



PROJECT FIRSTLINE

YEAR ONE ACCOMPLISHMENTS



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TOGETHER WE TRAIN TOGETHER WE ENDURE TOGETHER WE HEAL

TOGETHER WE HAVE THE POWER TO STOP INFECTIONS

In October 2020, CDC launched **Project Firstline** to provide all US frontline healthcare workers with the infection control education and training they need and deserve to protect themselves, their patients, and their colleagues from infectious disease threats. **This report highlights Project Firstline's first year of accomplishments.**



COVID-19 highlights long-standing gaps in infection control knowledge and understanding

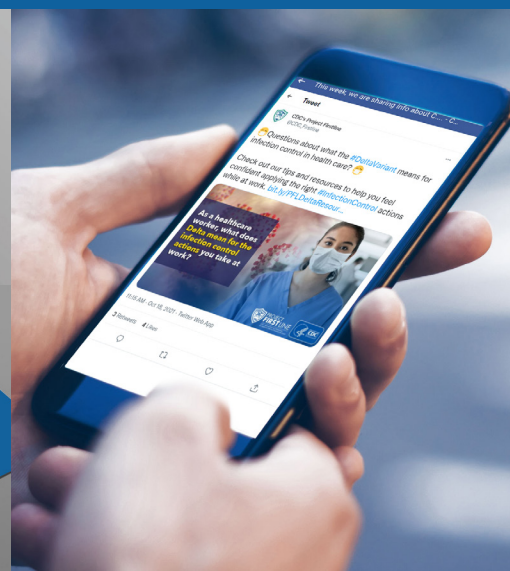
The COVID-19 pandemic has exposed long standing gaps in infection control knowledge and practice in healthcare settings nationwide. In addition to COVID-19 infections occurring among healthcare workers and spreading within healthcare facilities, there was also a documented increase in other healthcare-associated infections in hospitals, reversing national infection control progress made prior to the pandemic¹.

Beyond COVID-19, infectious disease threats will continue to emerge and threaten the safety of healthcare workers and their patients, reinforcing the need to strengthen infection control capacity in health care. Healthcare workers continue to need and deserve accessible, easy-to-understand infection control information to protect themselves and their patients. **To help address this ongoing need, CDC launched Project Firstline.**

1 Weiner-Lastinger LM, Pattabiraman V, Konnor RY, et al. The impact of coronavirus disease 2019 (COVID-19) on healthcare-associated infections in 2020: A summary of data reported to the National Healthcare Safety Network. *Infection Control & Hospital Epidemiology*. 2021;1-14. doi:10.1017/ice.2021.362

Project Firstline is an infection control training and education collaborative that intends to provide equity of understanding for all frontline healthcare workers—nurses, certified-nurse assistants, environmental services technicians, doctors, allied health professionals, and administrative/intake staff.

The innovative content is designed so that—regardless of a healthcare worker’s previous training or educational background—they can understand and confidently apply the infection control actions necessary to protect themselves and their patients.





Project Firstline First Year: By the Numbers



Project Firstline's First Year: By the Numbers

During its first year, Project Firstline and its partners:

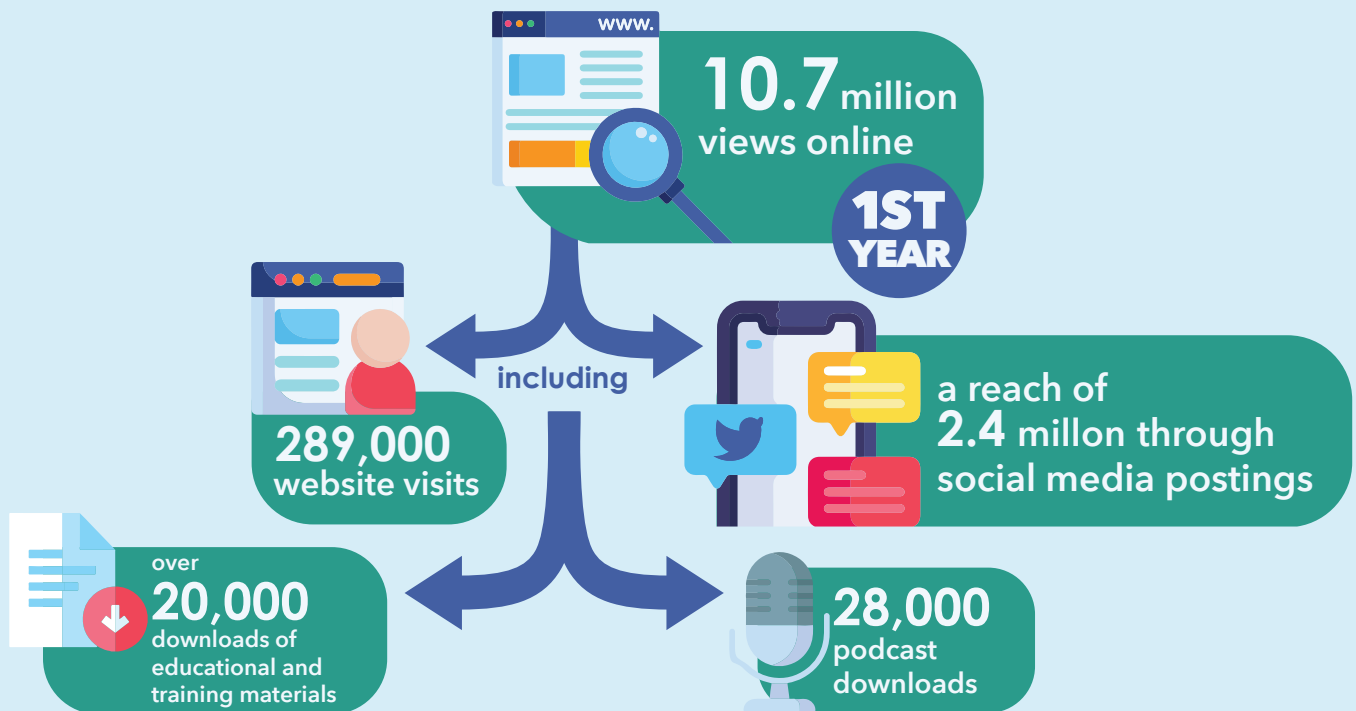
- Developed more than 130 educational products about infection control, including an *Inside Infection Control* video series featuring CDC infectious disease expert Dr. Abby Carlson.
- Created and released a facilitator toolkit with guided session plans and role- and setting-specific job aids.
- Hosted more than 300 educational events reaching approximately 33,300 healthcare workers in professions ranging from environmental service workers, to nurses, to physicians.

94% of healthcare workers who participated in these educational events reported improved understanding of infection control topics, while 93% stated they would recommend the trainings to others.



Project Firstline's *Inside Infection Control* video series, which addresses topics related to COVID-19, received over 270,000 views on social media. The 25 episodes in the series were also grouped by topic into 7 general and continuing education courses.

TOGETHER, PROJECT FIRSTLINE AND ITS PARTNERS' PRODUCTS AND RESOURCES RECEIVED AN ESTIMATED...



At Project Firstline, we believe that partnership brings greater impact. Together with our partners, we are committed to sharing infection control information across a variety of healthcare settings.



IN FY20 - FY21, CDC WAS PROUD TO COLLABORATE WITH THE FOLLOWING PARTNERS AS PART OF PROJECT FIRSTLINE...

- American Academy of Pediatrics
- American Health Care Association
- American Medical Association
- American Nurses Association
- Armstrong Center for Health Care Human Factors, Johns Hopkins Medicine
- Bellevue Hospital
- Emory University
- Health Research & Educational Trust
- Johns Hopkins Applied Physics Lab
- Massachusetts General Hospital
- National Association of County and City Health Officials
- National Council of Urban Indian Health
- National Indian Health Board
- National Network of Public Health Institutes
- RTI International
- University of Nebraska Medical Center
- University of Washington
- 16 community colleges across the United States

STATE, LOCAL AND TERRITORIAL HEALTH DEPARTMENTS:

- | | | | | | | |
|---------------|-------------|-----------------|------------------|-----------------|----------------------------------|--------------------|
| ■ Alabama | ■ Hawaii | ■ Massachusetts | ■ New Mexico | ■ South Dakota | ■ District of Columbia | ■ Mariana Islands |
| ■ Alaska | ■ Idaho | ■ Michigan | ■ New York | ■ Tennessee | ■ Chicago | ■ Marshall Islands |
| ■ Arizona | ■ Illinois | ■ Minnesota | ■ North Carolina | ■ Texas | ■ Houston | ■ Palau |
| ■ Arkansas | ■ Indiana | ■ Mississippi | ■ North Dakota | ■ Utah | ■ Los Angeles County | |
| ■ California | ■ Iowa | ■ Missouri | ■ Ohio | ■ Vermont | ■ New York City | |
| ■ Colorado | ■ Kansas | ■ Montana | ■ Oklahoma | ■ Virginia | ■ Philadelphia | |
| ■ Connecticut | ■ Kentucky | ■ Nebraska | ■ Oregon | ■ Washington | ■ Puerto Rico | |
| ■ Delaware | ■ Louisiana | ■ Nevada | ■ Pennsylvania | ■ West Virginia | ■ US Virgin Islands | |
| ■ Florida | ■ Maine | ■ New Hampshire | ■ Rhode Island | ■ Wisconsin | ■ American Samoa | |
| ■ Georgia | ■ Maryland | ■ New Jersey | ■ South Carolina | ■ Wyoming | ■ Federated States of Micronesia | |



Project Firstline National Partner Accomplishments



Partnership Brings Greater Impact

From Twitter chats, to podcasts, to virtual training events simulcast and translated into multiple languages, our healthcare and public health partners have used a diverse range of methods to reach healthcare workers with important infection control information during the pandemic.

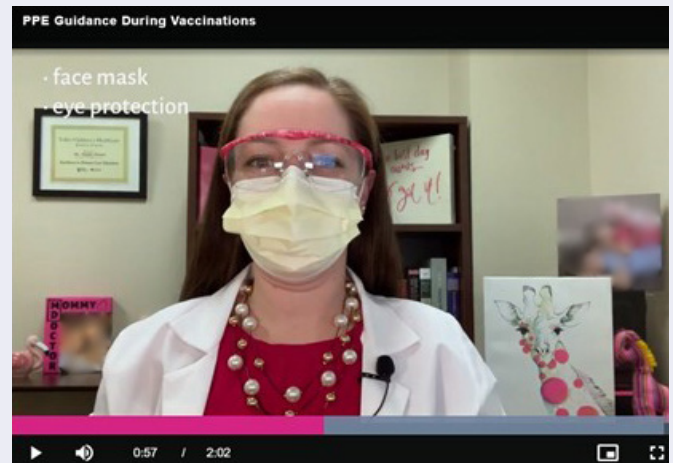


American Academy of Pediatrics: Accelerating the Delivery of Infection Control Content through Collaboration

The American Academy of Pediatrics (AAP) represents 67,000 pediatricians and pediatric specialists and provides resources to all types of pediatric healthcare providers. **Through Project Firstline, AAP developed and delivered infection control content to pediatric frontline healthcare workers using a variety of innovative platforms and channels, including a tele-mentoring training model, Project ECHO (Extension for Community Healthcare Outcomes).**

Through their participation in Project Firstline's first year, AAP has:

- Created a Virtual Training Center to disseminate infection control content including a video and podcast series.
- Expanded the national reach and capacity of the AAP to engage state chapters to educate about infection control, including providing resources to 49 of its local chapters to carry out Project Firstline trainings for over 3,500 participants.
- Expanded Project Firstline's capacity to implement ECHO trainings focused on infection prevention and control. AAP trained 3 Project Firstline partners (American Nurses Association, CDC, and the National Council of Urban Indian Health) and 3 AAP chapters as ECHO hubs to reach a diverse range of frontline healthcare workers with infection prevention and control information through the virtual, case-based learning format.



American Medical Association: Expanding Infection Control Awareness and Capacity to a Broad Spectrum of Physician Specialties and Settings

The American Medical Association (AMA) is the largest medical association in the U.S. representing nearly 250,000 physicians and medical students. AMA's respected reputation and influence enhances Project Firstline's ability to reach physicians. Likewise, through their participation in Project Firstline, **AMA expanded their capacity to promote infection control leadership in the physician populations they serve.**

Through their participation in Project Firstline's first year, AMA has:

- Gained a greater understanding of the infection control educational needs of its diverse audience, which helped inform the development of specific infection control products and resources for an expanded target audience.
- Leveraged the AMA Ed Hub, an online learning platform, to raise awareness of infection control and increase the reach of accurate infection control content.
- Forged new strategic partnerships with other healthcare organizations to expand their reach into the field of infection control, including partnering with the Federation of Medicine and the American Society of Nephrology, to develop and disseminate infection control content to medical societies and dialysis workers, respectively.
- Furthered AMA's commitment to improving healthcare equity and understanding of how it intersects with and is impacted by infection control knowledge and training.

AMA WEBINAR SERIES

COVID-19: What physicians need to know

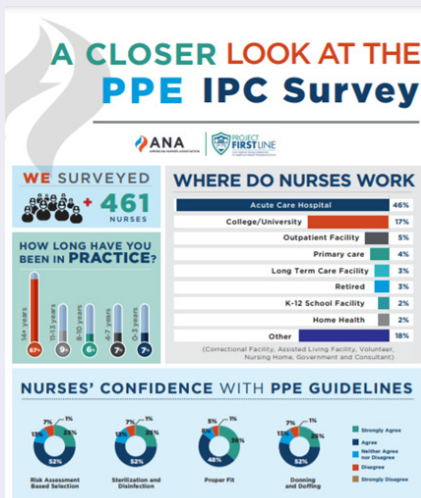
**Episode 3: Project Firstline—
CDC's new national training
collaboration for infection control**

Host: Susan R. Bailey, MD
President, AMA

Guest: Mike Bell, MD
Deputy Director, Division of Healthcare
Quality Promotion, Centers for Disease
Control and Prevention

AMA Webinar Series hosted by Susan R. Bailey, MD with special guest Mike Bell, MD

American Nurses Association: Ensuring Standardized Yet Tailored Infection Control Training is Available to All Nurses



The American Nurses Association (ANA) represents the interests of the nation's 4 million registered nurses, with members in all 50 states and U.S. territories. **ANA's participation in Project Firstline has resulted in a variety of infection control materials developed "for nurses by nurses."** This ultimately allowed ANA to expand its educational reach and become an infection control resource to nurses in clinical settings.

Through their participation in Project Firstline's first year, ANA has:

- Developed a timely and scientifically sound "On-the-Go" infection control resource library tailored to nurses. Resources include printable training guides, fact sheets, communication tools and other real-life examples of infection control problem-solving that support and simplify the application of infection control actions in everyday practice.
- Created more in-depth learning opportunities for nurses through Project Firstline partnerships. Together with the American Academy of Pediatrics, ANA developed and launched a Project ECHO tele-mentoring series about infection control basics.
- Launched a monthly newsletter to share ANA and CDC Project Firstline content with a targeted list of 32k recipients.

Asian & Pacific Islander American Health Forum: Building a Model to Develop and Disseminate Infection Control Content in Asian and Pacific Islander Languages

The Asian and Pacific Islander American Health Forum (APIAHF) is the oldest and largest health organization working with Asian American, Native Hawaiian/Pacific Islander communities. **Through Project Firstline, APIAHF strengthened local and regional community organizations by providing the tools, skills, training, and technical assistance in infection control to build organizational capacity.**



Through their participation in Project Firstline's first year, APIAHF has:

- Recruited and trained 13 bilingual Infection Prevention and Control Champions across 5 community partners to provide infection control training in their communities.
- Adapted infection control resources to address the linguistic and cultural needs of their constituents, including translating digital materials into 8 languages (Bengali, Traditional Chinese, Simplified Chinese, Tagalog, Vietnamese, Hmong, Samoan, and Tongan) and hosting training events interpreted live into 4 languages (Bengali, Mandarin, Tagalog, and Vietnamese) for healthcare communities with limited/non-English speakers.
- Developed and maintained the Asian American and Native Hawaiian/Pacific Islander Project Firstline webpage which houses translated infection control resources and Champion-led trainings. The webpage is translated into 8 languages (Bengali, Traditional Chinese, Simplified Chinese, Tagalog, Vietnamese, Hmong, Samoan, and Tongan).

Health Research and Educational Trust: Building a Culture of Safety and Prevention Across Disciplines in Healthcare

The American Hospital Association (AHA) represents nearly 5,000 health care systems, and 43,000 individual members. The Health Research and Educational Trust (HRET) is the not-for-profit research and education affiliate of the AHA. **Together, AHA and HRET have established critical collaborations through their involvement in Project Firstline. These collaborations have resulted in a greater understanding of the needs of frontline healthcare workers, particularly environmental services workers, facility management, and skilled nursing facility personnel.**



Through their participation in Project Firstline's first year, HRET has:

- Educated facilities management personnel and clinicians about how planning, design, construction, and operations within the physical environment can promote or prevent the spread of infections.
- Developed resources for frontline healthcare workers to better understand the role of ventilation in infection control.
- Brought information and attention to underserved healthcare workers traditionally overlooked for infection control training, such as environmental service workers.
- Provided personalized coaching, sharing of best practices, and quality improvement strategies with skilled nursing home and post-acute care facilities.

National Association of City and County Health Officials: Elevating Local Health Departments' Infection Control Activities to Prepare for Future Outbreaks

Local health departments (LHDs) have been on the front lines combating community spread of COVID-19. **As part of Project Firstline, the National Association of County and City Health Officials (NACCHO) supports nearly 3,000 LHDs to build their capacity to deliver infection control training and education to the healthcare workers in their communities.**

Through their participation in Project Firstline's first year, NACCHO has:

- Bridged the gap between public health and healthcare by strengthening existing collaborations, while developing new ties with other Project Firstline national partners, including the American Academy of Pediatrics and the Health Research and Educational Trust.
- Completed a comprehensive learning needs assessment of LHDs to better understand and consider the infection control knowledge and training gaps of LHDs.
- Created tools to strengthen teamwork and communication amongst teams to support the execution of infection control actions.



National Council of Urban Indian Health: Building Capacity to Address the Unique Needs of the Urban Indian Healthcare Workforce

The National Council of Urban Indian Health (NCUIH) is the official membership organization of 41 Title V Urban Indian Organizations (UIOs) funded by the Indian Health Service. It represents the health service needs of the more than 70% of American Indians and Alaska Natives in the United States who live in urban areas. **Through Project Firstline, NCUIH is a go-to resource for infection prevention and control among urban indian organizations, positioning the organization as a reliable source of information specific to the needs of urban American Indian and Alaska Native communities across the country.**



Through their participation in Project Firstline's first year, NCUIH has:

- Expanded the capacity of UIOs to address infection control challenges and prepare for accreditation. By creating a peer community for the UIOs to learn and work together, NCUIH helped establish or augment infection control programs in the various service areas based on best practices.
- Equipped the next generation of local infection control leaders through unique learning opportunities, including infection control professional development scholarships, fellowships to American Indian healthcare workers and students, and virtual webinars and an ECHO series for urban healthcare workers.
- Leveraged partnerships to develop and disseminate culturally appropriate infection control materials and promote healthcare equity.

National Indian Health Board: Building Capacity and Creating Connections to Enhance Infection Control in Tribal Health Care

The National Indian Health Board (NIHB) represents all 574 federally recognized Tribal governments, including those that operate their own healthcare delivery systems, and those receiving health care directly from the Indian Health Service. **Project Firstline introduced healthcare infection control to NIHB's portfolio and enabled NIHB to build the capacity of frontline Tribal healthcare workers and infection control officers during the COVID-19 pandemic.**

Through their participation in Project Firstline's first year, NIHB has:

- Reached healthcare workers in Tribal health settings with infection control resources, including underserved frontline healthcare worker groups - emergency medical services and dental healthcare professionals.
- Built local capacity in infection control through scholarships and mentorship.
- Created connections between health departments and Tribal health organizations, educating those health departments on the work and roles of tribal health organizations in their states, and fostering working relationships with state health departments and their local tribal communities to ensure inclusivity during infection control content development.



National Network of Public Health Institutes: Understanding and Responding to the Infection Control Knowledge Needs of Public Health Professionals

The National Network of Public Health Institutes (NNPHI) includes more than 40 public health institutes, 10 University-based Regional Public Health Training Centers, and 40 affiliates. **Participating in Project Firstline has enhanced their ability to focus on the development and rapid dissemination of healthcare infection control content to various public health organizations across the country.**

Through their participation in Project Firstline's first year, NNPHI has:

- Identified existing infection control coursework for public health professionals in order to develop and distribute relevant and needed infection control content to the public health workforce.
- Empowered the environmental health workforce to build their knowledge and understanding of infection control.
- Leveraged its national network to disseminate infection control content, through webinars, Q&A sessions with healthcare infection control experts, and a community of practice.

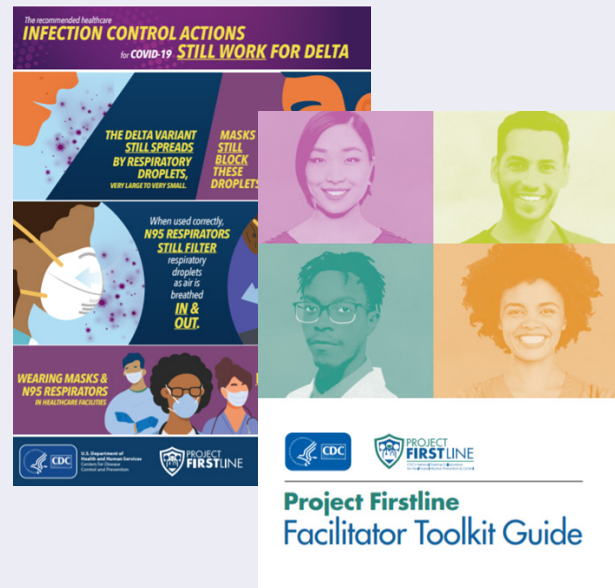


RTI International: Using a Human-Centered Design Approach to Create Infection Control Training Resources

RTI International leverages their expertise in formative research, behavior change theories and social marketing principles to design and deliver communications that capture attention, promote better decision-making, and motivate behavior change. **In collaboration with CDC, RTI has enhanced Project Firstline's ability to develop infection control educational resources that are designed especially for healthcare workers.**

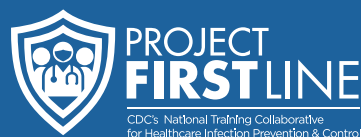
Through their participation in Project Firstline's first year, RTI has:

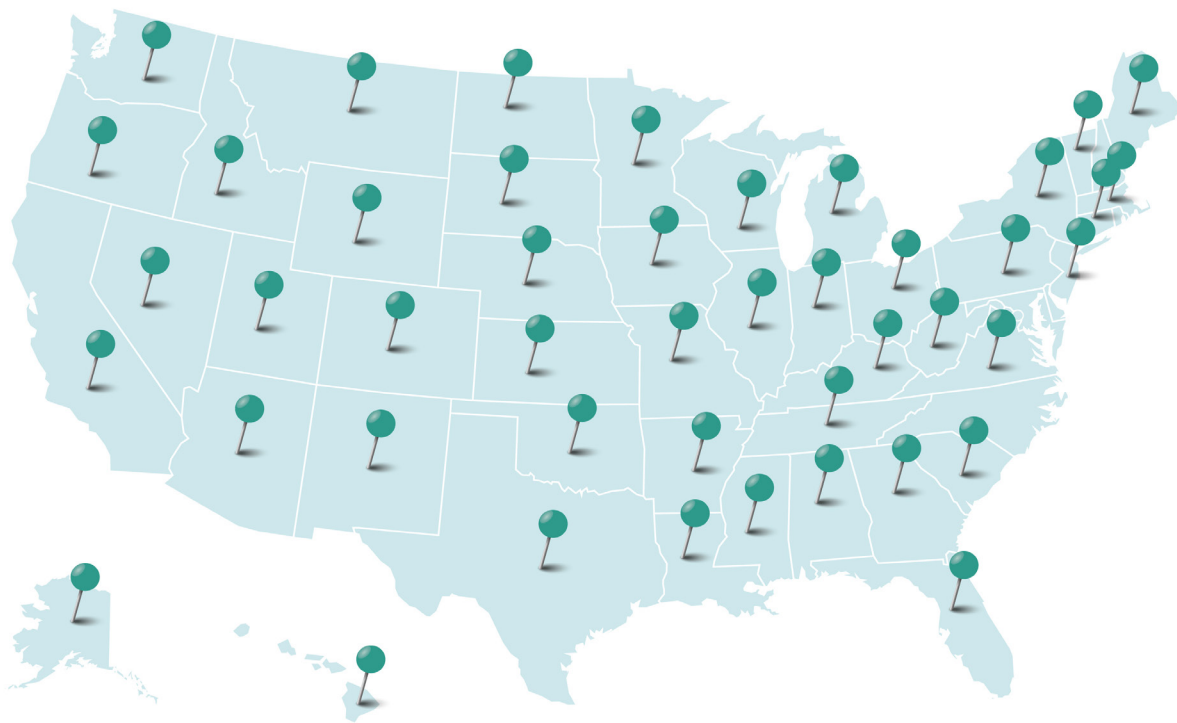
- Evaluated the lived realities of healthcare workers to help CDC and its partners more effectively design and market Project Firstline programming to reach and educate the audience.
- Collaborated with CDC on the development of more than 75 educational materials to support healthcare workers' understanding of SARS-CoV-2, how it spreads, and the infection control actions that can prevent spread in healthcare facilities.
- Developed a strategy to evaluate Project Firstline's dissemination strategies to ensure Project Firstline messaging is effectively reaching its audience.





Project Firstline State, Local, & Territorial Health Department Accomplishments

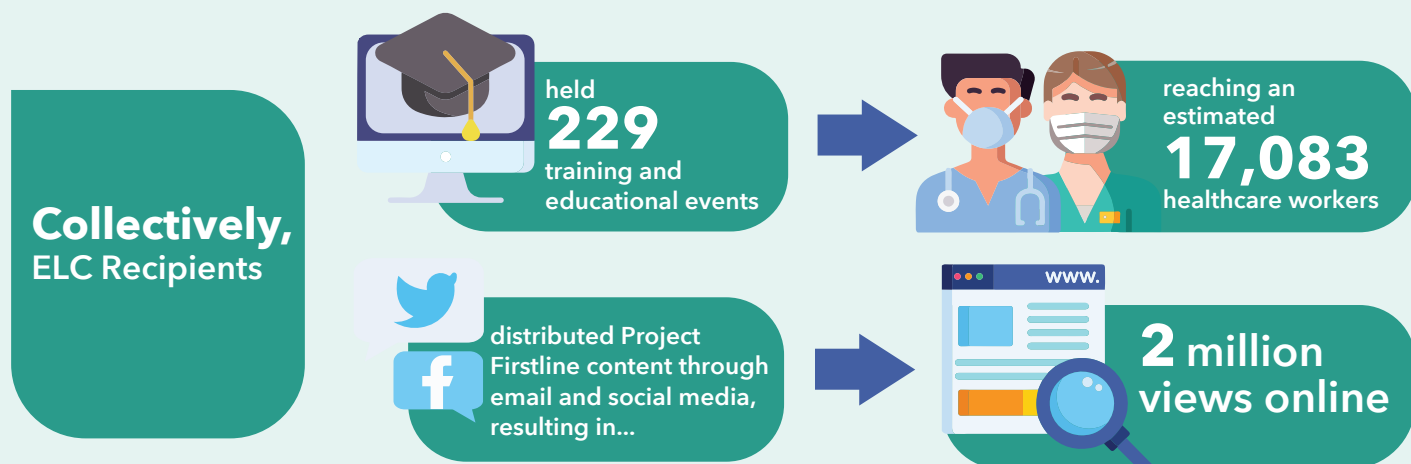




State, Local, and Territorial Health Departments

The 64 Epidemiology and Laboratory Capacity for Prevention and Control of Emerging Infectious Diseases (ELC) Cooperative Agreement recipients include all 50 states, several large metro areas, and U.S. territories and affiliates. As partners in Project Firstline, recipients assist in reaching frontline healthcare workers with infection control training and education, while also creating infection control training expertise in the public health workforce.

As part of year one activities, each ELC partner conducted a learning needs assessment (LNA) to better understand the infection control education and training needs in their jurisdiction and to help tailor activities and outreach accordingly. For example, California used their LNA findings to tailor infection control training for certified nursing assistants based on their common tasks, and offered sessions to accommodate their schedules and reported learning styles.





Pennsylvania developed a text messaging program to send informational text messages on infection control, making it easy for healthcare workers to receive up-to-date information. The goal was to meet overburdened healthcare workers in the state with helpful infection control information and Project Firstline links, wherever they may be and regardless of their time constraints.

- Project Firstline - Pennsylvania creatively used Project Firstline resources such as the *Inside Infection Control* videos and various infographics as content for these bite-size text messages.
- To encourage further interest, the team also texted subscribers weekly “fun facts” about infection control.



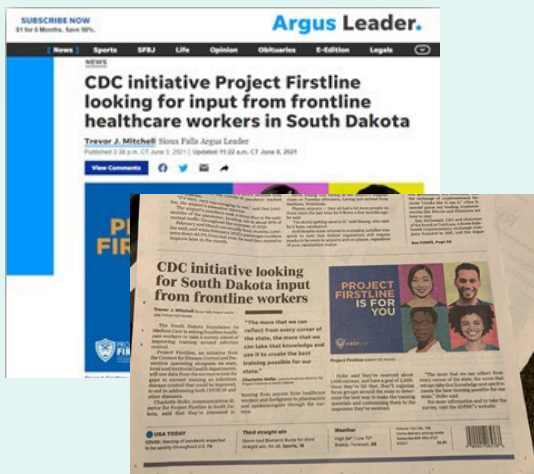
Wyoming, Hawaii, and AARP collaborated to reach families and caregivers with Project Firstline resources.

- In order to fill the gap in infection control training for an often under-trained population of a patient’s care team, Wyoming and Hawaii’s Mountain Pacific Quality Health organizations partnered with AARP to disseminate Project Firstline resources and hold infection control trainings for families and caregivers in senior centers and nursing homes.
- To further empower family caregivers with knowledge and proper infection control training, this collaboration provided caregivers with convenient “house calls” held through video conferencing. These calls brought infection control training and tools right to busy caregivers’ homes.
- Additionally, each “house call” recording is uploaded to the AARP Facebook page and Mountain Pacific Quality Health/ Project Firstline webpage for greater exposure and accessibility.





Citing a need to diversify their outreach and better target the healthcare worker audience, **South Dakota** built partnerships and developed multiple story angles with local media outlets to promote Project Firstline activities.



- South Dakota created a series of multimedia promotional products, such as a promotional video, for local media. Distributing them through multiple channels, South Dakota was able to generate excitement and interest in Project Firstline. This multi-pronged marketing and communications strategy resulted in a total estimated readership of over 200,000.
- South Dakota chose to focus part of its communication strategy on champion outreach. By selecting local influencers and curating community healthcare champions to promote Project Firstline on social media, Project Firstline-South Dakota reached a wider audience and had more engagement with their learning needs assessment. This will help South Dakota to better tailor infection control products for their healthcare workers in the future.



Project Firstline Academic Partner Accomplishments



Academic Partnerships

Effective infection control training and education must be grounded not only in the science on how germs spread but also reflect best practices and innovative approaches to teaching adult learners. Project Firstline's academic partnerships support cutting-edge applied science to inform infection control practices and the development of more effective, evidence-based platforms and approaches to infection control training and education. **Following are highlights of Project Firstline's academic collaborations.**



Emory University is working to identify common gaps in infection prevention and control practices (IPC) and improve assessment of healthcare workers' IPC competency by:

- Identifying infection control failure modes associated with common healthcare tasks.
- Evaluating frontline healthcare personnel behaviors associated with these tasks in a variety of hands-on simulations.

These insights will help to improve the responsiveness and quality of Project Firstline's training and allow healthcare workers and facilities to better understand the gaps of their own infection control practices.



Emory nurse, Jill Morgan, participates in hands-on simulation exercises to help identify common gaps in healthcare infection control.



The University of Nebraska Medical Center, in partnership with Nebraska Medicine and the University of Washington, is developing innovative approaches to address critical infection control needs for small and rural healthcare facilities by:

- Leveraging augmented reality technologies, to develop a virtual infection control consultation center to allow healthcare workers to receive remote "hands-on" consultation to address their infection control needs and gaps in knowledge.
- Establishing a network of rural, critical-access, and resource-challenged healthcare settings to evaluate innovative methods for preventing the spread of infectious diseases in these facilities.



New York City Health & Hospitals/Bellevue Medical Center and Massachusetts General Hospital are collaborating to understand acute care facilities' processes and strategies for implementing safe high-level isolation environments, as well as the barriers they face. Ultimately, this evaluation will inform a suite of resources to help different types of healthcare facilities establish better processes and infrastructure for high-level containment situations and alternative solutions during crisis/surge conditions.

Johns Hopkins Applied Physics Laboratory and the Armstrong Center for Health Care Human Factors at Johns Hopkins Medicine are developing new approaches and technologies to inform our understanding of IPC practices and the spread of respiratory pathogens in hospital settings through a number of activities, including:

- Examining environmental air and aerosol movement in Operating Rooms
- Evaluating aerosol generating procedures in healthcare
- Applying human factors engineering to address infection control risks





Community Collage Collaborative





"This information is essential and very important as I build curriculum for new programs in allied health."

PREPARING THE FUTURE HEALTHCARE WORKFORCE

During summer 2021, Project Firstline partnered with the American Hospital Association and the League for Innovation in the Community College to integrate comprehensive infection control education into community college curricula. The program began with faculty cohorts from 16 participating colleges across a range of community college

settings. Faculty in the areas of emergency medical services, respiratory care, nursing, practical nursing and nursing assistants, and medical assisting came together to tailor the infection control curriculum for each professional area, with a plan to systematically phase it into their coursework.



More than half of nurses and allied health professionals get their initial degrees at a community college, providing a unique opportunity to reach the future nursing and allied health workforce so they can start their careers with a solid understanding of infection control theory and realities of practice.



"The use of these resources will help develop a more knowledgeable group of first responders that are prepared when dealing with prevention and control of infection."



LOOKING AHEAD: THE FUTURE OF PROJECT FIRSTLINE

With increases in healthcare-associated infections observed during the COVID-19 pandemic, it's more important than ever to equip healthcare workers with the infection control knowledge they need to keep themselves and their patients safe.

Project Firstline aims to become the go-to resource for infection control training and education for all frontline healthcare workers. To achieve this goal, the Project Firstline team will continue to listen to and learn from the diverse audiences it's trying to reach. These insights and others learned during the past year are helping inform development of a new suite of educational materials designed to help healthcare workers build a foundational knowledge and understanding of infection control that they can apply daily in their work.



PROJECT **FIRST LINE**

CDC's National Training Collaborative
for Healthcare Infection Prevention & Control

**WE HAVE THE POWER TO
STOP INFECTIONS.
TOGETHER.**



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