ALIGNING ACTION FOR HEALTH®

Research Ready

Engaging the clinical workforce as champions of patient-centered outcomes research

Table of Contents

Organizations 3
Introduction 4
Training Development 5
Implementation 6
Evaluation 8
Recommendations 15
Research Ready Resources 16
Acknlowledgements 17
References 18

Organizations

Louisiana Public Health Institute (LPHI) designed and implemented this project with funding from a Patient Centered Outcomes Research Institute (PCORI) Eugene Washington Engagement Award.

LPHI

LPHI, founded in 1997, is a statewide community-focused 501(c)(3) nonprofit and public health institute committed to ensuring all Louisianans have just and fair opportunities to be healthy and well. Our work focuses on areas that touch public health, including tobacco prevention and control, building healthier communities, assessing needs of communities, supporting the whole health needs of individuals and families from early childhood to older adults, COVID-19, and more. We create authentic partnerships with both communities and partners to align action for health. For more information, visit www.lphi.org.

REACHnet

Research Action for Health Network (REACHnet) is a partnership of health systems, academic centers, and public health organizations that constitute an innovative data network for conducting efficient, multi-site research. REACHnet is one of nine clinical research networks (CRNs) nationwide in PCORnet®, The National Patient-Centered Clinical Research Network, funded by the Patient-Centered Outcomes Research Institute (PCORI). Our mission is to enable the conduct of multi-site research with enhanced efficiency in real-world healthcare delivery systems. REACHnet includes electronic health record data for over 8 million patients from multiple partner health systems in Louisiana, Texas, and California. With national and local collaborators, REACHnet implements research that addresses healthcare questions of critical importance to patients and clinicians and contributes to the evidence base that will inform more effective healthcare decision-making and improve population health.

PCORI

The Patient-Centered Outcomes Research Institute (PCORI) was authorized by Congress in 2010 as a nonprofit, nongovernmental organization. PCORI's purpose, as defined by our authorizing legislation, is to help patients, caregivers, clinicians, policy makers, and other healthcare system stakeholders make better-informed health decisions by "advancing the quality and relevance of evidence about how to prevent, diagnose, treat, monitor, and manage diseases, disorders, and other health conditions" and by promoting the dissemination and uptake of this evidence. PCORI is committed to transparency and a rigorous stakeholder-driven process that emphasizes patient engagement. PCORI uses a variety of forums and public comment periods to obtain public input to enhance its work. PCORI helps people make informed healthcare decisions and improves healthcare delivery and outcomes by producing and promoting high-integrity, evidence-based information that comes from research guided by patients and other stakeholders.

Introduction

Pragmatic research is designed to test interventions in everyday clinical settings to maximize applicability and generalizability and see if an intervention works well in real life. Key benefits of using a pragmatic research approach include:

1. It is easier for patients to participate in pragmatic studies because they take place where patients already get their healthcare, so separate visits to a research center are not necessary.
2. Pragmatic studies can help researchers include a more diverse group of participants.
3. Clinics themselves may benefit from participating in pragmatic studies. Doing studies can provide resources such as funding or equipment to the sites where the research takes place.

Clinic support staff, such as medical assistants and nurses, are essential partners in pragmatic research because they have frequent interaction with patients which allows them to connect with and build trust and comfort. We sought to engage clinic staff as a unique stakeholder group to build their capacity to inform and improve pragmatic research approaches, effectively communicate with patients about research, and understand the value of research for patients and health systems.

Through previous experiences implementing pragmatic patient-centered outcomes research studies, the Louisiana Public Health Institute (LPHI) identified lack of engagement of clinic staff and their limited knowledge of research fundamentals as key barriers to the successful implementation of studies that take place in outpatient healthcare settings. However, after thoroughly searching NCBI, PubMed, SpringerLink, Bio Med Central, and other scholarly databases using keywords such as “pragmatic research training,” “clinic support staff training,” “research roles in clinics,” and “role of clinic support staff in research,” it became evident that clinic support staff have not been the target of interventions for improved research implementation within healthcare settings.

With a previous Eugene Washington Engagement Award from the Patient Centered Outcomes Research Institute (PCORI), LPHI developed and piloted *Research Ready*, a training for clinical staff that introduced and applied basic research concepts. We received a subsequent Engagement Award to scale-up implementation of *Research Ready* and disseminate our findings. Based on the results of the pilot and scaled-up implementation as well as feedback from the advisory board members and colleagues, *Research Ready* effectively fills a resource gap in staff training that is recognized by healthcare and research stakeholders conducting pragmatic research. *Research Ready* effectively prepares a broad base of clinic staff to facilitate pragmatic research and communicate confidently and effectively about research to build patient trust in research by formally training them on its foundations. Training points include:

- Importance of research to patient care and clinic operations.
- Explanatory vs. pragmatic research designs.
- Examples of pragmatic research studies.

- Research ethics and human subjects protection.
- Patient-centeredness.

This paper will discuss how and why the *Research Ready* training was developed as well as the details of its implementation, including characteristics of the training participants, the settings in which it was implemented, and the different formats of the training that were offered and completed. It will also discuss the methods of recruitment at the site level and the frameworks that were used to evaluate the training. Lastly, this paper will provide recommendations for those interested in implementing the training as well as how to access *Research Ready* materials such as training contents and an implementation guide.

Training Development

Development of the *Research Ready* training began in April 2017 with the awarding of the Eugene Washington PCORI Engagement award. Clinical staff who understand the basic principles of research are equipped to be effective partners in pragmatic research. However, few research trainings were available for clinical support staff. The Louisiana Public Health Institute (LPHI) created *Research Ready: a workbook for clinical staff implementing research* to address this gap.

Development of the training was informed by key informant interviews. The project team conducted two tiers of semi-structured interviews to gather experiences with and perceptions of research. The first tier targeted clinic support staff (nurses, medical assistants, etc.) and the second tier included members of the research team (clinical research coordinators, research managers, principal investigators, etc.). Questions explored in these interviews included: What do clinic staff need to know to be effective partners in research? What areas of research are clinic staff least prepared to participate in? How do clinic staff manage research activities and delivery of clinical care? What is the best way to train clinic staff? What is needed to generate buy-in from clinic staff to participate in research?

Research Ready also relied on the expertise and experience of both clinic and research representatives for the project advisory group. This group was developed to review the results of the interviews, inform the direction of development of deliverables, and give guidance and feedback on key aspects of the project. It was in this group that the idea of a workbook was developed, content identified and prioritized, and drafts reviewed. Members of this group, along with additional stakeholders, formed two stakeholder workgroups to focus on various aspects of the deliverables: one workgroup focused on the workbook, the other focused on the researcher guide.

The initial project primarily focused on the creation of the training, with piloting and some dissemination occurring during the final months. Now that this resource exists, a national dissemination and implementation effort was required to build a trained clinical workforce ready to engage with pragmatic research.

To elevate Research Ready to an evidence-based training and aid in adoption of use, a robust evaluation of the training was necessary. Additionally, the barriers and facilitators to implementing this clinic-based training needed to be understood in order for clinic and research stakeholders to effectively deploy it.

The project team used the Research Ready materials developed in the previous Engagement Award project to train clinic staff. LPHI used the second grant to assess barriers and facilitators to implementing the training in various settings and evaluate the participants' experience with Research Ready. Project activities included:

- The provision of trainings via self-guided e-learning and facilitated virtual training to 12 clinic sites around the United States.
- The development, administration, and collection of feedback surveys completed by 101 training participants.
- The engagement of clinic contacts to identify factors affecting implementation.
- The convening of an advisory board consisting of patient partners, clinic staff and administration, and research professionals to provide guidance on key decisions and activities.
- The summarization of best practices for training implementation based on the evaluation results and the creation of a *Research Ready* implementation guide.

Implementation

Participants

A total of 101 participants were trained and completed the evaluation survey. The majority (61%) were either medical assistants or nurses. The rest of the participants (39%) had other roles at the clinic such as clinic manager, front desk, provider, and coordinator.

Table 1: Number of participants by clinic role

Participant Role	Number
Medical Assistant or Nurse	62
Other	39
Total	101

Training participants came from a total of 12 sites: seven primary care sites and five specialty clinics. Six sites were affiliated with academic institutions; four were Federally Qualified Health Centers; two were part of private healthcare organizations.

The training was delivered in one of two formats: e-learning or virtual facilitated session. Each site was allowed to select their preferred training method. A self-study workbook version of Research Ready was also developed for the original pilot of the training. No sites in this project selected the workbook-only version of the training, but some did receive the workbook to supplement the facilitated session. The e-learning was delivered at eight sites to a total of 52 participants. The virtual facilitated session was delivered at four sites to a total of 49 participants.

Table 2: Number of sites and participants by format

Format	Number of Sites	Number of Participants
E-learning	8	52
Virtual facilitated session	4	49
Total	12	101

Recruitment

Recruitment occurred at the site level via outreach to clinic leadership, managers, and research staff. Our first wave of outreach was to contacts we made through our dissemination activities following the initial development of the training. These contacts had previously expressed an interest in implementing the training at their institutions.

LPHI is the coordinating center for the Research Action for Health Network (REACHnet), which is a clinical research network in PCORnet, The National Patient-Centered Clinical Research Network. We collaborated with two of our peer networks within PCORnet (OneFlorida and Accelerating Data Value Across a National Community Health Center [ADVANCE]) to connect with their partners who are active in pragmatic health research. Finally, we asked the members of our stakeholder advisory board to connect us with clinics they thought might be interested in the training.

COVID-19 pandemic effects

Trainings were implemented from December 2020 – June 2021. This period coincided with the COVID-19 pandemic, which presented specific challenges to the project. The two main challenges we experienced related to the pandemic were clinic staff time and restrictions on travel and gathering.

Healthcare settings across the country and world had to quickly make significant operational changes to respond to the pandemic. Clinics stood up or greatly expanded telehealth programs at the beginning of the pandemic when many states and cities were under stay-at-home orders. Primary care providers pivoted several times during this period to provide testing and then vaccination services. All clinics remained nimble during this period as they responded to local surges of COVID-19 cases and viral variants. Implementing and optimizing pandemic-related changes was a priority that left clinic staff little time for other projects. Because of this, some sites that expressed interest in implementing Research Ready were unable to do so during the project period or requested to delay implementation for a period of weeks or months.

In the original pilot of Research Ready, facilitated sessions were provided in-person. Because this project was implemented during the COVID-19 pandemic, in-person sessions were not possible due to restrictions on travel and gathering. Instead, a virtual training was developed and delivered for sites who desired a live, facilitated session. No pandemic-related modifications were needed for implementation of the e-learning because it was web-based and available on any device capable of accessing the Internet.

Planning call

Prior to implementation of the training, the Research Ready team held a planning call with our main contact at the participating clinic. This call was guided by a standard set of questions to help the team ascertain key characteristics of the clinic, discuss and plan training logistics, and identify potential barriers to implementation. During this call, the team worked with the clinic contact person to select the format that best meet the needs and preferences of their staff.

Delivery

The Research Ready training was delivered to clinics as either an e-learning or a virtual facilitated session. None of the clinics that participated in this project chose to implement the self-guided workbook format of the training. However, some of the clinics that participated in the virtual facilitated session received the workbook as a supplement to the live training.

The virtual facilitated session took place using virtual meeting technology (Microsoft Teams or Zoom). Research Ready team members co-facilitated the training from their respective home offices, as LPHI had a 100% remote work policy during the entire implementation period of this project (December 2020 – June 2021). Participants attended the training from their personal computers or in groups in a shared office or conference room space, depending on what was available and convenient to them. Participants and facilitators interacted via video conference and using the chat feature of the virtual meeting platform. This included facilitation of the interactive exercises that were built into the original in-person training as well as the e-learning. The training session took approximately 90 minutes to complete. At the end of the training, participants were given the link to the evaluation survey via URL and QR code. The survey itself was hosted by LPHI on the REDCap platform.

The e-learning module was hosted on LPHI's website and was accessible to anyone who had the URL link. When implementing the training, the Research Ready team sent this link via e-mail to our key contact at the clinic who then shared it with their staff. Most clinics gave their staff two weeks to complete the e-learning as their schedule allowed. This deadline was extended as needed, by no longer than one week. The last page of the e-learning included a link to the same evaluation survey that the virtual session participants were asked to complete.

Incentives

Training participants who completed the evaluation survey received a $25 electronic gift card. In addition, clinic sites that implemented the training were paid a $500 honorarium upon completion of the planning call, the training, and two key informant interviews with the main clinic contact.

Evaluation

LPHI used two frameworks to guide our evaluation of the *Research Ready* training and its implementation: EPIS and RE-AIM. Findings are organized below using the domains from both frameworks: Exploration, Preparation, Implementation and Sustainment from EPIS and Reach, Effectiveness, Adoption, Implementation, and Maintenance from RE-AIM. Data sources used for the evaluation included responses to the survey completed by training participants, key informant interviews with the main contact at each clinic, and notes from planning calls.

Exploration

During the Exploration Phase of the EPIS framework, potential implementers consider what evidence-based practices might address or solve a clinical or health service problem while also considering opportunities or challenges in the outer and inner contextual factors that can support or hinder exploration (Exploration, 2021). For this project, clinic sites did not take the standard approach to exploration which usually includes identifying a problem and searching for possible solutions to implement. Instead, LPHI approached the clinics directly or indirection with the opportunity to implement *Research Ready* specifically. Data derived from key informant interviews revealed that the implementation contacts for most sites had a management role at the clinic. These implementation contacts were also the ones who decided which staff would participate in the training. Interview data also revealed the reasoning behind the implementers' adoption of the *Research Ready* training. The most stated reason for adopting the *Research Ready* training was to educate staff. Specifically, to educate staff on the importance of research, staff's role in research, and providing information to patients.

The EPIS Exploration Phase includes an Inner Context, which examines organizational characteristics. Key informants were asked about their clinics' involvement in research, and we found that many participating clinics had current research studies ongoing and were actively involved in research. Most of the clinics that were not actively involved in research at the time of this project had conducted research in the past or planned to conduct research in the future. A common challenge that most clinics faced was finding the time to implement the training.

Preparation

During the Preparation Phase described by the EPIS framework, implementers plan for integrating the evidence-based practice into the existing system, including a realistic and comprehensive assessment of implementation challenges (Preparation, 2021). Key informants were asked about how the staff in each clinic were notified of the training, things that encouraged staff participation in the training, training accommodations, and how staff were selected to participate in the training. Staff were primarily notified of the training via an in-person huddle or via email. The implementers also made the resources available to all staff participating in the training.

The implementation contacts played a major role in encouraging the staff to participate. Key informant interviews revealed that this was done by making the training a priority and explaining to the staff how the training would improve their patient's outcomes, create more opportunities for research at the clinic, and provide them with professional development. LPHI also provided an incentive to participate in the training by offering each participant a gift card upon completion of the training, which many key informants stated was the "decision maker" for most staff. The ways in which staff were chosen to participate in the training varied by each clinic. Some implementers felt that all staff should participate in the training to have the same baseline knowledge, while others felt that staff who would have the most opportunity to be involved with research or those who interacted most with patients should participate in the training. The staff most frequently mentioned as invited to participate were medical assistants, followed by nurses and front desk staff.

Reach and Adoption

In the RE-AIM framework, Reach is defined as the absolute number, proportion, and representativeness of individuals who are willing to participate in a given initiative, or program, and reasons why or why not (National RE-AIM Workgroup, 2021).The target setting for implementation of the *Research Ready* training was outpatient healthcare practices that are currently or are planning to host PCOR studies. *Research Ready* training was implemented in twelve clinic sites. The types of clinics that implemented the training included Federally Qualified Health Centers and academic centers. They provide diverse types of services including primary care, hematology and oncology, chiropractic, and HIV care.

The target population for *Research Ready* training was clinic support staff, such as medical assistants and nurses. A total of 101 staff members participated in the training and the roles of these participants included front desk/registration, medical assistant, nurse, provider, mental/behavioral health, clinic manager/administrator, care coordinator, referral coordinator, community health associate, medical student, and RN. 61% of participants were medical assistants or nurses. In our follow up interviews with key informants, medical assistants, front desk staff and nurses were the ones most frequently mentioned as finding the training most useful.

In the RE-AIM framework, Adoption is defined as the absolute number, proportion, and representativeness of settings and intervention agents (people who deliver the program) who are willing to initiate a program, and why (National RE-AIM Workgroup, 2021). Key informants were asked about the adoption by target staff, settings, or institutions. Initial and follow-up interviews were performed with key informants, or the key clinic contact person who helped with the logistics and planning of the training in the clinic. The roles of the key clinic contact persons varied and included roles such as nurse coordinator, clinical supervisor, healthcare analyst, nurse educator, peer support specialist, and lead medical assistant. The key informant interviews revealed the role that the contact persons played in the adoption of the training. Many of them presented the training opportunity to clinic managers and administration for approval and once approved they asked staff members if they were interested and willing to participate. They also had to set aside time for the training and determine which staff would participate in the training.

Key informant interviews also revealed who the clinic champion for research would be at their clinics. The clinic champion would be the liaison between study team and clinic staff who helps develop research workflows and helps reinforce information to coworkers. Respondents most frequently named someone in an operational leadership role such as a clinic manager or lead medical assistant. Respondents from larger institution with more clinical research infrastructure named research staff members such as research nurses or research managers. A few sites had medical directors that were interested and active in research who would be the clinic champion for research.

Implementation

The RE-AIM framework names consistency, costs, and adaptions made during delivery as key elements to its implementation domain (National RE-AIM Workgroup, 2021). Training consistency was achieved through LPHI delivering the training to all participant sites. LPHI staff facilitated the virtual sessions and participants who used the e-learning, did so by accessing the module on LPHI's website. The information and interactive exercises included in the training were identical in both training formats. In terms of cost, participating clinics did not have to pay to receive the training. However, some clinics elected to block staff schedules to allow for all staff to participate which did incur an opportunity cost for potential lost revenue from billable services. Other sites elected to use existing meeting time to avoid that cost. Sites that chose the e-learning instructed staff to complete it as their schedules and workloads permitted, so opportunity costs were not a factor.

A major adaptation was made to the training early in the project period due to the COVID-19 pandemic. LPHI adapted the in-person training for virtual format to allow for a live training that did not require travel or in-person gathering. The team made a slide deck based off the *Research Ready* workbook and delivered the training via the clinic's preferred virtual meeting platform (Zoom, Microsoft Teams). The interactive nature of the in-person training was maintained by using video conference and chat features to facilitate discussion and activities.

The EPIS framework offers the following organizational characteristics related to the implementation phase: structure, priorities/goals, readiness for change, receptive context, and culture/climate (Implementation, 2021). The structure of the clinics that implemented the training was such that our main clinic contacts (key informants) had the authority, support, and resources they needed to implement the training. These contacts had a management role in the clinic such as clinic manager and were able to make and execute key decisions related to training implementation.

The *Research Ready* training aligned with the priorities of the clinics. Qualitative data showed that participant clinics believed it would benefit their organizations to have staff that are trained on clinical research to better position them for future opportunities to bring studies to their clinics. Clinics that implemented the training received an honorarium for doing so, and individual participants who completed the participant survey received a gift card. These incentives were mentioned in the qualitative data as establishing a receptive context for the training by creating engagement from clinic leadership and staff members, respectively. Additionally, there were some mentions in the qualitative data of leaders being supportive for implementation of *Research Ready* because they saw the need for training staff on clinical research.

After the training, key informants stated that *Research Ready* training was informative and the types of staff members that benefited most from it were medical assistants and nurses. Informants felt that the training was valuable even for staff who had research experience because it served as a refresher on key concepts.

Participant survey results showed that both formats of the training (e-learning and virtual session) were received similarly in terms of understandability, knowledge gain, and a likeability. The relation between formats and participants' understanding of the training was not significant. Almost all participants, regardless of format, found the training to be very or somewhat easy to understand. Chi-square and p-value could not be calculated due to unanimous understandability of the e-learning. Similarly, the relationship between format and knowledge gain was not significant (χ^2 =1.0961, p=0.295126). Regardless of training format, most participants gained a lot or some knowledge about research. Finally, the relationship between format and likeability was also found to be not significant (χ^2=1.0961, p=0.295126). Most participants liked the format of the training they received, regardless of which format that was.

Table 3: Participant survey responses compared by training format*.

Participant survey question	**E- learning**	**Virtual**
How well did you understand the information that was covered in the training?		
Very easy or somewhat easy to understand	51	49
Somewhat hard or very hard to understand	0	1
How much did this training increase your knowledge of research overall?		
A lot or some	41	44
A little or not at all	10	6
	p=0.295126	
What is your opinion of the format of the training you received?		
Liked very much or liked somewhat	41	44
Neither liked nor disliked, disliked somewhat, or disliked very much	10	6
	p=0.295126	

*Please note that it is by coincidence (not calculation or transcription error) that the data for knowledge increase and format opinion are identical.

Qualitative data revealed some differences between formats with respect to implementation considerations. Informants that chose the virtual session talked about the need to set aside time in the clinic schedule to accommodate the training. Most sites chose to have the training during the time of an existing staff meeting, but some needed to block additional time in the clinic schedule to allow for the 90-minute session. Some virtual session participants experienced challenges using the virtual meeting technology to interact with the facilitators and the rest of the group during the training. By contrast, informants from sites that implemented the e-learning said that staff found the interface to be easy to use. However, key informants that implemented the e-learning said they needed to send multiple reminders to staff to ensure that they completed the module. Some informants even added additional incentives or elements of competition to encourage their staff to complete the e-learning.

Effectiveness

Effectiveness/ efficacy in the RE-AIM framework is "the impact of an intervention on important individual outcomes" (National RE-AIM Workgroup, 2021). Participants were asked to evaluate

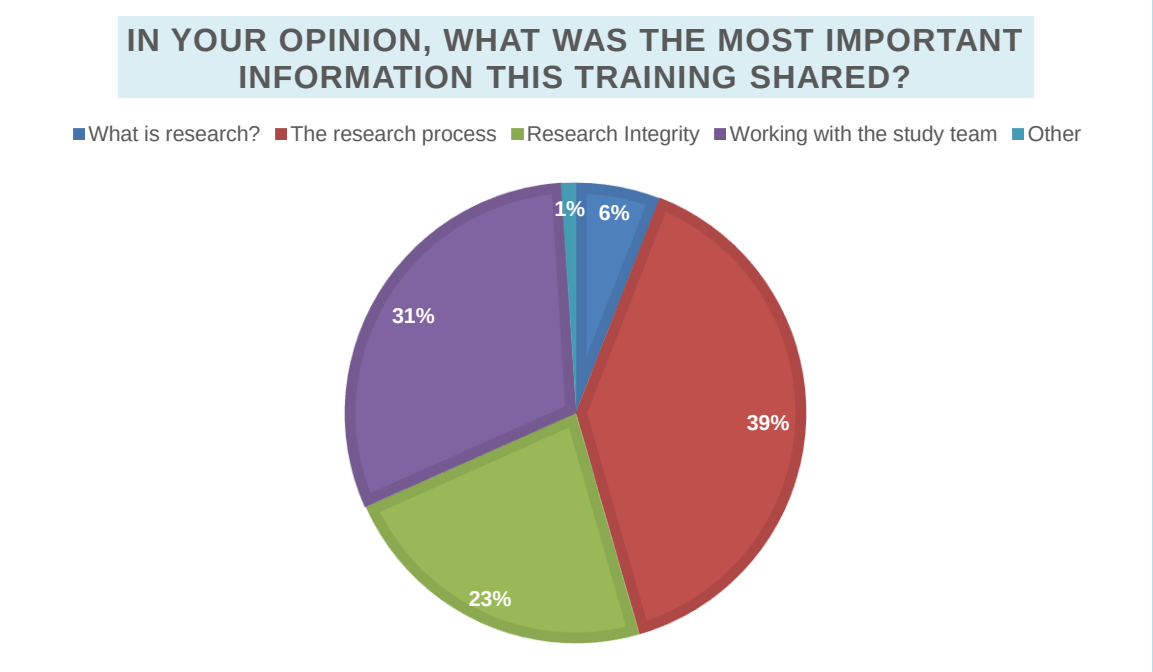
Research Ready on a variety of domains including applicability to their work, understandability, effect on patient communication, and overall knowledge gain. We collected responses from 101 individuals.

95% of participants found the training somewhat or very easy to understand. A majority of participants reported they learned a lot or gained some knowledge on each of the main topic areas covered in the training: “What is esearch?”, “The research process”, “Research integrity”, and “Working with the study team”. “The research process” was most frequently identified as the most important topic included in the training, with 39% of participants selecting it from a list of the major topics covered in the training. “Working with the study team” was the next ksdfjlksdjf with 31% of

Table 4: Participant survey responses by understandability

Participant survey question	**# of participants (%)**
How well did you understand the information that was covered in the training?	
It was very easy or somewhat easy to understand.	96 (95%)
It was somewhat hard or very hard to understand	5 (5%)
Total:	101 (100%)

Figure 1: Participant survey responses by most important information shared



84% of participants reported their overall knowledge of research increased by some or a lot from the training. 71% of participants said the training helped a lot or extremely with their comfort levels of talking to patients about research. Lastly, 87% of participants rated the training as somewhat helpful to extremely helpful in making them feel ready to work with a study team.

Data from the participant survey was analyzed to see if training format, participants' job roles, or participants' research experience were related to their responses about how applicable the training was to their work ("applicability") or how the training impacted their comfort talking to patients about research ("comfort"). There was no significant relationship between participant roles and applicability (χ^2= 0.3948, p=0.52979) or comfort (χ^2=0.6862, p=0.407447). Data are reported in Table 5. This result indicated that regardless of their job role, most participants found the training applicable to their work and increased their comfort when talking to patients about research. There was a significant relationship between participants' research experience and applicability (χ^2=4.0515, p=0.044133). Participants with previous research experience were more likely to find the training applicable to their work than participants with no research experience. However, a large majority of both groups said that they would be likely or very likely to use what they learned.

Table 5: Participant survey responses by roles

Participant survey question	**MAs & Nurses**	**Other Roles**
If you are currently participating in a research study or if you will do so in the future, how likely are you to use the information you learned during this training?		
Very likely or likely	48	23
Unsure, unlikely, or very unlikely	7	5
	p=0.52979	
How much did this training help you to feel comfortable talking to your patients about research?		
Somewhat helpful, helped a lot, or extremely helpful	53	26
Not at all or a little bit helpful	8	2
	p=0.407447	

Table 6: Participant survey responses by research experience.

Participant survey question	**Research experience**	**No research experience**
If you are currently participating in a research study or if you will do so in the future, how likely are you to use the information you learned during this training?		
Very likely or likely	41	36
Unsure, unlikely, or very unlikely	3	10
	p=0.044133	

Sustainment and Maintenance

In the RE-AIM framework, maintenance is the extent to which a program or policy becomes institutionalized or part of the routine organizational practices and policies (National RE-AIM Workgroup, 2021). This also applies to the individual level as well. According to key informant interviews with clinic point of contacts, the *Research Ready* training works best before the start of a new study. Survey data show that over 75% of participants said they would be likely or very likely to use the information from the training in an upcoming or current study. Interviews also

revealed that the training could be repeated for new hires during orientation. The informants also suggested that the trainings could be repeated periodically as a refresher for current staff.

According to the EPIS framework, "in the sustainment stage**,** the outer and inner context structures, processes, and supports are ongoing so that the innovation/training continues to be delivered, with or without some adaptation, to realize the resulting public health impact of the implemented innovation." To ensure the training's sustainment and ongoing access to the resources, the *Research Ready* training workbook and e-learning platform are available free of charge on LPHI's website for institutions and individuals alike.

Questions around clinic-level (Inner Context) factors related to sustainment were also asked during key informant interviews. Some clinics have physical copies of the *Research Ready* workbook available to staff. Another clinic system will be incorporating the e-learning module into their learning management system for future staff trainings. Key informant interviews also asked who the person would be to lead future trainings and be a clinic champaign. These staff members tended to be someone in an operational leadership role or a research staff person such a lead medical assistant or research nurse. Lastly, participants of the training were asked in the survey if they would recommend the training to a co-worker. An overwhelming 95% of participants replied that they would recommend the training to a co-worker.

Recommendations

LPHI created an implementation guide for the *Research Ready* staff training that is based on the findings and lessons learned during this project. This guide is a separate document that will be published on LPHI's website. The following list summarizes the key recommendations:

- Offer incentives (such as gift cards or meals) to participants to help establish their buy-in for the training.
- Be mindful of the time and schedule constraints of the clinic. Work with clinic management to select the most appropriate training format and identify the best time to implement the training.
- The best time to implement the *Research Ready* staff training is just before a study begins at that site. This will allow participants to apply the information they learned in a timely manner.
- If a clinic is particularly active in research, consider providing periodic refresher trainings to staff and including *Research Ready* as part of new staff orientation.
- Make the *Research Ready* workbooks (pdf available on LPHI's website) available to all participants as a supplement to the training regardless of format chosen. Workbooks provide a written resource for participants to reference after completion of the training.

Research Ready Resources

The following *Research Ready* resources are available for use and/or download on LPHI's website. Direct links to each resource are provided after its description. Resources may also be accessed by navigating to the *Research Ready* Training Resources page: https://lphi.org/research-ready-training-resources/

Workbook

The workbook covers basic research principles as well as tips and strategies for staff members who will be supporting research studies at their workplaces. The workbook is designed to be used for self-guided study or as a compliment to facilitator-lead instruction.
Research Ready: A workbook for Clinic staff implementing research

E-learning

The content from the workbook (including the interactive exercises) is available as an e-learning module which is also intended to be used for self-study.
Research Ready: A training for clinic staff implementing research [e-learning]

Implementation guide

The implementation guide provides guidance and best practices for anyone who wants to implement the Research Ready training with a group of clinic staff. Format selection, implementation steps, and other tips are included.
Research Ready Implementation Guide

Guide for researchers

The researcher guide shares best practices for engaging clinic staff throughout the research process in order to achieve successful implementation of studies in clinical care settings. The guide is presented in an issue brief format and includes a list of key recommendations as well as sample agendas for recommended meetings with clinical staff.
Research Ready: Guide for engaging clinical staff in research

Acknlowledgements

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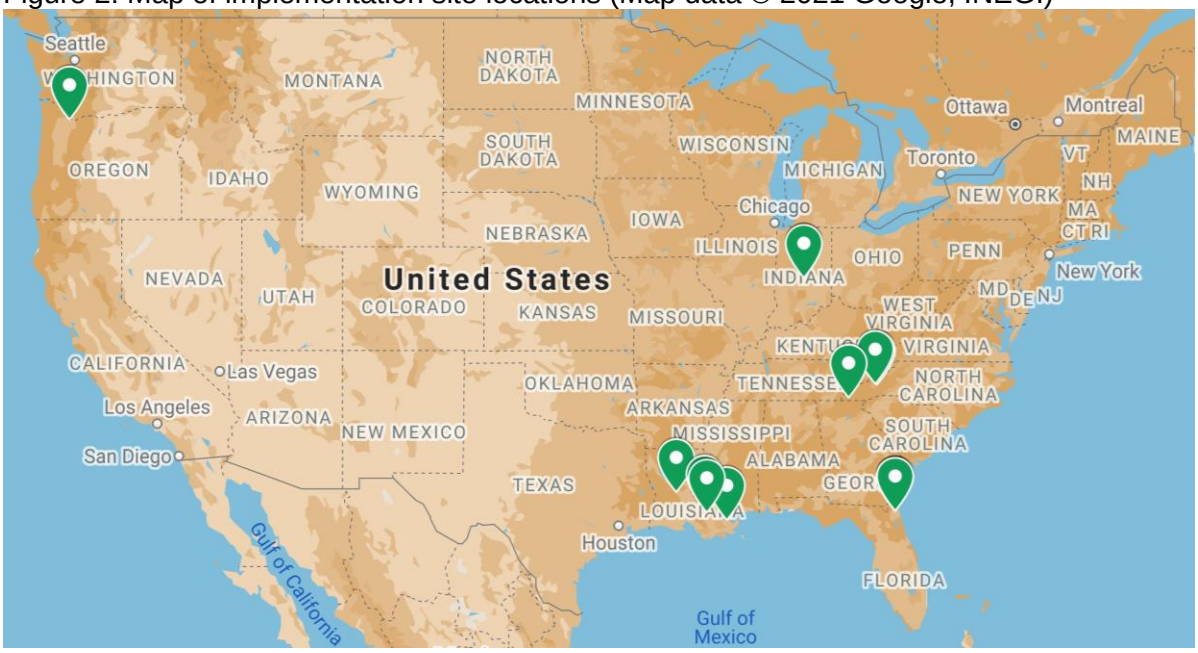
Implementation Sites

Access Health – St. Bernard Community Health Center
Access Health – Woodworth Community Health Center
AIDS Healthcare Foundation – Baton Rouge Healthcare Center
Appalachian Mountain Community Health Centers – Dale Fell Health Center
Appalachian Mountain Community Health Centers – Leicester Community Health Center
Appalachian Mountain Community Health Centers – Peachtree Community Health Center
Baton Rouge General Hospital
University of Florida Health - Shands Medical Center
University of Florida Health - Total Care Clinic
University of Florida Health – EG Means Medical Center
University of Western States
Riley Children's Hospital – Hematology Oncology Clinic
Riley Children's Hospital - Cleft & Craniofacial Anomalies Program

Figure 2: Map of implementation site locations (Map data © 2021 Google, INEGI)



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