and education. Pennsylvania State University’s Project ECHO (Extension for Community Healthcare Outcomes) has prepared a collaborative care model via its knowledge-sharing platform. A four-part series of online learning sessions has been designed to facilitate collaborative case discussions and develop care recommendations. Faculty include specialists in hospital medicine, nephrology, palliative care, psychiatry, infectious disease, and obstetrics and gynecology.

In the Dean’s Coronavirus Seminar Series from the Boston University School of Public Health, professionals from varied institutions and specialties come together weekly to discuss the pandemic from a range of perspectives, including science, mental health, politics, law, and leadership.

All Americans have been asked to practice social distancing to flatten the curve and slow the spread of coronavirus across the country, but many citizens are unaware of what those terms mean or uncertain about the necessary behavioral changes. Johns Hopkins University Center for Communication Programs has curated resources for social and behavioral change communication to equip institutions, organizations, and governments with education, tools, and strategies to provide accurate information, correct misinformation, and reduce stigma.

Public health students are pitching in too. In “From the Front Row: Student Voices in Public Health,” students at University of Iowa College of Public Health have created a podcast series on novel coronavirus. In multiple episodes, they cover such topics as telehealth, outbreak modeling, preparedness, messaging, and behavior change.

**Practice**

Experts at schools and programs of public health are deeply involved in activities related to testing, vaccine development, spread containment, and treatment of patients with COVID-19. For example, researchers at Rutgers University Public Health Research Institute are
developing a point-of-care test for coronavirus. Working with Cepheid, a molecular diagnostics company, the researchers hope to introduce a test that does not require a centralized laboratory to deliver results and can detect SARS CoV2 in less than 45 minutes.

At Columbia University Mailman School of Public Health, researchers are working on a test to detect coronavirus in asymptomatic or pre-symptomatic patients. The C3 (Center for Infection and Immunity Coronavirus COVID-19 Test) test is able to detect low levels of viral RNA. It can decrease both false negatives and false positives. The test is being developed by a team that has worked on West Nile virus, SARS, and MERS.

Other members of the academic public health community are working on the front lines of the pandemic. American University of Beirut Medical Center and their colleagues in the public health program stood up a Pandemic Evaluation Clinic and Center in just 10 days. The PECC is an outpatient facility for screening, assessment, and early identification of respiratory illness.

For other facilities scrambling to accommodate COVID-19 patients, the Harvard T.H. Chan School of Public Health, Emergency Preparedness Research Evaluation and Practice Program has developed an online tool, the Hospital Capacity Count Toolkit.

Johns Hopkins University Bloomberg School of Public Health has created a complementary tool that can be used to determine how long patients should be actively monitored.

Research

Research activities underway include investigation of the distinguishing features of coronavirus, incubation period, genomic analysis, whether the virus can infect babies in utero, and the effectiveness of clinical care interventions and social responses.

- Researchers at Cornell University conducted structural modeling of the novel coronavirus spike protein that reveals an extended structural loop that may affect virus stability and transmission.¹

- A faculty member at the Northwestern University School of Public Health collaborated with colleagues at Wuhan University in Wuhan, China, to investigate the intrauterine vertical transmission potential of COVID-19 infection.²

- Faculty at Columbia University Mailman School of Public Health are investigating rates of asymptomatic infection and clinical care-seeking for seasonal coronavirus,³ as well as how undocumented infection facilitates its rapid dissemination.⁴

- Researchers at Johns Hopkins University Bloomberg School of Public Health are studying the incubation period of COVID-19 in order to understand its public health
implications;vi while their colleagues are investigating the convalescent sera option for containing COVID-19. In this approach, the potential of using serum from patients who have recovered from the virus as a passive antibody therapy for those with active infection is being assessed.

- For a genomic analysis of novel coronavirus, researchers at the Georgia State University School of Public Health partnered with the department of Computer Science in the College of Arts & Sciences. As the genomes are sequenced in near-real time, the result is a snapshot of the evolutionary space explored by the virus.vii

- A SUNY Downstate School of Public Health faculty member is participating in an international research collaborative reviewing a worldwide database of the latest genomic information about novel coronavirus. The team’s goal is to uncover clues to the evolutionary trajectory of the virus by looking at its genetic profile as it presents in each patient.

Rutgers University has created a new center to coordinate all research on novel coronavirus, the Center for COVID-19 Response and Pandemic Preparedness. The center is part of the Rutgers Institute for Infectious and Inflammatory Diseases.

Researchers at other institutions are investigating whether the social measures, such as travel restrictions and bans, are effective in limiting the spread of the virus. Faculty members at the University of Washington and Johns Hopkins University sought to understand whether international travel bans are an effective infectious disease disaster control measure.viii

Similarly, a research team including a faculty member in the College of Public Health and Health Professions at the University of Florida used a global metapopulation disease transmission model to estimate the impact of travel limitations on the national and international spread of the epidemic.ix

On the community level, researchers at the University of Washington School of Public Health have established CEER, the Collaborative on Extreme Event Resilience. Through their website, the team is conducting the King County (WA) COVID-19 Community Study to collect information and stories about how the pandemic is affecting the community.

Other researchers are investigating the societal effects of novel coronavirus. CUNY Graduate School of Public Health and Health Policy is conducting an eight-week tracking survey to assess effects and sentiment, as well as behavior change and information sources, among New York State residents. The results can provide policy makers, health professionals, business and community leaders with insights into the adoption of preventive behaviors and effective communication strategies.
In order to keep these and other important research efforts going, Research Development and the Research Concierge Service at Pennsylvania State University College of Medicine has developed a list of funding opportunities for investigators interested in research projects related to COVID-19.

Service

Public service is and always has been an integral component of public health. During the coronavirus pandemic, schools and programs of public health are providing a wide range of public services including data, tracking, and modeling; websites and online resource centers; efforts to combat misinformation; providing expertise to lawmakers; and serving as expert sources for institutional, local, and national media and the public.

Data and dashboards are key to our understanding of the effects and potential future path of the pandemic.

- **Bloomberg School of Public Health**, in partnership with the Center for Systems Science Engineering at Johns Hopkins University, has made available its global dashboard, featuring real-time tracking of COVID-19 statistics worldwide.

- **Georgia State University School of Public Health** is offering Coronavirus Incidence Forecasts, updated daily to offer data-based predictions for cases and deaths by country.

- **University of Virginia’s Biocomplexity Institute** has created a global COVID-19 Surveillance Dashboard.

- Students in the **Sacred Heart University Master of Public Health** program are collecting data from various sources into weekly reports for the local Bridgeport, CT, Emergency & Homeland Security Department.

Many deans and faculty at schools and programs of public health are sharing their expertise with the media and the public through a variety of means and channels.

- Representatives from **Johns Hopkins University** participated in a Congressional briefing on March 6.

- Representatives from **UCLA Fielding School of Public Health** provided a presentation to the Los Angeles City Health Commission on March 11.

- Health care experts from **Brown University** shared recommendations for COVID-19 stimulus bills.
• Faculty and administrators from such institutions as Emory University Rollins School of Public Health, Michigan State University Division of Public Health, and Harvard University T.H. Chan School of Public Health have made themselves available as media sources and to answer questions from the public.

• Temple University College of Public Health has compiled a series of informative videos to share resources and faculty expertise about preventive measures, disease transmission, and the status of the outbreak from a public health perspective. The short videos in this collection offer practical advice on such topics as hand washing and disinfecting surfaces, as well as combating misinformation.

University of Minnesota Center for Infectious Disease Research and Policy has created the Novel Coronavirus Resource Center, an online news service provided by administrators and faculty featuring original reporting on various aspects of the pandemic.

Because misinformation can be rampant during a crisis, Global Health NOW, an initiative of Johns Hopkins University Bloomberg School of Public Health, has created the COVID-19 Expert Reality Check. This series of informative blog posts takes on such topics as whether coronavirus can be transmitted on money, animal-to-human transmission, “super spreaders,” and others.

Conclusion

The current novel coronavirus pandemic is a public health emergency not seen in our time. Academic public health was founded in the United States just before a similar public health threat to which novel coronavirus is frequently compared: the influenza epidemic of 1918. That epidemic claimed millions of American lives. We are fortunate to have advanced knowledge, scholarly expertise, and innovative technology with which to combat the pandemic. The member institutions of the Association of Schools and Programs of Public Health are the repositories of that knowledge, expertise, and technology. The activities of education, practice, research, and service they undertake are essential to our nation’s ability to confront and control this pandemic.

Contact us with questions or comments about this summary at advocacy@aspph.org.

About ASPPH

ASPPH is the voice of accredited academic public health. Our mission is to strengthen the capacity of members by advancing leadership, excellence, and collaboration for academic public health.

www.aspph.org
Appendix: Coronavirus Resources

Data

Georgia State University School of Public Health Coronavirus Incidence Forecasts
https://publichealth.gsu.edu/research/coronavirus/

Johns Hopkins University Center for Systems Science & Engineering Global Cases Interactive
https://www.arcgis.com/apps/opsdashboard/index.html#/bda7594740fd40299423467b48e9e

University of Virginia Biocomplexity Institute COVID-19 Surveillance Dashboard
https://nssac.bii.virginia.edu/covid-19/dashboard/

Symposia

UCLA Fielding School of Public Health Symposium, February 10, 2020
https://www.youtube.com/watch?time_continue=2&v=u0MuL7_ymLo&feature=emb_logo

University of Maryland School of Public Health Symposium, February 20, 2020
https://www.youtube.com/watch?time_continue=1&v=iP_XWANYXkE&feature=emb_logo

Harvard T.H. Chan School of Public Health Forum, March 2, 2020
https://theforum.sph.harvard.edu/events/the-coronavirus-outbreak/

ICAP at Columbia University Mailman School of Public Health Grand Rounds, March 5, 2020
https://icap.columbia.edu/icap-grand-rounds-special-edition-the-global-coronavirus-

Dornsife School of Public Health at Drexel University, March 10, 2020
https://www.youtube.com/watch?v=tAHYQo4pNj0

New York University School of Global Public Health
https://www.youtube.com/watch?v=2n1Bs9bBv2w&feature=emb_logo

Podcasts

Johns Hopkins Bloomberg School of Public Health, “Public Health on Call.” March 24, 2020
https://ccp.jhu.edu/2020/03/24/covid-19-communication-krenn/

University of Iowa School of Public Health, “From the Front Row: Student Voices in Public
Health”
https://www.public-health.uiowa.edu/from-the-front-row/

University of Minnesota School of Public Health, “Health in All Matters”
https://www.sph.umn.edu/about/strategic-priorities/covid-19/health-in-all-matters-podcast/
University of Minnesota Center for Infectious Disease Research and Policy, “How We Got Here”
http://www.cidrap.umn.edu/covid-19/podcasts-webinars/episode-1-how-we-got-here

Teaching materials and courses

Harvard University Global Health and Learning Incubator Resource Pack
https://repository.gheli.harvard.edu/repository/collection/resource-brief-coronavirus-and-emerging-epidemics/

Institute for Public Health Practice at the University of Iowa: “Don't Panic: Principles of Crisis and Risk Communication Scenario”

Institute for Public Health Practice at the University of Iowa: “Pandemic: A Critical Thinking Scenario”
https://www.phlearningnavigator.org/training/pandemic-critical-thinking-scenario?src=search

Johns Hopkins Center for Communication Programs, Resources for Social and Behavior Change
https://thecompassforsbc.org/trending-topics/coronavirus

https://app.smartsheet.com/b/publish?EQBCT=ca0dfc1c923f475bb6270a45482ed8d9


Northwest Center for Public Health Practice at the University of Washington: “Coronavirus Training Resources for Public Health Professionals”
http://www.nwcphp.org/about/news/coronavirus-training-resources-public-health-professionals

University of North Carolina Gillings School of Public Health National Maternal and Child Health Workforce Development Center Mini-Course: “Resiliency and Adaptive Leadership During the Covid-19 Crisis”

Western Region Public Health Training Center at the University of Arizona Video: “Infectious Agents Exposure Reduction for First Responders”
Practice resources

https://drive.google.com/file/d/1ZF7C3Z8kPW_6v-H6bqYHffBVy8xtdAP2/view

Johns Hopkins University Bloomberg School of Public Health, Determining Durations for Active Monitoring
https://iddynamics.jhsph.edu/apps/shiny/activemonitr/

Pennsylvania State University Project ECHO: Collaborative Care Model
https://ctsi.psu.edu/echo/topics/#topic-covid19

Other resources

Johns Hopkins Bloomberg School of Public Health, Global Health NOW: COVID-19 Expert Reality Check

Ongoing web series

Boston University School of Public Health: Dean’s Coronavirus Seminar Series

Drexel University Dornsife School of Public Health: “Emerging Issues in the Coronavirus Pandemic”

https://cph.temple.edu/coronavirus

Research funding opportunities

Pennsylvania State University College of Medicine, Research Development and the Research Concierge Service: “Funding opportunities for COVID-19 research available to investigators”
https://pennstatehealthnews.org/topics/covid-19-research-funding/
\[\text{References:}\]

3. https://www.medrxiv.org/content/10.1101/2020.01.30.20019612v1
4. https://science.sciencemag.org/content/early/2020/03/24/science.abb3221
7. https://publichealth.gsu.edu/research/genomic-coronavirus/
9. https://science.sciencemag.org/content/early/2020/03/05/science.aba9757
MEMBER INSTITUTIONS

ASPPH Members

• A.T. Still University College of Graduate Health Studies
• American University of Beirut - Faculty of Health Sciences
• Arizona State University (Instituto Nacional de Salud Publica)
• Arcadia University College of Health Sciences MPH Program
• Augusta University MPH Program
• Baylor University Public Health Program
• Boston University School of Public Health
• Brown University School of Public Health
• Campbell University Master of Science in Public Health Program
• Case Western Reserve University MPH Program
• Charles R. Drew University of Medicine and Science MPH Program in Urban Public Health
• Claremont Graduate University Master of Public Health Program
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• Consortium of Eastern Ohio Master of Public Health Program
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• Dartmouth - Geisel School of Medicine MPH Program
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• Indiana University Richard M. Fairbanks School of Public Health - Indianapolis
• Indiana University School of Public Health - Bloomington
• Johns Hopkins Bloomberg School of Public Health
• Kent State University College of Public Health
• Loma Linda University School of Public Health
• Louisiana State University Health Sciences Center School of Public Health
• Loyola University Chicago MPH Program
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• Mercer University Department of Public Health
• Michigan State University MPH Program
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• National Taiwan University College of Public Health
• New England Institute of Technology MPH Program
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• New York University School of Global Public Health
• Northeastern University Department of Health Sciences
• Northwestern University Feinberg School of Medicine Program in Public Health
• Ohio State University College of Public Health
• Oregon Health & Science University/Portland State University School of Public Health
• Oregon State University College of Public Health and Human Sciences
• Pennsylvania State University Public Health Program
• Purdue University Department of Public Health
• Rutgers School of Public Health
• Sacred Heart University Master of Public Health Program
• Saint Louis University College for Public Health and Social Justice
• San Diego State University School of Public Health
• St. Ambrose University, Master of Public Health Program
• St. George's University Department of Public Health and Preventive Medicine
• Stony Brook University Program in Public Health
• SUNY Downstate Medical College School of Public Health
• Temple University College of Public Health
• Texas A&M School of Public Health
• Texas Tech University Health Sciences Center MPH Program
• The University of Texas Health Science Center at Houston School of Public Health
• Thomas Jefferson University, College of Population Health - MPH Program
• Touro University - California MPH Program
• Tufts University School of Medicine, Public Health Program
• Tulane University School of Public Health and Tropical Medicine
• UCLA Jonathan and Karin Fielding School of Public Health
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• University of Memphis School of Public Health
• University of Miami Department of Public Health Sciences
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• University of Minnesota School of Public Health
• University of Nebraska Medical Center College of Public Health
• University of Nevada, Reno School of Community Health Sciences
• University of New Mexico College of Population Health Master of Public Health
• University of North Carolina at Charlotte Public Health Programs
• University of North Carolina Gillings School of Public Health
• University of North Dakota Master of Public Health Program
• University of North Texas Health Science Center School of Public Health
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• University of Pittsburgh Graduate School of Public Health
• University of Puerto Rico Graduate School of Public Health
• University of Rochester Graduate Public Health Program
• University of South Carolina Arnold School of Public Health
• University of South Florida College of Public Health
• University of Southern California Programs in Public Health
• University of Texas Medical Branch at Galveston Graduate Program in Public Health
• University of Toledo Master of Public Health Program
• University of Virginia MPH Program
• University of Washington School of Public Health
• University of Wisconsin-Madison Joseph J. Zilber School of Public Health
• Upstate Medical University Public Health Program
• Vanderbuilt University Institute for Medicine and Public Health
• Virginia Commonwealth University Graduate Public Health Programs
• Virginia Tech Public Health Program
• Washington University in St. Louis - Brown School Public Health Programs
• West Virginia University School of Public Health
• Wright State University MPH Program
• Yale School of Public Health

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• University of Vermont Larner College of Medicine MPH Program
• Walden University Master of Public Health Program

* International Member