CONVERGE COVID-19 Working Groups for Public Health and Social Sciences Research

Research Agenda-Setting Paper

This paper was written to help advance convergence-oriented research in the hazards and disaster field. It highlights areas where additional research could contribute new knowledge to the response to and recovery from the pandemic and other disasters yet to come. Questions about the research topics and ethical and methodological issues highlighted here should be directed to the authors who contributed to this paper.

Working Group Name:

Readying Populations for the COVID-19 Vaccine

Working Group Description:

COVID-19 vaccination promises the opportunity to create individual and population-level immunity and to resume social and economic activity without excess disease. Yet, all segments of the public may not accept a vaccine, uneven access to the vaccine could amplify social and economic disparities, and society could become further polarized as mask and physical distancing opposition converges with anti-vaccine sentiments distrustful of public health, government, and pharmaceutical companies. Because of the lag time in vaccine availability, however, the U.S. has an opportunity to foresee and study such challenges, and to develop evidence-informed policies and practices that enhance public understanding of, access to, and acceptance of a COVID-19 vaccine.

This Working Group developed an agenda to guide the aggregation, generation, and translation of known and novel research about social, behavioral, and communication challenges associated with the COVID-19 vaccine. These efforts are helping to build an evidence base with which better to plan and execute a vaccination campaign in the U.S.

Priority Research Topics and Specific Research Questions:

Context. COVID-19 vaccines will become available amidst known trends and uncertain developments including:

- A protracted, lethal, and disruptive pandemic has heightened a vaccination's perceived value.
- Understandings of COVID-19 virology and immunology (e.g., mutations, community immunity levels) are still evolving.
- Key vaccine attributes are not yet known (e.g., platforms, immunogenicity, duration of immunity).
- Pressures to make a vaccine widely available on an accelerated basis may challenge previous beliefs about how fast is too fast for adequate safety and effectiveness.
- Urgent deployment of vaccines, determined to be safe and effective yet still classified as "investigational," will require Emergency Use Authorization by the FDA, generating a complex communication environment.
- Manufacturing and distribution constraints with high vaccine demand will necessitate allocation decisions.

- The potential for multiple doses, multiple manufacturers, and/or adjuvant use will greatly complicate logistical planning and its explanation.
- The pandemic has had uneven geographical effects with communities of color disproportionately affected.
- Inconsistent messages about COVID-19 risk and its mitigation have fostered highly divergent threat perceptions. Deeply partisan actions threaten science-based public health.
- COVID-19 vaccine dis-/misinformation (e.g., profiteering, government control) has begun.
- If the perceived risk lessens (e.g., medicines prove effective in treatment), then public demand could drop off.

Application of Known and Novel Research. Conceived within applied traditions of the social, behavioral, and communication sciences, this research agenda relies on existing, high-value evidence and proposes new, urgent lines of inquiry. This agenda is designed to improve the three core components of COVID-19 vaccination planning (described below) while adding a cross-cutting objective: advance equity and solidarity. Current models suggest that vaccine hesitancy and confidence determinants are complex, context-driven, and differently weighted; they include vaccine issues (e.g., cost, safety/risks), individual/social group influences (e.g., personal experience, cognitive biases, social norms, racism and discrimination), and environmental factors (e.g., governance systems, media environment). Improving vaccination rates consequently entails reconfiguring medical and public health systems as well as altering individual beliefs.

1. ALLOCATE: Facilitate Community Input on and Acceptance of Prioritization Decisions

Known Finding(s). In a crisis, strong feelings of vulnerability may prompt persons to protest their lack of access to a vaccine with limited availability. Likewise, pre-existing socioeconomic inequalities, especially inequalities in health care access, may exacerbate concerns about vaccine access. Facilitating input from affected communities in allocation decisions can generate innovative solutions, greater trust in authorities, feelings of ownership and understanding for decisions, and an informed populace able to exercise responsibility for collective well-being.

Novel Inquiry(s). Given their potential promise, how might traditionally face-to-face public engagement methods (e.g., people-centered design, deliberative democracy, principled pluralism) be modified to work in an environment of physical distancing and uneven access to communication technologies so that they remain inclusive and retain known positive effects?

Implications. People will judge a COVID-19 vaccination campaign's integrity, not simply on biomedical merits, but on matters of fairness and equity—that is, have people received their just portion of health services, and is disease prevention, ultimately, fairly distributed. More transparency and community engagement at the outset can increase the chance that people understand and embrace an allocation plan, even one in which they may not be among the first groups to be vaccinated. Moreover, community ownership of allocation decisions can strengthen the intent to vaccinate, thus helping to assure the fitting use of a public good.

2. DEPLOY: Have a Delivery Plan that Meets People "Where They Are"

Known Finding(s). Vaccine acceptance increases when governmental health and human service delivery, as a whole, responds to community priorities and ongoing needs. Close coordination with health systems for vaccine availability, accessibility, and affordability further increases likelihood of vaccine uptake. Convenient access (time/location), helpful reminders, and elimination of barriers—including fears of usual points of vaccination—increases uptake. Health care practitioners are a critical linchpin in vaccination, first, as an at-risk population where some individuals may be vaccine hesitant, and second, as trusted intermediaries to the larger public.

Novel Inquiry(s). Can embedding COVID-19 vaccine access within a broader system of services (e.g., food security, rent assistance), trusted institutions, or familiar places that people frequent strengthen acceptance? How have local health agencies previously overcome vaccine hesitation in crisis contexts, especially among medically and socially vulnerable persons? Can less trained, yet trusted personnel deliver vaccines successfully to groups wary of authority figures? What would individuals and groups seeking out COVID-19 vaccination perceive as a "safe" place: e.g., protections from COVID-19 exposure, absence of immigration officials, presence of a familiar health provider, lack of military involvement? What innovative partnerships with mid-level entities (e.g., United Food and Commercial Workers Union, Transport Workers Union, United Farm Workers) can reach non-healthcare essential workers, many from disproportionately affected communities? What partnerships with national organizations representing racial/ethnic minorities can provide valuable input and collaboration?

Implications. Americans, especially those with already precarious lives, may define their wellbeing and experience day-to-day pressures differently than public health policy makers do. Successful COVID-19 vaccination will likely hinge on concrete actions to meet diverse people where they are—literally in terms of place and figuratively in terms of mindset—while also attending to practical delivery requirements.

3. COMMUNICATE: Inform and Update Communities Using Salient Terms and Trusted Messengers

A. Setting Expectations

Known Finding(s). Novel technology, fast-tracked R&D, use of an adjuvant, and/or accelerated regulatory approval may heighten the perception of a vaccine as "risky," "rushed," and "experimental," fueling public concern. Past unethical practices (e.g., unconsented testing on Black people's bodies) and continuing racial bias in health care have led some persons of color to be wary of health authorities and vaccinations in prior emergencies (e.g., 2009 H1N1, 2001 anthrax).

Novel Inquiry(s). What is the best approach to set public and provider expectations: e.g., striking the right balance between fostering hope for a COVID-19 vaccine and patience in obtaining it (due to safety precautions and allocation); readying people for reports of potential adverse effects (with broad vaccination) while educating them that not all observed effects are attributable to the vaccine? How can vaccination be encouraged in communities of color with high rates of chronic conditions, or other marginalized communities, while properly addressing wariness toward a novel vaccine?

Implications. "Operation Warp Speed," as the current U.S. vaccine enterprise has been labeled, suggests a fast, space-age solution to the COVID-19 pandemic; yet, this image may inadvertently prompt perceptions of a *rush* to make a vaccine, without due diligence for safety and effectiveness. More evidence-based, salient, and tempered communication that also conveys trustworthiness is required.

B. Speaking Meaningfully

Known Finding(s). Vaccine misinformation abounds in social media where users encounter disproportionate negative reports and images, can be moved more by personal stories of adverse effects than the science, and tend to judge disparate ideas about vaccines as equally valid, regardless of the source's expertise. Values, world views, and identity (e.g., independence, collectivism) are enduring influencers in vaccine decision-making.

Novel Inquiry(s). What can proactively and effectively counter COVID-19 vaccine misinformation, given diverse agents (e.g., individuals, organizations, malicious actors, some political leaders) and media (e.g.,

traditional, social, homemade [street flyers])? What hesitations do specific populations (e.g., essential workers, parents, groups with high co-morbidity rates, racial and ethnic minorities) hold; how might concerns be effectively addressed? Apart from scientific facts (e.g., immunity), what alternate reasoning could prompt vaccination: Being free to return to work or worship more quickly? Adhering to social and cultural norms (e.g., altruism, collective obligation)? Lowering risk for vulnerable loved ones? Who (e.g., religious leaders, scientists, popular personalities) can serve as trusted spokespersons for these narratives? And how can these strategies be adapted to fit local communities?

Implications. Health communicators face the enduring problem of how best to engage, educate, and empower audiences with diverse beliefs and life circumstances. Listening and learning about specific COVID-19 vaccine-related hopes and worries—and tracking these sentiments over time and within particular communities—can enhance rollout success. Authorities also need innovative countermeasures, including identifying and working with trusted spokespersons, to counteract the inadvertent or deliberate misinformation common in social media.

Other Frameworks, Considerations for Collaboration, and/or Resources:

See fully referenced research agenda at: https://www.centerforhealthsecurity.org/our-work/Center-projects/

Contributors:

Emily K. Brunson, MPH, PhD (Working Group Co-Chair), Department of Anthropology, Texas State University
Monica Schoch-Spana, PhD (Working Group Co-Chair), Johns Hopkins Center for Health Security
Luciana Borio, MD, IQT
Janesse Brewer, MPA, Johns Hopkins Institute for Vaccine Safety
Joseph Buccina, MS, MA, IQT
Nancy Connell, PhD, Johns Hopkins Center for Health Security
Nancy Kass, ScD, Johns Hopkins Berman Institute of Bioethics
Anna Kirkland, PhD, JD, Department of Women's Studies, University of Michigan
Lisa Koonin, DrPH, MN, MPH, Health Preparedness Partners LLC
Heidi Larson, PhD, The Vaccine Confidence Project™, London School of Hygiene & Tropical Medicine
Brooke Fisher Liu, PhD, Department of Communication, University of Maryland
Rex Long, MA, Department of Anthropology, Texas State University
Saad Omer, MBBS, MPH, PhD, FIDSA, Department of Internal Medicine (Infectious Diseases), Yale School of Medicine; Department of Epidemiology of Microbial Diseases, Yale School of Public Health
Walter Orenstein, MD, Department of Medicine (Infectious Diseases), Emory University School of Medicine
Gregory Poland, MD, Department of Pediatric and Adolescent Medicine (Pediatric Infectious Diseases); Department of Molecular Pharmacology and Experimental Therapeutics, Mayo Clinic
Lois Privor-Dumm, IMBA, Johns Hopkins International Vaccine Access Center
Sandra Crouse Quinn, PhD, Department of Family Science, Center for Health Equity, School of Public Health at the University of Maryland
Sanjana Ravi, MPH, Johns Hopkins Center for Health Security
Ali Ruth, AB, Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health
Daniel Salmon, PhD, Johns Hopkins Institute for Vaccine Safety
Marc Trotochaud, MSPH, Johns Hopkins Center for Health Security
Alexandre White, PhD, Departments of Sociology and History of Medicine, Johns Hopkins University

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