



Reflections on NNPHI's Work for the First Year of Project Firstline

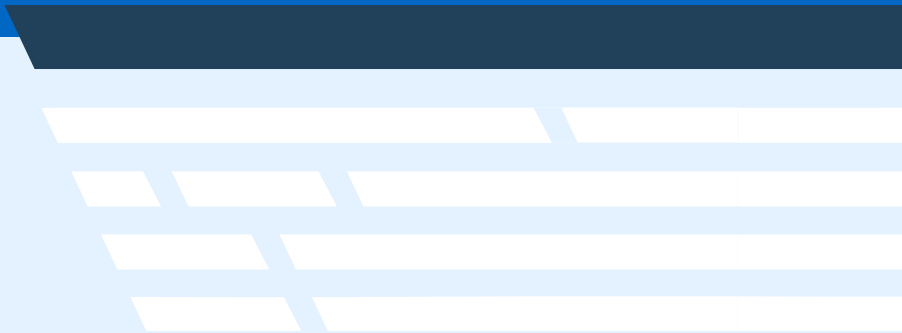


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I. Background

Purpose: The purpose of this document is to provide a review and reporting of NNPHI's Project Firstline (PFL) activities for Year 1. It also captures the impact that PFL activities are having on the public health workforce (PHW) and how this work contributes to NNPHI's overall strategic objectives. The evaluation will recommend process improvements to help advance PFL activities in Year 2.

Methods: The Evidence to Action (E2A) evaluation team used a mixed methods assessment approach that involved a review of project documents and administrative data, a descriptive analysis of data from PFL activities during Year 1, and a qualitative analysis of interviews conducted with NNPHI staff who worked on the project. For the document review, project documents and relevant administrative data were gathered from the NNPHI portfolios involved in the PFL project. Survey data collected after the training engagements and other PFL activities were reviewed to understand the reach and impacts of training. The participants from the NNPHI activities were asked about overall satisfaction with the trainings, knowledge gain, and topics that might be of interest for future infection prevention and control (IPC) trainings. Eight NNPHI staff members were invited to participate in interviews. All interviews were conducted online from November 2021 to January 2022. Interview participants represented four portfolios — Emergency Preparedness, Response, & Recovery (EPRR); Communications and Convenings, E2A, and the



National Coordinating Center for Public Health Training (NCCPHT). Respondents were asked about portfolio-specific activities in PFL with a focus on accomplishments, challenges, and recommendations for improvement for future work. Interview notes were analyzed for themes. After obtaining all project documents and relevant administrative data, initial findings, including gaps in training topics and participation reach, were identified.

Please see **Appendix A** for initial findings from the assessment data for trainings delivered in Year 1.



And lastly, a meeting was conducted on December 17, 2021 with the NNPHI staff involved in PFL activities to initiate discussion on the initial findings.

Please see **Appendix B** for a copy of the meeting notes.



II. Results

Accomplishments

In year 1 of the PFL project, NNPHI built the infrastructure necessary to promote PFL activities to the public health workforce.

In collaboration with Banyan Communications, NNPHI created the PFL microsite webpage to increase awareness of the project and promote NNPHI trainings and learning opportunities to the PHW. Banyan Communications and NNPHI also conducted a review of the literature to define the health strategist workforce in public health. NNPHI's social media accounts on Twitter and LinkedIn promoted PFL activities of NNPHI and other project partners.

Please see **Appendix C** for more details about NNPHI's impacts on increasing awareness about PFL on social media.



NNPHI established strategic partnerships with key organizations to promote and expand PFL work.

NNPHI developed six partnerships with nonprofit organizations and university collaborators. These partnerships were with the National Association of County and City Health Officials (NACCHO), National Environmental Health Association (NEHA), University of Utah, Tulane University, Banyan Communications, and Maximus Federal Services, Inc. NNPHI has continued information exchange and support with NACCHO, the only other public health organization that contributes to the PFL collaborative. NEHA helped NNPHI coordinate

and sponsor an online Q&A session with environmental health professionals. NNPHI is also collaborating with NEHA on a podcast series about environmental health topics related to IPC in healthcare facilities and the establishment of an IPC credential for environmental health service professionals.

NNPHI contracted with the University of Utah and Tulane University to conduct environmental scans of existing IPC courses offered throughout the country. University of Utah was focused on finding IPC courses for the environmental health workforce, while Tulane University identified existing IPC course for the general PHW. Tulane University was also NNPHI's partner in developing and delivering a series of training webinars about mass vaccination.



NNPHI delivered 3 training sessions in IPC to the public health workforce that were attended by at least 60 individuals.

NNPHI organized three webinar sessions in May 2021 titled "Points of Distribution/Dispensing (POD)-based Planning, Mass Vaccination, and IPC." The first session discussed an environmental scan on professional credentialing and existing programs with IPC content. The second and third sessions discussed Open PODs for vaccination distribution and Atlanta's response to the COVID-19 pandemic. Assessment data were available only for the second and third sessions; however, these data provided insights into the background and the preferences of the PHW audience.

PFL training participants included public health professionals and clinicians from health agencies, health care settings, and academia.

Half of the post-session survey respondents identified as **public health professionals and environmental services professionals**, while the other half were **clinicians working as nurses or physicians**. Nearly half of survey respondents worked in health agencies at the local, tribal, or state level. Six worked in a healthcare setting or in academia. Survey respondents were located mostly in Louisiana, different Indian Health Services (IHS) regions, and Texas.



PFL training participants were satisfied with the information shared and provided other IPC topics that they would like to learn about.

All respondents said they would recommend the trainings to other people. The majority shared that the session they attended helped improve their understanding of IPC practices. Survey respondents were also asked about


IPC topics they would be interested in the future. They suggested topics specific to the COVID-19 pandemic such as vaccine hesitancy, information on breakthrough COVID-19 infection, how to conduct outreach to communities about vaccination against COVID-19, and impacts of air pollution on COVID-19 transmission. Respondents also wanted to know about best practices for long-term IPC in congregate (e.g., daycare centers, correctional facilities, etc.) or community settings.

NNPHI produced and delivered IPC focused podcasts to environmental health professionals.

NEHA was NNPHI's key partner in increasing IPC knowledge among environmental health professionals. Three podcast sessions were co-produced covering a wide range of topics such as about IPC best practices for environmental service professionals. These educational opportunities reflected the multiple ways in which the current PHW can be reached.



One of these podcasts was the Q&A session that took place on March 30, 2021. Dr. Timothy Landers, PhD, RN, CNP, CIC, FAAN of the Ohio State University College of Nursing answered questions on topics such as the importance of IPC measures to environmental health professionals, the importance of standard precautions, and the differences between cleaning, sterilization and disinfection. Out of 74 individuals who attended the session, only 22 (30%) responded to the post-session assessment survey. Most of the survey respondents were members of NEHA and identified either as an environmental health or public health professional. Half of the respondents worked at a city, county, or state health department. Nearly half joined in from Georgia, Oregon, Louisiana, and IHS regions.



Attendees to the PFL Q&A session were satisfied with the event and identified IPC topics of interest for future IPC trainings and events.

The majority of the survey respondents agreed or strongly agreed to statements about the quality and usefulness of the Q&A session. Most noted that their overall understanding of IPC improved and identified that they could use the information in work trainings, presentations, and learning sessions for students, healthcare providers, staff at health departments, and staff at hospitals and long-term care facilities. The respondents from the Q&A session wanted to learn more about addressing vaccination myths, IPC in school and other congregate settings such as emergency shelters and correctional facilities. They also wanted to know how best to employ employees at the workplace to prevent infections and best practices for pest control management. Respondents also wanted to hear more from people who have practiced in resource-constrained settings and would like more in-depth information on lesser-known facts and processes in IPC. And lastly, more interactive activities were requested by respondents.

NNPHI assisted the CDC evaluation team in developing the evaluation approach and related documents for the PFL collaborative.

E2A staff collaborated with the CDC evaluation team to develop the PFL initiative's logic model, a set of key indicators ("common elements" captured during training), and an evaluation framework. The team also developed an instrument to capture PFL partners' training assessment data and maintained the PFL training event information database. E2A staff also conducted a qualitative analysis of PFL partner listening

sessions that were completed in the summer of 2020. In addition to the analysis, the E2A team drafted a summary report and a full report that summarized the listening session findings by them. The E2A team conducted interviews with partners to collect information about their year 1 accomplishments and drafted PFL Partner Profiles for each of the eight collaborative partners.

NNPHI continues to expand the PHW's knowledge of IPC concepts and best practices.

In collaboration with NEHA, NNPHI is developing a COVID-19 variant factsheet and podcasts focused on increasing knowledge among environmental health professionals. Topics will include ventilation systems and its importance to IPC and infection control basics for a respiratory virus. NEHA and NNPHI will also be collaborating on an IPC-focused credentialing process informed by the University of Utah's findings from an environmental scan of available IPC training for PHW. Furthermore, NNPHI recently contracted with Maximus Federal Services, Inc. to identify the needs and gaps in existing IPC courses that were included in Tulane University's environmental scan. Maximus Federal Services, Inc. will also develop a workflow process for intake of any new IPC trainings for the PH workforce that will be released in the future.

Challenges

Multiple changes in the PFL scope of work required shifts to NNPHI's approach and staffing mix in Year 1.

Many interview participants shared that NNPHI's training audience was initially environmental health professionals which required that NNPHI collaborate with NEHA and universities that focused on emergency management and environmental health. A few months into the project and after identifying subcontractors, NNPHI was asked to modify the audience for IPC trainings from the environmental health workforce to the public health workforce within healthcare facilities. This change in scope required that subcontractors identify IPC topics of interest only for a healthcare audience. Changes in scope required that PFL staff restart work assignments which ultimately caused delays.

NNPHI did not receive clear guidelines on initiation and development of resources.

Most interview participants shared the lack of clarity about initiation and development of resources. NNPHI was initially supposed to disseminate materials developed in-house by CDC. NNPHI was later directed to develop their own resources based on the training audience's needs. NNPHI's evaluation team was already committed to working on evaluation measures for the PFL collaborative, hence NNPHI lacked enough staff to launch a full-scale needs assessment of the public health workforce during the early part of the project.

The PFL collaborative was not fully developed in year 1 and did not provide enough opportunities for partner collaboration.

The PFL collaborative was comprised of 18 healthcare and public health organizations. There was no specific directive that organizations needed to collaborate or inform each other about PFL work. The monthly all-partner calls led by CDC were focused on one-way sharing of information and did not provide opportunities for the different partner organizations to effectively collaborate. NNPHI had to specifically approach NACCHO, a fellow PFL partner, to have ongoing conversations about each other's work.



The PFL project engaged staff from multiple portfolios as needed based on a changing SOW which resulted in a siloed approach to NNPHI implementation. Many respondents stated that portfolios were working in “silos” and were unable to effectively engage one another in planning and implementation. Some participants said this was largely due to employee turnover and lack of staff. Project Firstline required involvement across portfolios, but NNPHI did not have standard procedures in place to foster engagement before the project launched.

NNPHI’s activities were constrained by political decisions during the COVID-19 response.

Strategies that required community engagement and community input were discouraged. Federal leadership was wary about highlighting gaps in IPC workforce training and discouraged NNPHI to release findings. NNPHI was also not allowed to develop content for public health professionals working outside healthcare facilities.



III. Recommendations

NNPHI should consider management strategies for increasing collaboration across portfolios.

NNPHI has had increased internal capacity for work on infectious diseases and emergency preparedness. Our organization's growth over the last year contributed to the accomplishments during Year 1 of the project. Several new members of NNPHI are now participating in the planning and development of PFL activities and trainings. However, the opportunities for effective engagement and internal collaboration during year 1 of PFL were limited. A few PFL staff said it would be helpful to have a more structured approach to meetings. For example, meeting minutes can be reported back after every internal meeting and every meeting with CDC and other partners. Another idea was to have each portfolio lead the regular PFL staff meetings or present about their work. These standard procedures can be utilized by NNPHI for PFL and other projects that require inter-portfolio engagement and collaboration.

NNPHI should adopt an assessment instrument that can better analyze participant reach and impacts.

Another proposed strategy was to have a standard instrument for measuring project impacts that can be used beyond PFL activities. The instrument can include standard questions about knowledge gain and customer satisfaction. It can also ask for demographic information that help with further analysis on who is being reached by NNPHI trainings and what the best ways are to effectively engage them.



NNPHI should invest in promotional strategies that use audience segmentation and paid marketing.

Some participants suggested that NNPHI can enhance reach by identifying specific PHW audiences and what their preferred methods are for receiving information.

This information can then be used to design relevant messages that influence the specific PHW audiences to adopt recommended behaviors. One participant suggested having paid advertisements on social media sites such as Facebook and/or launching a social media campaign on digital applications such as Tiktok.



NNPHI should continue existing partnerships and form new collaborations with other organizations.

NNPHI benefited from collaborative partnerships with other non-profit organizations and universities. Many PFL staff recommended continuing these partnerships and working to form new collaborations. Suggestions for organizations to establish new collaborations with for PFL activities were non-PFL partners (e.g., Council on State and Territorial Epidemiologists, Association of State and Territorial Health Officials, etc.) and current PFL partners (e.g., American Academy of Pediatrics, National Indian Health Board, and National Council of Urban Indian Health). NNPHI can draw upon the existing, vast network of public health institutes and public health training centers as well.

Appendices



Appendix A

Initial Findings from NNPHI Training Assessment Data for PFL Trainings Delivered in Year 1

Purpose

This summary reviews the results of training assessment collected from respondents to a survey distributed after the NNPHI training sessions during the first year of Project Firstline (PFL). The summary describes the audience who attended trainings, overall satisfaction with the trainings, reported knowledge gain, and topics that are of interest for future infection prevention and control (IPC) trainings. The intent of this analysis is to spark ideas for future marketing and outreach strategies, as well as provide information to support topic and content selection for PFL trainings in year 2 and beyond.

Methods

This document was informed by post training assessment data collected by NNPHI after each training session. Descriptive statistics were computed and presented to provide as much insight as possible. Survey data were collected from two of three NNPHI PFL trainings. Data were not collected for the first training. Only the second and third trainings were assessed by participants. Training #2 was hosted on May 12, 2021, was attended by 27 participants, and had 12 survey respondents. Training #3 was delivered on May 19, 2021, was attended by 33 participants, and had 10 survey respondents. Both training sessions were titled “POD-based Planning, Mass Vaccination, and IPC.” The training sessions focused on presenting the utility of traditional Points of Distribution/Dispensing (POD)-based planning concepts and training and IPC

challenges in a mass vaccination rollout across two major metropolitan areas, Atlanta, Georgia, and New Orleans, Louisiana.

Results | Survey Respondent Characteristics

Professional Role

Exhibit 1 shows that slightly less than a third of survey respondents who attended both trainings were public health professionals. Respondents also included nurses, physicians, and environmental services personnel, with 3 persons indicating “Other” with no further information. Only 9 of the 22 total respondents identify as clinicians.

Workplace Setting

In terms of workplace setting, more than a quarter (27%) of attendees chose “Other” but did not specify the setting. Slightly less than half (45.4%) work in public health departments of some kind, while 23% indicate working in a healthcare setting (either hospital or outpatient) and 1 person indicated working primarily in an academic setting.

Participant Location

Survey participants represented 9 US states and one tribal area, with 4 respondents based outside of the US. The state with the most survey respondents was Louisiana (See Exhibit 1).

Exhibit 1. Summary of Survey Respondent Characteristics (n=22)

Characteristics	Training #2	Training #3	Total (%)
Professional Role			
• Public health professional	4	3	7 (31.8%)
• Other	3	1	4 (18.2%)
• Physician	3	1	4 (18.2%)
• Registered nurse	2	2	4 (18.2%)
• Environmental services	0	2	2 (9.1%)
• Advanced practice nurse	0	1	1 (4.5%)
Workplace Setting			
• Other	4	2	6 (27.3%)
• Acute care hospital	3	1	4 (18.2%)
• Local health department	1	3	4 (18.2%)
• Health department (unspecified)	2	2	4 (18.2%)
• State health department	1	0	1 (4.5%)
• Tribal health department	0	1	1 (4.5%)
• Other outpatient facility	0	1	1 (4.5%)
• Academia	1	0	1 (4.5%)
Location			
• Louisiana	4	2	6 (27.3%)
• Outside of the US	3	1	4 (18.2%)
• Texas	1	2	3 (13.6%)
• California – IHS area	0	1	1 (4.5%)
• Connecticut	1	0	1 (4.5%)
• Minnesota	0	1	1 (4.5%)
• Navajo – IHS area	0	1	1 (4.5%)
• Oklahoma	1	0	1 (4.5%)
• Oklahoma – IHS area	1	0	1 (4.5%)
• Ohio	1	0	1 (4.5%)
• Tennessee	0	1	1 (4.5%)
• West Virginia	0	2	1 (4.5%)

Overall Satisfaction

Respondents were asked if they would recommend the training they had just attended to others. All 22 participants acknowledged wanting to recommend the training to others.

Workplace Setting

Respondents were asked if the training helped improve their understanding of IPC practices. The majority of respondents said 'yes,' and only one

respondent from each training felt that the training did not improve their knowledge of IPC.

Suggestions for Future IPC Training Topics

Respondents were asked what IPC topics they are interested in learning about in future NNPHI trainings. A total of 18 survey respondents provided a response. These are presented in Exhibit 2, clustered by broad topic area.

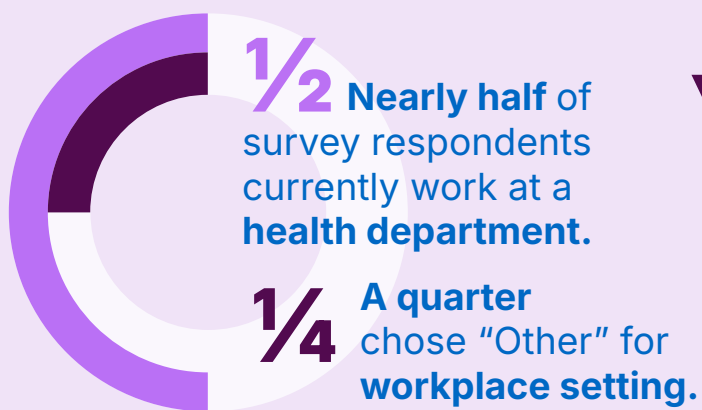
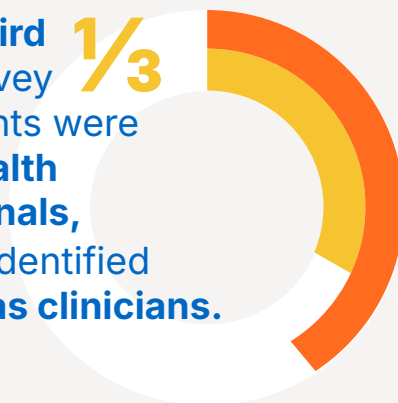
Exhibit 2. IPC Topics of Interest for Future Trainings (n = 18)

Vaccination (n=5)
<ul style="list-style-type: none">• Infection after vaccination• Vaccine hesitancy, community outreach, and PPP• Sanitization of mass vaccine sites• Public health policies on vaccination• Pediatric COVID vaccination policy or implementation
Infection Control (n=2)
<ul style="list-style-type: none">• Long term infection control practices and training programs• Infection control in nursing homes and rehab facilities
COVID-19 (n=2)
<ul style="list-style-type: none">• Rates of re-infection or breakthrough COVID-19 disease• COVID variants
Infection Control (n=2)
<ul style="list-style-type: none">• Prions• Impact of air pollution on infection control and on risk of infections• Other virus disease infection• Administrative controls• CPE• One Health• POD operations• Daycare• Travel

Initial Takeaways



While a third $\frac{1}{3}$ of the survey respondents were public health professionals, **41%** identified as clinicians.



A future iteration of the survey would benefit from including an area for respondents to type in a specific response if they select "Other."

The respondents were interested in attending trainings on a wide range of topics. Most topics however were related to **vaccination promotion, policy implementation, and long-term infection prevention and control**. Only two shared interest in learning more about **COVID-19 re-infection and variants**.

VACCINATION PROMOTION |

POLICY IMPLEMENTATION ||

|| LONG-TERM INFECTION PREVENTION AND CONTROL |

| COVID-19 RE-INFECTION AND VARIANTS ||

Appendix B

December 17, 2021 Meeting Notes

Internal Evaluation of NNPHI Activities in Year 1 Project Firstline

Activity: Staff Reflections Meeting #1

Date: December 17, 2021

Time: 10:00 to 11:00 AM Eastern Time

Facilitator: Ivy Vitanzos Cervantes

Participants: at least 15 participants from all involved portfolios

Meeting Agenda:

- Introduction
- Presentation: "Summary of NNPHI training assessment data for Project Firstline trainings delivered in Year 1"
 - Purpose and intent
 - Methods
 - Results
- Discussion

Meeting Notes:

Time	Item	Discussion
10:00–10:05 AM	Introduction	<ul style="list-style-type: none">• Brief overview of Staff Reflections meetings: The purpose of Staff Reflections meetings was for the E2A team to present on Year 1 training/event results, answer any questions, and facilitate a discussion about process improvements to address challenges.• This meeting will identify strategies that NNPHI can use when conducting PFL work in future years.• Future Staff Reflections meetings will likely be in February 2022 (topic: findings from the qualitative interviews) and another one in March/April 2022 (topic: findings after triangulation).
10:06–10:13 AM	Presentation	<ul style="list-style-type: none">• The facilitator reviewed the purpose of summarizing the NNPHI training assessment data. She also emphasized that the intent of presenting the analysis was to spark ideas for future marketing and outreach strategies, as well as topic and content selection for PFL trainings in Year 2 and beyond. A copy of the presentation slides can be accessed at this link.

<p>10:14–10:39 AM</p>	<p>Discussion: Training Participants</p>	<ul style="list-style-type: none"> • To start off discussion, meeting participants were asked the following questions about participant information: <ul style="list-style-type: none"> ◦ Did anything surprise you regarding who attended the trainings? ◦ Any professionals/settings/locations present that you were not expecting? ◦ Any professionals/settings/locations that are missing? ◦ Any strategies for reaching those that are missing? • A staff member shared they were curious about what the “Other” meant for Professional Role (a total of 7 out of 22) and Workplace Setting (a total of 6 out of 22) <ul style="list-style-type: none"> ◦ In the future, for “Other”, add a free response • It was also observed that the trainings show NNPHI who’s interested in the offerings. Training was conducted by Tulane so it was heavily marketed towards their clients (6 out of 22 participants were from Louisiana) <ul style="list-style-type: none"> ◦ New question: How do we reach other regions? • Also indicate if it’s local or state health departments <ul style="list-style-type: none"> ◦ Epidemiologists and lab technicians are missing (0 participants identified as such) ◦ New question: How do we reach epidemiologists and lb technicians? • Suggesting to market trainings for a month and a half to get a bigger audience <ul style="list-style-type: none"> ◦ In Yr 1, NNPHI usually had 6 weeks for marketing to reach audiences that we haven’t reached ◦ Can engage in more creative marketing if there would be more time • Participants were able to share demographic info at the registration; continue collecting demographics • One staff shared that assessing knowledge gain could be improved with pre/post questions (future assessment) • New question: Less credentialed/less educated who are in the ER and the IC units (housekeeping and janitorial staff) – how can we reach them? • Emphasized new action item: E2A to revise existing post-training assessment instrument after receiving suggestions/recommendations from participants
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10:40–10:44 AM	Discussion: IPC Topics of Interest	<ul style="list-style-type: none"> • To start off discussion, meeting participants were asked the following questions about the IPC topics of interest to training participants: <ul style="list-style-type: none"> ◦ Did anything surprise you regarding the suggested topics? ◦ Which topics can be included in future NNPHI's PFL trainings? • New action item: Staff member suggested to share with CDC about results so CDC can create future trainings • Staff member observed that findings show a need for community level work; suggestion to include community outreach focus in essential skills training (potential action item for NCCPHT) • General reminder: Year 2 PFL focus is on healthcare-affiliated public health practitioners and not on practitioners in community settings.
10:45–11:00 AM	Discussion: Survey Development & Implementation	<ul style="list-style-type: none"> • To start off discussion, meeting participants were asked the following questions about survey development and implementation: <ul style="list-style-type: none"> ◦ What information would be helpful to collect in future training engagements? ◦ What other takeaways did you get from these findings? • Summary of what was suggested and recommended: <ul style="list-style-type: none"> ◦ Open response for the "Other" option ◦ Indicate what hospital/staffing position ◦ Indicate what kind of public health professional they are ◦ Indicate what health department type: state or local or tribal • One staff member suggested including a measure on intention to use what they learned right away • Another staff suggested to include assessment of prior knowledge or education on topic using self-report measure

Appendix C

PFL Social Media Reporting

From June to December 2021, NNPHI posted an average of 15 Twitter posts monthly. The amount of Twitter posts ranged from 9-22. In total, 108 tweets were posted. NNPHI's PFL related tweets from June 2021–December 2021 received 141 likes, 50 retweets, and 22,350 impressions in total. October received the highest amount of likes and retweets out of all of the months.


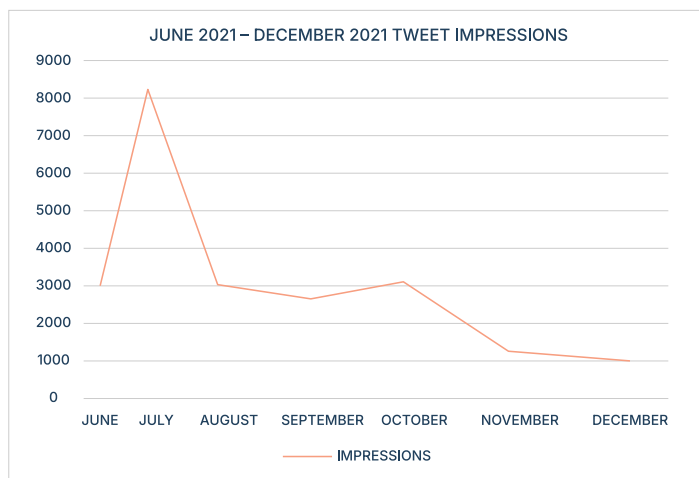
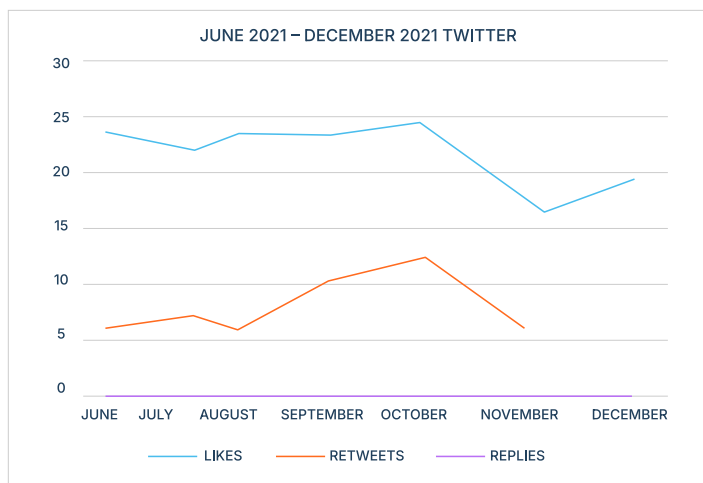
	Shares	Likes	Retweets	Replies	Impressions
June	15	23	6	0	3069
July	16	22	7	0	8154
Aug	15	23	6	0	3069
Sept	19	23	10	0	2585
Oct	22	24	12	0	3101
Nov	12	16	6	0	1331
Dec	9	10	3	0	1041

Exhibit 1. Twitter



From June–December 2021, NNPHI posted an average of 6 LinkedIn posts monthly. The amount of LinkedIn posts ranged from 4-8. In total, 44 posts were shared on LinkedIn. NNPHI’s PFL related LinkedIn posts received 34 likes and a reach of 5179 in total.


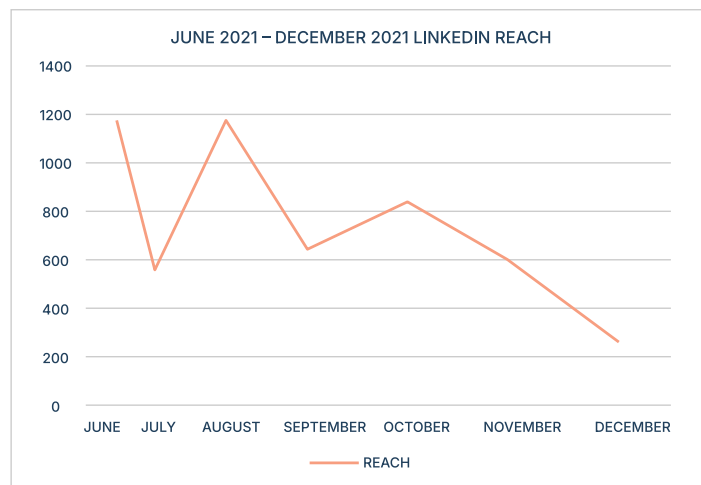
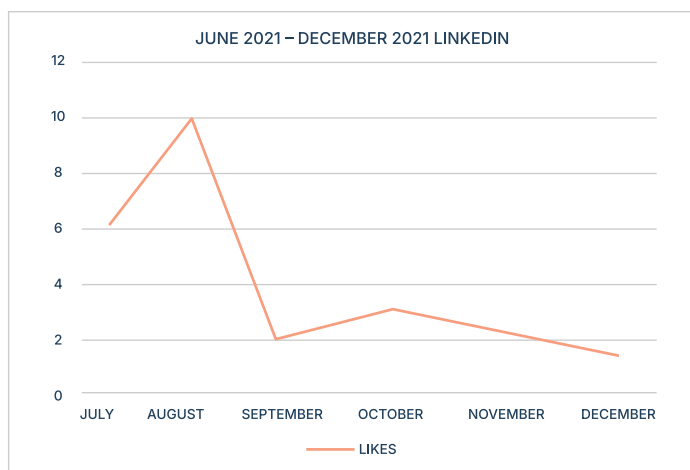
	Shares	Likes	Reach
June	8	10	1164
July	4	6	542
Aug	8	10	1164
Sept	6	2	633
Oct	8	3	852
Nov	6	2	594
Dec	4	1	257

Exhibit 2. LinkedIn



The PFL project team hosted a COVID-19 Learning and Action Collaborative where members best practices, developing practices, successes, and other information to improve the COVID-19 response. In October 2021, there were a total of 922 members, 28 new members added and 3 discussion posts which were viewed by 9 members. In November 2021, there were a total of 960 members, 7 new member, and 4 discussion posts which were viewed by 16 members. In December 2021, there were a total of 923 members, 1 new member, 2 discussion posts which were viewed by 5 members.