

Development and Utilization of the RADx-UP Image Bank, A Digital Photography Repository

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ABSTRACT

Use of recruitment materials that reflect individuals and their communities increases the likelihood of those individuals participating in research, particularly among underrepresented populations. The RADx-UP Image Bank is a digital repository of photographs from diverse communities participating in the National Institutes of Health’s Rapid Acceleration of Diagnostics – Underserved Populations (RADx-UP) initiative, which aims to increase access to COVID-19 testing in communities across the United States. The Image Bank was created to provide representative and accessible imagery to the RADx-UP consortium for use in promotional, educational, and dissemination materials. Photographs have been incorporated into various research dissemination channels including e-newsletters, webpages, and social media graphics. The Image Bank could serve as a model for other consortiums, researchers, or programs who seek to create communications and materials that reflect and are inclusive of the focused population(s).

KEYWORDS:

Community health research, Health promotion, United States, Vulnerable Populations, Health disparities, Graphics, Social Media, COVID-19

Introduction

Use of recruitment materials that reflect individuals and their communities increases the likelihood of those individuals participating in research¹ and can especially benefit individuals with low literacy or limited English proficiency.² Stock photography is commonly used in health communications materials, and while there are many options for free and purchased photography, high costs and licensing restrictions are major limitations. Additionally, stock photo libraries that charge usage fees are significantly more likely to depict individuals with darker skin tones and perceived minoritized racial/ethnic identities than those with free access, resulting in higher costs for developing culturally relevant health education materials for minoritized populations.³ The alternative approach of sourcing images directly from project sites reduces costs to both projects and the funder while promoting meaningful representation and inclusion of individuals living in the communities being served.

Background

This paper describes the development, use, and lessons learned of an image bank, or digital image repository, that includes photographs from diverse communities participating in the RADx-UP initiative. Funded by the National Institutes of Health (NIH) in 2020, the RADx-UP consortium is a network of more than 142 community-engaged research project teams across all 50 states and U.S. territories and Tribal Nations with the goal of increasing access to COVID-19 testing among underserved populations, including “health disparity populations, particularly African Americans and American Indians/Alaska Natives; those in nursing homes, jails, rural areas, or underserved urban areas; pregnant women; and the homeless.”⁴ Each project is based at an academic institution and relies on the active partnership of community-based organizations

and leaders. Community partner organizations represent a range of public sectors and services, including K-12 schools, faith-based organizations, community health centers, and public housing.⁵

The RADx-UP Coordination and Data Collection Center (CDCC) is the central leadership and support team providing infrastructure and technical support to grant-funded projects. The CDCC is managed in partnership between the Duke University Clinical Research Institute (DCRI) and The University of North Carolina – Chapel Hill Center for Health Equity Research (UNC CHER) and is organized into four cores – the COVID-19 Testing Core, the Community Engagement Core, the Data Science and Biostatistics Core, and the Administrative Core. The RADx-UP Image Bank is a project of the Community Engagement Core, which is co-led by DCRI, UNC CHER, and Community-Campus Partnerships for Health (CCPH), a national non-profit organization. Development and implementation of the Image Bank was managed by the CDCC Engagement Resource Center (ERC), a subcommittee ~~derived from~~ of the Community Engagement Core, in partnership with select RADx-UP projects. The ERC team is comprised of staff members from the three organizations that make up the CDCC, DCRI, UNC CHER, and CCPH, in regular consultation with RADx-UP project teams and community partner organizations.

The RADx-UP Image Bank contains 1,222 unique photographs taken on-site at a segment of RADx-UP project sites and submitted by project teams and community partners. The Image Bank was created in response to feedback that the communities served by RADx-UP (e.g., communities of color and low-income communities) were often not represented in stock

photography, which the CDCC had been using for its communications. The Image Bank provides representative and accessible imagery to the CDCC and funded project teams to use in promotional, educational, and dissemination materials at no cost.

Methods

At the start of RADx-UP, the ERC team created a publicly facing online resource portal containing documents, toolkits, and other materials focused on COVID-19 mitigation and community engagement practices, including external resources and those created by the CDCC and RADx-UP projects. In March 2021, the ERC hosted a Community Consultation Studio (CCS) open exclusively to RADx-UP community partner organizations to gather feedback on the content, design, and accessibility of the resource page. Design of the CCS was adapted from the Vanderbilt Community Engagement Studio Model.⁶ During the CCS, community partners expressed a need for photos and images that better reflect the diversity of project communities, including people of color, low-income people, and people with disabilities. In response to this feedback, the ERC team developed a proposal, scope of work, and budget for the Image Bank that was approved by CDCC leadership.

To build the Image Bank, the ERC coordinated professional photo shoots at seven distinct project sites and hired community-based photographers to capture people in various settings. Photography models were recruited locally by RADx-UP Project Coordinators (hereafter “Coordinator/s”) and compensated for their time. The photographs reflect the racial/ethnic, gender, age, and other diversities of RADx-UP participants in a variety of locations, such as

schools, community centers, clinics, testing sites, and faith-based settings. Examples of these diverse communities are featured in Appendix 1.

The ERC developed a project plan, scope of work, and timeline (Figure 1) to present to the Community Engagement Core leadership. Once approved, consent forms and parent/guardian assent forms were created in English and Spanish for individuals modelling in the photo shoots as well as guidelines for photographers. A webpage was created on the RADx-UP online platform with information about the Image Bank, including the guidelines and consent requirements. All materials were submitted to, and approved by, the Duke Institutional Review Board (IRB) under the CDCC (IRB# Pro00106873).

Professional Photo Shoots

In fall 2021, the ERC released a cross-consortium call for projects interested in hosting an on-site photo shoot (Figure 1). Ultimately, seven projects were selected from nine who expressed interest based on capacity to meet milestones as well as diversity in geography, community-based settings, racial and ethnic makeup, age of participants, and other factors. Each project assigned an on-site Coordinator to work with an ERC liaison to facilitate the photo shoot. Coordinators were staff members based at either academic or community partner RADx-UP grantee sites. Coordinators worked with community partners to identify a local, independent photographer from each project community. Photographers were then referred by the Coordinator to the ERC and onboarded as contractors through UNC-Chapel Hill. ERC liaisons conducted an Image Bank Orientation with each Coordinator and photographer to review goals, expectations, consent and payment processes, and timelines for the photo shoot. Coordinators

then worked with RADx-UP community partners to identify appropriate sites for shoots, recruit models, manage logistics with photographers and community sites, and distribute incentives. The ERC recommended choosing a combination of clinical and community settings, but ultimately photo shoot locations were chosen by staff at each respective project (Table 1). The majority of shoots took place at community partner organization sites, including churches, schools, and health clinics. Models appearing in photos were RADx-UP study participants and/or local constituents who access services provided by community partners. To respect privacy regulations, all depictions of clinical procedures such as COVID-19 testing and vaccination were staged.

On the day of the photo shoot, the Coordinator collected signed consent/assent from each model. Separate consent forms were provided for adults and minors in English and Spanish. After each photo shoot, each model received a \$150 gift card incentive for each model. Partnering community sites received a \$500 honorarium payment. The Coordinator for each site then submitted the photos to the ERC via online upload. To give project sites the flexibility to determine the number of photos to submit, and considering that some projects opted to take photos at multiple sites, the ERC did not place limitations on the number of photos that each project could submit. Ultimately, each Coordinator was responsible for deciding which photos to submit for Image Bank use. ERC liaisons reviewed the photos for appropriateness, removed duplicates, and tagged each remaining photo using a keyword matrix developed by the ERC team.

Community-Submitted Photos

In addition to hosting professional photo shoots, we invited community members from across the RADx-UP consortium and CDCC staff members to submit photographs to the Image Bank.

Announcements were shared across RADx-UP via e-newsletter and flyers. Individuals submitting photos were required to collect and submit consent forms from each model following the same protocol as the professional photo shoots. Overall, 59 community-submitted photos are included in the Image Bank. was uploaded with a consent form for use. The majority of these (51 of 59) were submitted by the CDCC themselves in settings such as meetings and community service events they participated in.

Photo Tagging and Upload

Photo tags were organized by setting (e.g., community center, faith-based setting, school, public park), geographic location (urban, suburban, rural), type of persons (e.g., older adults, children/teens, couple, individual), clinical activity (e.g., at-home testing, mobile testing, vaccination), and RADx-UP project number and grantee. A tag was also created for photos depicting people wearing face masks. RADx-UP projects and community partner organizations can request access to the Image Bank via a form. A CDCC staff member then grants them access to a folder in a secure web-based server that houses the photos. The requester does not need a password but can only access via the link sent to their email. The CDCC disseminated information about the Image Bank across the RADx-UP consortium to promote use of the tool.

Results

Photos from the Image Bank have been incorporated into the dissemination channels for the CDCC, including the e-newsletter, website, slide decks, reports, and social media graphics. The

CDCC Communications Team edited selected images to certain specifications to be used in various products, including a presentation toolkit that was shared with project teams. As of January 2024, 38 people have requested access to the Image Bank—24 from project teams or community partners and 14 from the CDCC and NIH. Samples of products created using the Image Bank are included in Appendix 1.

Capturing evaluation metrics, including the number of photos downloaded/used, how they were used, and how they impacted individual project outcomes, has been a challenge. RADx-UP projects (academic teams and their community partners) were not required to share the products and assets they created using the images. Follow-up surveys were inconclusive in terms of whether the images filled any communication gaps for the projects.

Limitations and Challenges

The Image Bank project was not without limitations, with the first being the need to create a clear usage policy for the photos that identifies in what circumstances photos are to be used or not used. There also should be a systematic way to notify photographers, and participants, when their photos are used. Lastly, it would also be helpful to collect more context, or captions, for the photos that would allow for a richer story to accompany the photos.

We did identify challenges with the Image Bank project, the first being developing appropriate identity markers for tagging and captioning photographs that respected privacy and consent of participants appearing in photos. The CDCC did not provide a consent protocol that considered sensitive or stigmatized information, and could not tag photos by race, ethnicity, gender identity,

or sexual orientation, which would have been unethical and likely inaccurate if assigned by a third party. Future photography projects should collect relevant demographics of models at the time of the photo shoot, as well as permission to tag and caption their images using those descriptors.

A second challenge was timely payment of community partners for their participation. Administrative challenges resulted in payment delays. In the future, this could be prevented through early, ongoing, and thorough communication with finance personnel at sponsor institutions to ensure that that payment protocols and timelines are realistic and feasible.

Finally, given that the RADx-UP initiative will conclude in 2025, there are challenges related to ownership and use of the Image Bank photos beyond the existence of RADx-UP. To protect against misuse of the photos (and, thereby, individuals' digital images), the CDCC consent forms limited use of the photos to RADx-UP related materials only. That being said, some projects chose to develop and use an additional model consent form allowing academic and community partners to use images derived from their own local sites for future work. Finally, because the terms of consent apply only to photos that include individuals' faces, the ERC created a folder of images within the Image Bank that feature community scenes, PPE, testing supplies, promotional materials, etc. and do not depict faces. These photos are available for use by RADx-UP consortium members (both community-based and academic) for future materials and projects.

Lessons Learned

There were several lessons learned from the Image Bank project. The first is that in understanding the importance for participants in research to be able to see themselves in the photos that accompany publications, flyers, social media posts, and other materials^{7,8}, future programs and consortiums should begin the image bank process in the planning stages of the project. This would allow for inclusive images to be used throughout the life of the project. Furthermore, it would allow for wider community involvement in building the image bank, as the opportunity to participate in the image bank could be included in onboarding materials at the start of the project. Another lesson learned was that the thoughtful approach in the planning of the Image Bank allowed the project to proceed smoothly once the participating RADx-UP projects were onboarded. Having orientation sessions with interested RADx-UP projects provided transparency, as the projects understood up-front what activities would be involved in the Image Bank.

Conclusion

By leveraging community relationships, the RADx-UP projects who participated in the Image Bank had no trouble recruiting participants or finding photographers. Using local photographers not only provided a level of comfort to the Image Bank participants who were familiar with the participants' communities, but also was a way to invest directly in those communities. Further, the Image Bank met a need for providing free, accessible communications materials for RADx-UP projects and their community partners. Lastly, the Image Bank could serve as a model for other consortiums, researchers, or programs to give communications and project materials an authentic look, while highlighting the population(s) the research is trying to reach. Future

research considering the impact of a community-focused image bank for clinical research or research messaging is warranted.

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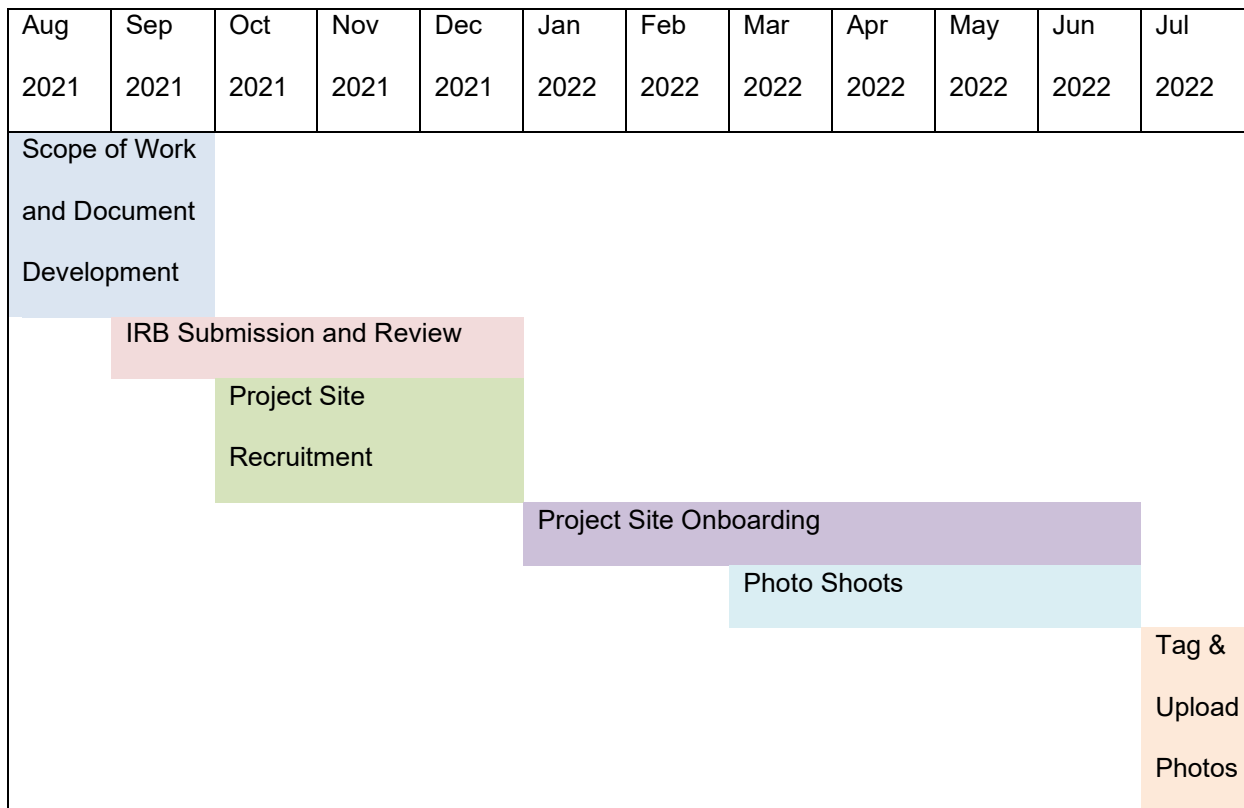
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Table 1. Summary of RADx-UP Image Bank professional photo shoots.

RADx-UP Project Location	Photo Shoot Setting	Number of Photos
Arizona	School; testing site	222
Maryland	Hair salon; restaurant; testing site	133
Missouri	School; testing site	419
Missouri	Clinical; testing site; college/university	144
New York	School; clinical; community; testing site	61
Oklahoma	School; testing site	162
Wisconsin	Faith-based; testing site; clinical	78

Figure 1. Timeline



Appendix 1. Samples of products featuring photographs from the RADx-UP Image Bank.

The RADx-UP Image Bank is a collection of images of participants at their project and community events. The photographers, site coordinators, and participants were compensated for their time, and each person in the photographs consented to be photographed and to allow the images to be used by RADx-UP projects, their community partners, and the CDCC.

Presentation Toolkit

This toolkit contains a one-page quick-start guide, instructions for download and use, a PowerPoint slide template, and folders of appropriately sized images. The image folders included 108 Image Bank photos sized to fit into one of three photo layouts in the presentation template.



Image 1. From the RADx-UP Presentation Toolkit. A boy in a mask poses with his mother and a healthcare worker at a COVID-19 testing event. Photo by Mark McDonald.



Image 2. From the RADx-UP Presentation Toolkit. Three healthcare workers assist a child and adult at a COVID-19 testing event. Photo by Johnny Lozoya.



Image 3. From the RADx-UP Presentation Toolkit. A healthcare worker speaks to a woman in a car at a drive-up COVID-19 testing site. Photo by Lance Omar Thurman.

Social Media Toolkit

Photographs from the RADx-UP Image Bank were used in materials developed for dissemination on social media platforms including Facebook and Twitter.



Image 4. A Spanish-language banner from the RADx-UP Social Media Toolkit promotes a research brief describing experiences of Black and Latinx health care workers in support roles during the COVID-19 pandemic from a study conducted by the New Jersey Alliance for Clinical and Translational Science. Photo by Glenford Nuñez.

Research Summaries

RADx-UP research summaries are lay-friendly synopses of recent RADx-UP project publications. They are available to download for free online in English and Spanish.

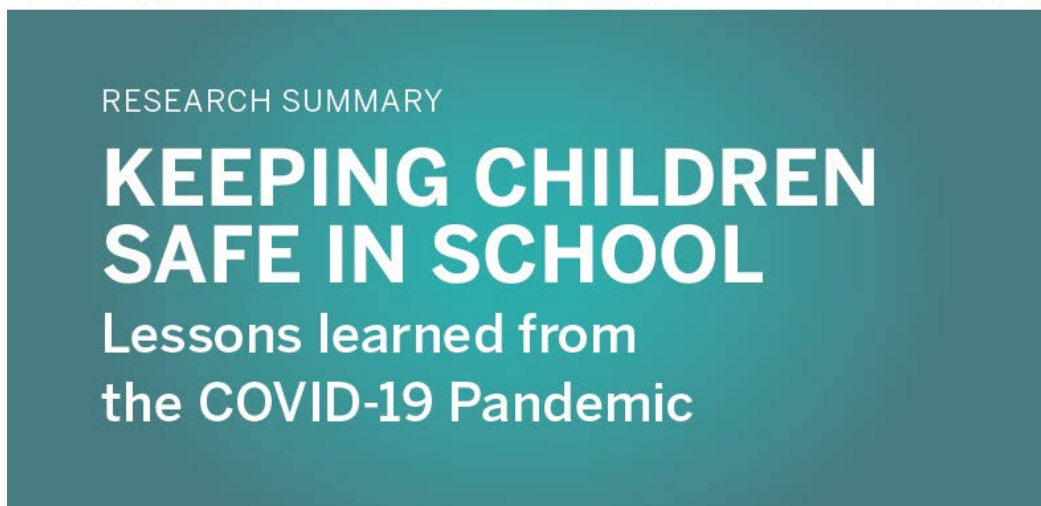


Image 5. Cover of a RADx-UP research summary, *Keeping Children Safe in School: Lessons Learned from the COVID-19 Pandemic*, describing research conducted by the ABC Science

Collaborative.¹ From top left, photos by: Lance Omar Thurman, Tim Toal, Mark McDonald, Lance Omar Thurman, Glenford Nuñez.

Publications

A photo from the RADx-UP Image Bank was featured on the cover of the *American Journal of Public Health* supplement issue on RADx-UP: Community-Based COVID-19 Testing and Research in Underserved Populations published in November 2022.

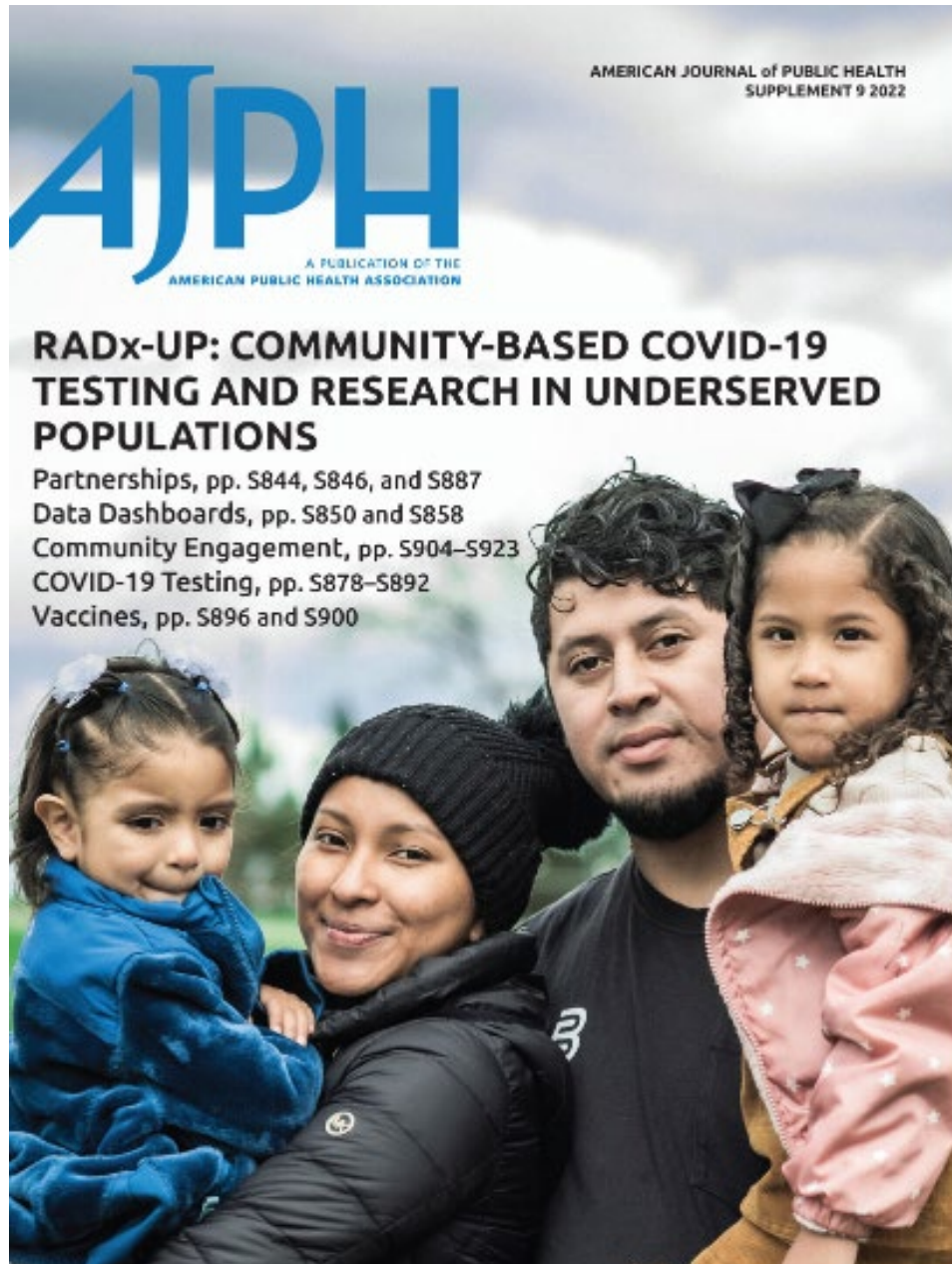


Image 6. Cover of the *American Journal of Public Health*, Volume 112, Supplement 9, 2022. A family of four, two adults and two children, poses outdoors. Photo by Glenford Nuñez. Cover reproduced with permission from RADx-UP and *AJPH*.

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