

# RADx-UP Program Evaluation

Rapid Acceleration of Diagnostics in Underserved Populations:  
Qualitative Evaluation Report

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Authors:

Shelly Maras, PhD

Kelley Milligan, MPH

Allyson Kelley, DrPh



# OVERVIEW AND INTRODUCTION

## Executive Summary

The National Institutes of Health (NIH) supports the Rapid Acceleration of Diagnostics-Underserved Populations (RADx-UP) Program to address COVID-19 testing disparities and inequities. RADx-UP projects use community-based participatory research (CBPR) and/or community engagement principles to increase COVID-19 testing and pandemic preparedness among underserved populations. The Tracking & Evaluation Team (T&E) at the University of North Carolina at Chapel Hill (UNC) oversees the evaluation of RADx-UP program's outcomes and impacts. As part of a larger, mixed-methods evaluation, UNC, working with Allyson Kelley and Associates (AKA), developed a qualitative evaluation plan (QEP) for RADx-UP. In this report, we highlight the findings from our qualitative evaluation of projects' impacts and outcomes. We also detail two case studies whereby projects exhibit profound attention to diversity, equity, and inclusion in the communities studied.

## Qualitative Evaluation Plan Objectives and Research Questions

The RADx-UP QEP addresses the following evaluation objectives and their respective research questions with a sample of RADx-UP projects:

### 1. COVID-19 Testing Determinants, Outcomes, Impacts, and Learning

To what extent have a sample of RADx-UP projects achieved their aims, goals, outcomes, and sustained impacts?

### 2. Community Engagement and Community-Academic Partnerships

What was the extent of projects' community engagement activities and community-academic partnerships in RADx-UP?

How did these activities and partnerships influence projects' ability to achieve outcomes and sustained impacts?

### 3. Community Health and Equity

What general conclusions can be drawn about improving community health, through increased access to COVID-19 testing, and health equity through a RADx-UP Coordination and Data Collection Center (CDCC) program approach?

## Guiding Frameworks

UNC T&E and AKA used two models to inform our evaluation: 1) the Translational Science Benefit Model (TSBM); and 2) the Reach Effectiveness Adoption Implementation Maintenance (RE-AIM) model. The TSBM identifies four areas where clinical and public health science can provide social and health benefits: 1) clinical and medical benefits; 2) community and public health benefits; 3) economic benefits; and 4) policy and legislative benefits (Luke et al., 2018). Employing this framework, we designed our qualitative evaluation to assess RADx-UP projects'

accomplishments across these four indicators. Specifically, we created interview questions to assess the impact of projects' scientific activities (Luke et al., 2018), such as their clinical accomplishments, community benefits, and policy implications (we assess economic benefits in our evaluation survey that is administered to projects). Additionally, RE-AIM stands for reach, effectiveness, adoption, implementation, and maintenance (Odeny, 2021). The qualitative team utilized the RE-AIM principles to guide the development of our research and interview questions to investigate projects' perceptions of their reach, effectiveness, adoption, implementation, and maintenance. Both frameworks ultimately assess the outcomes of studies and allow evaluators to investigate how public health research is working to advance health equity in underserved communities.

## Methods

To answer our research questions, UNC T&E and AKA interviewed 13 academic and 11 community partners from 13 RADx-UP projects from funding Phases 1 and 2, for a total of 24 interviews. We aimed to interview all 13 community partners from the 13 projects but were unable to complete 2 of the interviews. Interviews took place from May 2022 to March 2023 and were conducted via Zoom.

A codebook was developed using a hybrid of deductive and inductive coding. The team deductively created codes based on QEP objectives, TSBM, and RE-AIM. The team inductively developed codes based on emerging codes and themes from the data. T&E and AKA coded transcribed interviews in NVivo version 13. AKA team members conducted initial coding, and a UNC T&E member conducted focused coding of interviews. After initial and focused coding, codes were advanced to analytic themes, which are presented throughout this report.

## RESULTS

The results from our qualitative evaluation are organized by TSBM indicators, RE-AIM indicators, and two case studies. Our results shed light on how RADx-UP projects contributed to health equity in underserved communities. Using TSBM, we underscore the clinical, community, and policy benefits of RADx-UP projects. Using RE-AIM, we highlight projects' successes, challenges, and lessons learned. Finally, we provide two case studies that showcase significant attention to both COVID-19 and other health disparities in underserved communities, and how these projects increased health equity.

The data presented throughout this report have been de-identified. Projects have been assigned an anonymized study ID number, and we specify whether a quote is from an academic or a community partner in citations.

## TSBM: CLINICAL, COMMUNITY, AND POLICY IMPACTS

Using the TSBM to understand project impacts, we find that projects had the largest impacts at the clinical, community, and policy levels. Although economic benefits are also part of TSBM, this was out of scope for our interviews, but we assess this benefit in our evaluation survey. Together, clinical, community, and policy benefits increased health equity in the communities targeted by our sample of RADx-UP projects. This section highlights the TSBM impacts we assessed:

### Clinical Impacts

#### *Providing Diagnostic Procedures*

RADx-UP projects improved health equity by increasing access to COVID-19 testing. More specifically, projects worked to provide accurate and reliable COVID-19 diagnostic procedures and surveillance strategies within health systems and communities. RADx-UP projects

implemented various diagnostic testing methods and collection strategies to meet the needs of their priority populations. For example, one project used saliva-based diagnostic tests to increase COVID-19 testing among children with development disabilities and their families. While another project implemented rapid antigen testing, despite being less accurate than Polymerase Chain Reaction (PCR) tests, to allow for timely testing and response to limit the spread of COVID-19 within migrant communities. RADx-up projects leveraged community partnerships to access testing supplies during shortages and worked with local laboratories to expediate testing results. Most significantly, projects increased access to COVID-19 testing in communities with significant access inequities through pop-up testing and onsite locations, such as in schools, churches, housing for migrant workers, and within community members' homes.



Increased health equity by increasing access to COVID-19 testing services for underserved communities through population-specific diagnostic methods and collection strategies.

*"We were able to **increase testing in communities** we serve in collaboration with [our community partner] and developed and provided COVID-19 informational resources to the community, **increased access to home testing**, and **increased access to timely testing** as well" (Project 5\_Academic Partner).*

## Community and Public Health Impacts

RADx-UP projects also improved community and public health interventions by 1) increasing community health services in underserved communities; 2) addressing quality of life through social determinants of health; and 3) promoting health education. Together, these helped to improve access to healthcare and educational resources, and other resources in the community, like food, water, and transportation. Overall, these activities promoted health equity.



Improved health equity by improving community health services and addressing social determinants of health.

### *Increased Community Health Services through Resources and Altered Services*

RADx-UP projects increased community health services in communities with limited access and/or uptake of services due to geography, mistrust, costs, or lack of insurance. Academic and community partners shared staff and resources to be able to provide COVID-19 diagnostic and preventive health services. More specifically, projects increased accessibility by providing transportation and providing services that were responsive to the community's needs (e.g., scheduling testing before and after work hours).

*"We made sure we were in sites that were easily accessible, and we provided testing at convenient times. Our model was to be consistent in location, timing, and availability for rapid testing for migrant farm workers to build trust. Testing took place in afternoons, evenings, and early mornings at locations that were close where agricultural workers worked and lived" (Project 2\_Academic Partner).*

### *Addressing Quality of Life through Social Determinants of Health*

Alongside addressing COVID-19 related outcomes, RADx-UP projects were responsive to community needs by addressing key social determinants of health (SDOH). For instance, projects connected community members to health insurance, provided transportation, provided basic needs like water and food, expanded digital literacy, and provided cellular connectivity.

*"[Our protocol included] asking them if they've had any social determinants of health issues, so whether it's been loss of income, not familiar with a resource, they're in need of a food pantry, or just any other resource in the community, and if they need help with them, it prompts them to select yes or no on if they want to be connected with a family navigator who then would help them meet their need" (Project 13\_Academic Partner).*

"I think we provided the **cellular connectivity**, but still, if somebody doesn't live in an area where they have good reception, or their building has really thick walls, there's all kinds of stuff that affects [connectivity]... we'll still to this day go out and try to help people find places in their apartments where they can get the best reception using **the tablets we give them**" (Project 4\_Academic Partner).

### Promoting Health Education

Projects promoted COVID-19 health education by developing culturally tailored materials with the guidance of community members or community advisory boards (CABs). Projects distributed educational materials through websites, print materials, radio broadcasts, and social media. Resources provided information on ways mitigate the spread of COVID-19, steps to complete diagnostic tests, and locations for testing services:

"Then, **resources to help educate folks about the testing process itself** because as part—there was always, "What happens?" in terms of the know. "What happens to the swab? How do I need to swab?" Just a lot of questions around testing, so we provided those resources" (Project 6\_Academic Partner).

Additionally, partners hosted education events at community locations (e.g., barber shops, schools, advisory committee meetings) that responded to misinformation or community beliefs that impacted testing uptake. Many of these opportunities provided community members direct access to a health care professional to be able to ask their questions directly:

"One of the things that we have them to help out with vaccine or testing hesitancy is so we've been invited to a **few events** now, in which we just **open up the floor for Q&A**, and that's been successful for us, because a lot of the times that we get general medical questions and we've also been able to **provide information just about vaccine, or testing**" (Project 13\_Academic Partner).

### Policy Impacts

Finally, we find projects also increased health equity by promoting mitigation policies, developing scientific reports to inform policy, and advocating for change within communities.



POLICY

Engaged community advisory boards and committees to increase health advocacy for the most underserved communities.

### Promoting COVID-19 Mitigation Policies and Procedures

RADx-UP projects engaged in policy and advocacy activities by using research findings to inform COVID-19 mitigation policies and procedures, including COVID-19 screening, testing standards, and enforcement of local COVID-19 response policies. While not an explicit goal of

many RADx-UP projects, they influenced local and internal organizational policies and procedures to mitigate COVID-19:

*"Our collaborative did support communication across the counties as it related to the design [and] enforcement of a **variety of COVID response policies at the local level**" (Project 8\_Academic Partner).*

*"This just helped us shape our internal—our COVID-19 **mitigation policies** and things like that and how we did our COVID screenings and different things in [our] office. It just helped us really shape what we had internally as an organization more so than any other policy" (Project 6\_Community Partner).*

### *Developing Scientific Reports to Inform Policy*

In collaboration, academic and community partners also used project data to publish scientific reports and research briefs for targeted audiences including policymakers, practitioners, public health researchers, and the public. Scientific reports shared early study findings and made actionable recommendations that could inform future policy.

*"We are creating **research briefs** that don't—they're not policy-specific, but they could be used for **policy activities, to inform policy**" (Project 7\_Academic Partner).*

### *Advocating for Change in Communities*

Significantly, nearly every project engaged CABs or committees to in which local leaders and community members participated to make recommendations and advocate for community priorities and needs. Together, academic and community partners used research data to advocate for changes within their communities.

*"All of the data, all of the resources we created, are accessible to our community partners, and I encouraged them, our leadership team encourages them, to use that information to make **policy changes** and **to advocate for their communities** because the strongest voice is theirs" (Project 10\_Academic Partner).*

*"One of the biggest things that we just try to do is, again, we let them know that we're **advocating for them** and that one of the biggest things that could come from here is knowing that the benefit of them participating also benefits the community. Then from their **potentially creating new policies, creating change within the policies, or just creating that pressure on the state to just bring change**" (Project 13\_Academic Partner).*

In all, we find that projects made significant impacts in communities through clinical, community, and policy outcomes.

## RE-AIM: SUCCESS, CHALLENGES, AND LESSONS LEARNED

As part of our evaluation, we assessed the five indicators of RE-AIM — reach, effectiveness, adoption, implementation, and maintenance. In this section, we highlight projects' successes, challenges, and key lessons learned for each indicator within RE-AIM.

### Reach

#### **Successes**

When it came to reaching priority populations, academic and community partners shared that face-to-face recruitment, representation of communities on research teams, and trust were successful for reaching underserved communities. Projects routinely cited two recruitment strategies that were successful for project implementation in underserved communities – face-to-face and social media outreach:

*"Our research associates and local PIs spent time going to food stands, and places in the community, and laundromats, and where the people are. Meeting them where they're at too, and have that face time, and to help the communities see, 'Here's what [our organization] is doing. Here's what this study is meant to be' (Project 1\_Academic Partner)."*

*"A lot of people use HD off-air TV and Facebook as their primary communication methods, so our primary tools for communicating back are Spanish radio, English radio, and Facebook and some of the social media platforms—Twitter—to let people know where we're at—located" (Project 9\_Community Partner).*

These strategies were successful because they met community members where they were, built rapport, and established trust.

Projects also shared that recruitment and other outreach strategies were most successful when the research teams included researchers and community members that represented the priority population. These research teams represented the community and established trust:

*"We hire and work with bilingual staff of those communities, and so that has helped us to recruit and retain participants for our studies. Having representation from those communities on our team to guide us through how to best do things" (Project 10\_Academic Partner).*

*"I think since we use a true community-based participatory research model where we have [community] members are the majority of our research team-based in their own community and working to conduct and implement that study" (Project 11\_Academic Partner).*



Finally, we find that previously established or newly established relationships are crucial to carrying out successful interventions, and these relationships are contingent upon trust. We find that trust is the most foundational aspect of successful outreach strategies (and implementation strategies too). Academic and community partners shared that trust is critical to the overall success of RADx-UP projects:

*"I would highly recommend **building and strengthening community partnerships and trust within communities**, I think, is essential. It allows for more capacity for quality healthcare for the community. If you don't have that **trust**, and you don't already have those **relationships** within the community partnerships, it makes it a lot more difficult" (Project 5\_Academic Partner).*

*"I think what we've learned from working with these two tribal nations is that **making those connections and building that trust report early on has made our—is the only way our project has been successful**" (Project 11\_Academic Partner).*

*"One of the things I think that contributed to our **overall success**—and I may have skirted over this—is **having people from the community who are already trusted** involved" (Project 8\_Community Partner).*

Thus, building trust through relationships is key to creating successful research projects that are well received by communities.

### **Challenges**

Although projects cited face-to-face and social media as successful outreach strategies, projects also faced challenges related to recruitment and retention. Challenges were unique to each project and included limited study eligibility, technology issues with online surveys, COVID-19 fatigue, and misinformation. The following quotes highlight some of these issues.

*"Recruitment and retainment were the most challenging due to a **limited pool of unvaccinated individuals**, and then **participants struggled with the daily symptoms monitoring tracker** that we had, as well as completing all motivational interviewing sessions" (Project 5\_Academic Partner).*

*"We launched the survey about a year ago, but recruitment has been much more difficult than we anticipated. Our original goal was 10,000 survey responses...I think now our new goal, we're really hoping to get 5,000, but it's been a tedious process and we've ran into some big **issues with fraud**" (Project 1\_Academic Partner).*

*"I think the **COVID-19 fatigue**, as I call it. As that's happening, less and less people are wanting to test. They think that there's no point" (Project 12\_Community Partner).*

### **Lessons Learned**

Finally, to improve community outreach, projects shared that RADx-UP projects must ensure that communication is clear and consistent among academic researchers, community partners, and participants.

*"That's one of the biggest things that we learned is we **need to make sure that we have those consistent channels of communication open with the families**. I think that was the biggest thing is just following up with the families" (Project 13\_Academic Partner).*

*"Well, there were times—I think when we look at things from an academic standpoint—**sometimes the information doesn't really filter down well to the boots on the ground**... I think what we **community leaders and community advocates brought to the table was bridging that gap and making that connection flow a lot easier**." (Project 8\_Community Partner).*

Projects should ensure that lines of communication remain open, and that information is communicated in a way that is understandable to all. Communication also helps to build or maintain trust with community partners, members, and organizations.

Thus, as a lesson learned, the Coordination and Data Collection Center (CDCC) can also help to facilitate clear and frequent communication between academic and community partners. In doing so, communication is improved, which can lead to increased outreach and improved health equity in communities.

## **Effectiveness**

### **Successes**

We find that RADx-UP projects were successful in increasing COVID-19 testing and resources, which we highlighted in the previous section under the clinical and community TSBM benefits. However, we also find some additional outcomes of RADx-UP interventions that were effective that we want to highlight here. Most notably, RADx-UP interventions worked to improve pandemic preparedness and increase research capacity in underserved communities.

We find that RADx-UP projects increased community preparedness. Specifically, we find that new and strengthened partnerships, surveillance, and community infrastructure helped partners connect and mobilize to respond to future pandemics.

*"I think, for any **future pandemics**, I think we know how to mobilize now. We know who we can go to. We know we still have our task force. That*

is still **ongoing**. Now we have a group of people who are still committed to serving the community in these types of crises” (Project 10\_Academic Partner).

“We were talking about, yesterday in the testing subcommittee, what are we going to do if another surge happens? Are we gonna be prepared? ...**we already have partnerships with the neighborhoods where we may have to dispatch and set up another pop-up testing site. We have those partnerships already built**, and it won’t take much to initiate them again if we must. I think we’re prepared for any kind of emergency...I think we’re prepared” (Project 8\_Community Partner).

Projects not only helped improve communities’ response to COVID-19 but created a system for communities to be prepared to respond to future crises and pandemics.

By engaging community engagement principles, some RADx-UP projects also helped to build communities’ capacity for future research. Academic partners worked with community members and organizations to increase knowledge and awareness of research and how it can help communities:

“We’ve had kind of like good sessions on **capacity building for research**. We had, like a specialist, help us with the **training process** that had a large component about just **explaining the whole research process**, why is important” (Project 2\_Academic Partner).

“As far as building capacity, I would say it’s tough, but the ability to **understand and know that research is available and around and it’s just happening** is something that maybe a lot of the participants we’ve had weren’t necessarily aware of” (Project 3\_Academic Partner).

Additionally, in community organizations and populations that already understood research, more advanced capacity building occurred, such as human subjects ethical training or motivational interviewing.

“I think one of the ways—because we’re working with our community-based organizations, we’re able to—**the project trains the staff that work within those community—in those organizations**. We’re able to do trainings from just **human subjects research training**... Then, past that, just going through **training around motivation and interviewing**... That’s been a great skill in terms of building community **capacity for research**” (Project 6\_Academic Partner).

Therefore, various levels of capacity building occurred from training community members on the basics of research to building more advanced research skills, but there is room for more

research capacity building in communities, which should be a focus of future projects looking to effectively train communities on research activities.

### Challenges

Projects did not share many rich details with us about challenges they faced when assessing the effectiveness of their RADx-UP interventions. Likewise, interviews did not reveal much data about negative, unintended consequences of interventions. However, projects did share some technical, organizational, and personnel issues they had related to intervention designs, such as accessing testing or personal protective equipment during shortages, having issues recruiting and retaining participants, experiencing survey difficulties, and having staffing issues. One project shared that they experienced survey fraud, which negatively impacted their intervention tool:

*"We've ran into some **big issues with fraud**. We'll have to pause our survey 'cause we would just get an influx of obviously fake respondents, I think once they find out there's a gift card at the end, then I think some were individual people like setting up a bunch of fake accounts, which we require an address and stuff. When we look up the address it's not real or at one point we got an influx of a thousand surveys and 10 minutes" (Project 8\_Academic Partner).*

Issues like this may have created more challenges to implementation though, rather than effectiveness. Nonetheless, it is possible that projects had not evaluated the effectiveness of their interventions at the time of their interview, which is why we do not have much interview data on this. However, other survey data might be best to assess this to see if there were any interventions that were ineffective in increasing access to COVID-19 testing in underserved communities.

### Lessons Learned

Thus, to create effective interventions in communities, projects shared that researchers must listen to the needs of communities. By engaging and listening to community partners, projects can create beneficial interventions that extend beyond clinical and academic settings:

*"Don't **just focus on what is important to you**. You've gotta also be open to the **things that are important to your community partners**, if you want to keep them engaged." (Project 4\_Academic Partner)."*

## Adoption

### Successes

We found that RADx-UP interventions were used to inform local and organization mitigation policies and practices, and findings from research studies were used to influence policy adoptions. As mentioned in the TSBM section, interventions were used to influence

organizational policies, such how to conduct testing internally. As also mentioned in the TSBM section, projects used findings from their interventions to influence community advocacy, thus promoting change for health equity. Therefore, we find evidence that projects are working towards policy adoptions.

### Challenges

When it came to adopting RADx-UP interventions at specific sites, capacity within organizations was sometimes a barrier. For some community organizations, especially those in the healthcare field, facilities were overwhelmed and overburdened, so adopting a RADx-UP intervention could be challenging. Projects cited staffing issues in particular as a barrier to adoption. For example, one health center could not participate in RADx-UP due to staffing issues:

*"We had one health center that they would love to have [been] involved cause they're right in the inner city with the project, but they could not because of the **staffing issues...staff members were affected by COVID, the virus itself**. They'd **lost some staff members unfortunately to COVID**...it was just such a hardship on the staff members and their family, so they didn't come back" (Project 1\_Community Partner).*

Thus, COVID-19 itself exacerbated staffing issues and made it difficult for some sites to adopt RADx-UP interventions.

### Lessons Learned

Projects did not share any specific lessons learned with us related to adoption of interventions. However, we also did not directly ask about this. Nonetheless, our team recommends that projects should consider prioritizing policy adoptions more as they think through the implications of their findings, and the CDCC should help to support this process too.

## Implementation

### Successes

Most notably, RADx-UP projects explained that successful implementation strategies occurred when community members and organizations were involved in informing and designing research processes and making decisions related to implementation strategies.

*"I don't know if any other project had a **community member as a co-PI**. Our **community members were involved from the beginning**. In fact, our project was actually informed by existing community engaged activities in response to COVID. It was really a **partnership with them on identifying lessons learned and then building upon those preliminary efforts**" (Project 8\_Academic Partner).*

One way in which projects successfully consulted communities was through CABs. CABs not only helped to inform implementation strategies, but they also provided feedback and served as a source of information for how to revise strategies:

*"We have **community advisory boards** throughout the whole time, so **before implementation, prior to—during implementation** and then a few times throughout the year to kind of guide where our program is and getting any **input**, especially with the COVID-19, really trying to figure out **how to adapt the program to meet the needs** (Project 5\_Academic Partner).*

Not only did the projects benefit from consulting with community members on how to best implement their project, but community members felt heard and valued by participating in various stages of the research process:

*"[There was a] level of collaboration and everybody had a voice... That **made me feel like a part of the team because I had something significant to add** that was needed in those places. I think everybody, whatever area of expertise you had, **your voice was heard and valued**. I think that again, **synergy, really contributed to our success**." (Project 8\_Community Partner).*

## Challenges

Projects also faced some challenges implementing projects. For example, academic partners shared that CDE requirements and COVID-19 posed some challenges. Many projects recounted frustrations with grant administrative tasks and common data elements (CDE) requirements that made it difficult to implement their research:

*"I mean, the **data-sharing requirements** were the most—it created a barrier to the engagement, but then also, at the same time, it was just a big administrative burden. Doing all of that—getting all of that squared away meant that I wasn't doing science" (Project 4\_Academic Partner)*

Often, the CDE requirements were an additional challenge to recruitment because participants did not always understand why they were being asked so many personal questions:

*"I think one of the biggest challenges was really explaining the CDEs, the **addition of the CDEs** to them because everything was running very smoothly before the addition of those. They did not feel that they were being heard, in their opinion, of it being too much or **several questions were not culturally appropriate** for the communities that we do serve" (Project 10\_Academic Partner).*

Other projects echoed this concern, especially when working with vulnerable populations. For instance, Project 2's academic partner stated:

*"There has been a **strong push to collect certain CDEs** that did not make sense or were not very well received by our communities. There are a lot of undocumented workers, there was distrust, **asking for sensitive information caused some issues**. This was not specific to our project, we heard this from other projects."*

Therefore, many projects felt that navigating the CDE requirements was challenging.

In addition to CDE requirements, COVID-19 also presented barriers to implementation. For example, due to the changing nature of COVID-19, many projects had to adapt or change their projects' tools, such as educational materials, to account for changes during the pandemic:

*"What was challenging is that as **COVID evolved**, that meant our **messaging evolved**, which meant our **handouts or materials we used had evolved** which meant we **constantly had to get more feedback from the community**, and we had to get translations. Everything that goes around with that. I think that was the most challenging, was just that **constant change** in updating all of our material that we use" (Project 9\_Academic Partner).*

Thus, projects may have had to alter their intervention materials multiple times throughout their projects, making implementing their intervention more time-consuming and challenging.

### **Lessons Learned**

Reflecting on projects' implementation practices, academic and community partners shared that projects must be flexible in their implementation strategies and network with other projects to share lessons learned. In fact, one of the biggest lessons learned across projects was the willingness to be adaptable and flexible in implementation strategies, which includes recruitment methods, educational materials, survey designs, and scheduling with participants and/or staff. As two projects stated:

*"**Learning to adapt and change your strategies**, I think that's very important. Not trying to be set on just doing something a certain way. I think if something's not working, you need to quickly change it or else you'll be stuck" (Project 12\_Community Partner).*

*"I think our lesson learned, or what we would like to share with others, is just to have that **flexibility of being able to change with the needs that are coming and evolving from the topic** that—whether it's the topic that you're looking at, or with your community's needs" (Project 9\_Academic Partner).*



To gauge the best implementation strategies, RADx-UP projects suggest that projects network with other studies to share information and lessons learned.

*"I will say one thing that's been helpful is **talking to other studies who have experienced this too and comparing methods** like, oh, well, we learned from another group that was having issues" (Project 1\_Academic Partner).*

*"We also worked across universities. Through our studies, we work with other universities like UNC and Harvard. These are working with people who are research leaders in trans-self, generally. Also being **able to work with those networks**" (Project 7\_Academic Partner).*

Networking can enable projects to foresee methodological issues and prevent issues before they occur or help fix them if they do occur.

## Maintenance

### Successes

Projects were able to maintain their research activities when they secured additional funding and/or the maintained relationships in communities.

*"Then **we're participating in phase two [of funding for] this research project**, so we are about to start, in a few weeks, recruiting for phase two. Everyone that came through the first phase gets to even participate in the next phase as well. Then that kind of goes with **sustainability** too because we were able to extend that, so we can still provide that monetary value up until the end of this next phase" (Project 5\_Community Partner).*

Additionally, ongoing, consistent, in-person, and trusted communication with community partners leads to sustained partnerships and ongoing research that gives voice to marginalized populations.

*"I'm happy—I'm happy with a lot of things that we've done—but the thing that I'm probably proudest of is that **we've consistently gained the people's trust over the course of the pandemic and did so in a profound way...** We need to be viewing **relationship-building as a trust building intervention**" (Project 4\_Academic Partner).*

*"We always engage our community partners. It is always our approach for every project we've had that serves those communities. It is not something that we pick up when we need it and leave when we don't. It is **a continued partnership**" (Project 10\_Academic Partner).*



Through additional funding and sustained partnerships, projects are able to continue to address COVID-19 and other health disparities in underserved communities, which ultimately leads to improved health equity.

### Challenges

We find that as funding facilitates sustainability, it is also a barrier. Funding is crucial to sustain project activities, without it, structural barriers remain in communities. Until structural barriers in underserved communities are eliminated, like infrastructure and access to resources, health disparities will continue, not just with COVID-19, but with other health and social issues as well:

*"I think **funding is always going to be a challenge** because eventually all of this PPE and the government middle money is going to dry up to some degree. **Funding** will be a part of it." (Project 8\_Community Partner).*

Ultimately, funding is necessary for sustained project activities, or for other research initiatives to occur in underserved communities.

### Lessons Learned

We learned that as immediate needs related to COVID-19 diminish, sustainability may relate more to sustaining relationships and focusing on other community needs over time. Projects did not share much about sustaining RADx-UP interventions (potentially because a lot of projects were not at that point at the time of interviews), but about other research. Thus, like the lessons learned for creating effective interventions, academic and community partners stressed the importance of listening to communities and their needs for sustainability of research in communities. For instance, communities face other immediate needs, and everyday struggles of poverty, violence, mental health concerns, and safety that may warrant research:

*"They just tell us what are some of the issues that they're interested in right now. We do the analysis and are putting together materials for them based on that... Also **helping them with whatever grants that they're applying for**, so they can use that data for their justifications and proposals." (Project 7\_Academic Partner).*

*"We have used the remaining funding to pilot an intervention ... in these two communities, which is **aimed at acknowledging and supporting youth identified as having increased risk for suicide and other mental health difficulties**. We're in year two winding down now" (Project 11\_Academic Partner).*

Ultimately, because projects have successfully increased community preparedness for COVID-19 and similar health crises, partnerships may need to prioritize other community

needs if academic and community partners want to sustain their relationships and sustain research activities

## CASE STUDIES THAT EXEMPLIFY DIVERSITY, EQUITY, AND INCLUSION

In this section, we provide two case studies to exemplify how projects prioritized diversity, equity, and inclusion to increase health equity in underserved communities. Project 13 worked with migrant workers to increase testing, but also responded to other social determinants of health that families needed. Meanwhile, Project 8 built Health Equity Action Teams in 10 local counties that were disproportionately affected by COVID-19 to help increase COVID-19 testing and resources and address other social determinants of health. The teams are now prepared to tackle other health disparities in their communities. In all, both projects worked to improve health equity among their priority populations.

### Project 13: Prioritizing Social Determinants of Health During the COVID-19 Response

#### *Project Description*

RADx-UP Project 13 increased access and uptake of COVID-19 services for migrant children through an education program. The study utilized a health screening app, downloaded on community members phones, to engage families' head of household twice a week to complete health screenings and assess household challenges. Households were asked to identify any symptoms related to COVID-19 to expedite testing and mitigate the spread of COVID-19. In response to indicated household challenges, the project sent family navigators to follow-up with households to address questions on COVID-19 and provide support services.

#### *Building Trust and Providing Resources to Address SDOH*

This project was successful because the community organization was trusted in the community, and they built trust with the academic partner. As a result, when the community partner vouched for doctors brought into the community by the academic partner, this was well received by community members:

*"The **staff knew the community** and were able to understand the families and help the **families feel very comfortable**. [The academic partner] brought a doctor to the conference, and the families found a **gateway to trusting him more because of [their relationship with the program staff]**. That was pretty cool, parents were asking questions that you usually don't ask your doctor, or they don't have a doctor to ask" (Community Partner).*

Aside from building trust and assessing COVID-19 misinformation, this project provided resources to address SDOH including food and water security, housing stability, safety, transportation needs, and support from family navigators.

*"We had a household that registered, and one of the questions in the household challenges asked them if they **feel safe in their community or in the neighborhood**. They marked that they didn't and that they were interested in being contacted by a family navigator. Our family navigator reached out and asked, what was going on or what led them to feel like they weren't feeling safe? The reason was that there **was no public transportation** in place for their school, for their kids, all their kids had to walk, and they had no idea what they were going to do with the approaching winter months...so we worked with one of our community partners and they were able to set up transportation sent out for the kids in the next month. **That was huge just because now there's going to be school buses going out in this area that there was never school buses and all the kids walked**" (Academic Partner).*

Therefore, Project 13 stands out as a study that not only built meaningful relationships in and with communities but provided resources to address SDOH beyond immediate COVID-19 needs.

## Project 8: Local Health Equity Action Teams Build Relationships and Sustainability

### *Project Description*

RADx-UP Project 8 used preliminary, community derived data to build Local Health Equity Action Teams in 10 counties (4 urban and 6 rural) that were disproportionately affected by COVID-19. The Local Health Equity Teams provided counties with the necessary resources to achieve COVID-19 testing equity through community-driven solutions.

### *Building Relationships and Addressing Social Determinants of Health through Sustainability*

The community partner from this project, who served as advisory board committee member, articulated how academic and community partners addressed testing and health equity within the communities by collaborating and working together. Researchers learned from community leaders how best to build trust and implement research processes, and community members informed development of accessible health education resources.

*"We had people with varied expertise, so I **learned a lot**. My **church benefited**. Our **community benefited** from what we were able to do in the Health Equity Task Force. I would have people call from different times to **find out where can I get a tested or a vaccine. Is it going to cost me anything? Do I need insurance?** Working with the Health Equity Task Force*

*and helping to **create that trust level of the health department**, we could direct people to the right places” (Community Partner).*

Through Health Equity Teams, community and academic partners built reciprocal relationships where both partners benefited and worked together to alleviate COVID-19 disparities.

These relationships also allowed project partners to consider how they can continue to work together to address other health disparities and social determinants of health in communities. For example, when thinking about sustainability, a community partner said:

*“There are things I am concerned about, **systemic racism, SDOH**...my vocabulary has increased because of RADx-UP and being on the Health Equity Task Force...some of those **things that contribute to bad health we must begin addressing together**. Working and addressing these needs together so that **we can positively impact SDOH**, we made a commitment to keep working to do that...I also now work with the State Health Improvement Plan because we have to make a commitment to **decrease disparities so the next time a crisis comes, we are in better shape.**”*

In conclusion, this RADx-UP project promoted inclusion, elevated the voice of the community, brought information to the community level, and motivated and created sustainable practices for community involvement. This is an exemplary project for promoting diversity, equity, and inclusion through community engaged research.

## **CONCLUSION, RECOMMENDATIONS, AND NEXT STEPS**

In this report, we highlight the main themes and findings from our qualitative evaluation. First, we present TSBM clinical, community, and policy benefits of RADx-UP projects that promoted and/or increased health equity. Second, we highlight RE-AIM successes, challenges, and lessons learned across projects’ reach, effectiveness, adoption, implementation, and maintenance. Finally, we highlight two case studies whereby projects exemplify great attention to both COVID-19 and other social determinants of health within their priority populations.

Given these findings, we provide the following recommendations for the RADx-UP initiative:

- Continue to promote cross-project resource sharing and lessons learned. Ways for RADx-UP to promote this would be develop working groups, project-wide meetings, and project-led workshops.
- Offer more dissemination support to projects. For instance, helping projects to decide what types of dissemination products to create, and how and to whom to distribute findings.
- Provide facilitated discussions on sustainability to project partners. For example, RADx-UP could help support projects as they consider which parts of RADx-UP to sustain and

how to sustain them via funding, partnerships, leveraging resources, technical assistance, and policy change.

Finally, we conclude by providing next steps for our qualitative evaluation:

1. Present findings to stakeholders.
2. Collaborate with projects for scholarly dissemination of findings.
3. Finalize Phase 1 and 2 qualitative evaluation data collection and analysis.
4. Plan and conduct qualitative evaluation with a sample of Phase 3 projects.

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