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Using Digital Storytelling and Social Media to Combat COVID-19 Vaccine Hesitancy: A Public Service Social Marketing Campaign

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Abstract

Disparities in vaccine confidence and uptake among racial and ethnic minorities have resulted in a disproportionate burden of COVID-19 in these populations. Social media campaigns have shown promise in public health promotion and behavioral interventions. In January 2022, an academic-community partnership launched #Vax4Community, a 6-month social media campaign centered around the use of digital storytelling videos. The campaign purpose was to decrease vaccine hesitancy, combat vaccine misinformation and disinformation, and increase vaccine confidence within three distinct target communities: the justice-involved population, South Asian residents, and public housing youth in the metropolitan area of New York City (NYC). Our approach included the production and dissemination of digital storytelling videos featuring personal vaccine experiences from target populations. We evaluated key performance indicators (KPIs) of the campaign, including post impressions, reach and engagement across social media platforms, and shares from partner organizations. Overall, we received 1,910,662 post impressions, 699,722 unique users reached, and 2,880 post engagements across Instagram, Facebook, LinkedIn, and Twitter, and 147 shares from 48 partner organizations. Social media campaigns require strategic design in branding, messaging and outreach channels and could serve as an important tool to disseminate emotionally relatable content and trusted information to prime target populations to respond more optimally to public health interventions. The purpose of this paper is to describe the process of creating and disseminating these digital stories and the KPIs of the social media campaign.

Keywords

COVID-19; Social marketing; Vaccine hesitancy; Digital storytelling; Social media campaign; Health equity

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Introduction

Large disparities in vaccine confidence and uptake among racial and ethnic minorities in comparison to white populations have resulted in a disproportionate burden of COVID-19 in these populations (Webb Hooper et al., 2021; Acosta et al., 2021). In the first year of the COVID-19 pandemic, minoritized populations were at higher risk for COVID-19-associated hospitalization, ICU admission, and in-hospital death than Whites (Acosta et al., 2021). A January 2021 survey from the Kaiser Family Foundation found higher rates of enthusiasm for COVID-19 vaccines among White adults compared to African American adults (61% versus 42%) (Webb Hooper et al., 2021).

In addition to many other factors, including historical mistrust between minoritized communities and healthcare systems and lack of access to timely, accurate, and culturally and linguistically tailored services and information, misinformation and disinformation about the safety of vaccination have been shown to contribute to low uptake of vaccines (Margolis et al., 2019; Wilson & Wiysonge, 2020). Storytelling tailored to specific populations using social media has been shown to be effective in disseminating public health information and combating misinformation (Vere Hunt & Linos, 2022; Plackett et al., 2020). Traditional health communication has contributed to health inequities by not taking into account previous experience with the healthcare system, cultural norms, language, and literacy levels (Butler & Sheriff, 2021). Storytelling can bridge many of these gaps. A study on social media messaging found that posts shared by trusted messengers, such as individuals from within a target population or public figure, are reported to be more effective than messages shared by non-trusted sources (Vere Hunt & Linos, 2022). A survey of Facebook users found that 51% of adults reported a health article as trustworthy when shared by a trusted messenger, whereas 34% reported that the article was trustworthy when shared by someone they did not trust (Vere Hunt & Linos, 2022).

Campaign Purpose and Objectives

The NYU-CUNY Prevention Research Center (PRC) works to catalyze translation of evidence-based and innovative programs to increase access to care and disrupt the cycle of health disparities among hard-to-reach, socially disadvantaged populations. As part of the Vaccine Confidence Network of the Centers for Disease Control and Prevention, we implemented a social media campaign to increase vaccine confidence within three of the NYU-CUNY PRC target populations: justice-involved population, South Asian community, and public housing youth in NYC. These populations were selected due to the impact of COVID-19 on these communities and/or disparities in vaccine confidence and uptake (Stern & Strick, 2021; Ta Park et al., 2021; Meltzer & Awada, 2020). The campaign was funded as a public service rather than research program. Its objective was to disseminate reliable, relatable information about COVID-19 and the vaccine to our target population and to create a climate in which the community could respond more optimally to policy interventions regarding vaccine uptake.

The campaign consisted of video-based digital stories from individuals in our target populations. These videos, produced in partnership with The Story Center (<https://>

www.storycenter.org) and community-based organizations, were then shared through the social media channels of NYU-CUNY-PRC and our partner organizations. The Story Center's approach of digital storytelling is a participatory group process for creating short videos. This process included multiple online workshops for storytellers such as an introduction to storytelling, a story circle, training on capturing images and videos, as well as individual meetings with The Story Center staff to develop their stories. We also partnered with a marketing firm to develop consistent branding for the social media campaign and engaged with local community-based organizations (CBOs) to share our campaign using email, tagging, and direct messaging on social media. The marketing firm also guided our social media strategy, including a social media audit, target audience research, social handle recommendations, editorial calendar guidelines, and digital advertising best practices.

This evaluation brief reports on the key performance indicators (KPIs) for the campaign, including social media impressions (i.e., number of times content was displayed on user screens), reach (i.e., number of users who saw content), engagement (i.e., number of times users took action, such as likes, comments or shares, on posted content), and shares from partner organizations.

Campaign Development and Implementation

Digital Stories and Branding

#Vax4Community was the branding selected for our social marketing campaign. The campaign was anchored by personal vaccine stories of real New Yorkers, who described their hesitations about or reasons for getting vaccinated. We identified storytellers through our network of partner organizations of the NYU-CUNY PRC and the RADx-Up (<https://radx-up.org/>) and NYCEAL (<https://nyceal.org/>) initiatives (both federally funded in response to the COVID-19 pandemic). These videos, produced using voice, music, and images, including personal photography, were designed to be emotionally engaging and personally relatable. The stories were supplemented by helpful information about COVID-19 and the vaccines from trustworthy sources (e.g., official information from the city government).

Over the course of several months, we produced 13 videos (4 of which were also translated into different languages) tailored to the three target populations (see Table S1 and playlist here: <https://bit.ly/Vax4community>). In consultation with the marketing firm, we built a visual identity around uplifting confidence, close human connection and responsibility to loved ones, trustworthiness, personal agency and empowerment, and NYC (see Fig. 1a) and created shareable and informative content that would allow us to build a systematic, consistent social media presence (see Fig. 1b).

We began the social media campaign in late January 2022 by launching the first videos produced with storytellers and other COVID-19-related content. Campaign videos and corresponding supplementary content were steadily rolled out between January and March 2022, with post activity occurring at a minimum of three days per week. Once these initial videos were rolled out, alternative versions, including shortened and second-language

versions, were posted from April to July 2022. The campaign ran until July 31, 2022, with a targeted paid ad campaign taking place between May 5, 2022 and May 26, 2022.

Partnerships for Content Dissemination

We partnered with 40 local CBOs that played a particularly special role in disseminating the digital stories and other content directly to NYC communities using both social media and other channels. We directly emailed, tagged, and sent direct messages on Twitter and Instagram to CBO partners and influencers, asking them to share our videos with their followers. These CBOs were existing partners within the NYU-CUNY PRC, RADx-Up and NYCEAL networks. This helped boost engagement on social media and connect to specific audiences we aimed to reach through partners who were connected with them.

Paid Promotion of Social Media Content

We also invested in social media advertisements to reach our target populations. At the beginning of the campaign, we “boosted” each post, putting a small amount of funds into each post through Facebook. Following the advice of experts, we stopped “boosting” individual posts and instead built a more extensive ad campaign with a bigger budget of \$3,800 around three edited down videos that ran for 3 weeks in May. We set our goal through Meta’s advertising system to promote “link clicks,” instructing the system to target users who were most likely to click on the link associated with the ad. The ads directed viewers to a webpage with information about COVID-19 vaccines in NYC hosted by NYC Health + Hospitals, the public hospital system in NYC, to support vaccine uptake.

Monitoring

We tracked standard KPIs from each social media platform used, including post impressions, reach, and engagement.¹ We collected monthly data from Instagram, Twitter, Facebook, and LinkedIn, where applicable, from January to July 2022. In addition to social media metrics, we measured the number of partner organizations that shared our campaign content on their own social media channels, as well as the frequency of shared content by organizations. The campaign evaluation did not assess intention or actual behavioral outcomes.

Post Impressions, Reach, and Engagement

Table 1 shows the monthly numbers of post impressions and reach. Over the course of the campaign from January to July 2022, we received 1,910,662 post impressions, with 924,040 from Instagram, 979,351 from Facebook, and 7,271 from LinkedIn. In addition, we achieved a total reach of 699,722 unique users, with 699,772 from Instagram, 749,043 from Facebook, and 3,413 from LinkedIn. Twitter is not included in the count because it does not provide numbers on post impressions or reach. Note also the sharp increase in impressions and reach in May 2022 as a result of the paid ads. In terms of user interaction with the posts,

¹Post impressions were the number of times our pages’ posts appeared on someone’s screen, including statuses, photos, links, videos, ads, and more. Post impressions included both ads and organic appearances. Post reaches represented the number of unique users that saw a post or story. Post engagement was the total number of interactions (reactions, comments, and shares) received by posts on our pages as well as by other posts of Facebook that mentioned our pages. Post engagement did not include paid ads.

we received a total of 2,880 post engagements, with 731 from Instagram, 1,422 from Twitter, 506 from Facebook, and 221 from LinkedIn.

Partner Organization Shares

A total of 48 partner organizations engaged with our content 147 times by sharing our social media posts or video files (MP4s) on their own social media pages, websites or newsletters. Partner organizations with the highest engagement with our content shared posts 8–17 times throughout the six-month campaign.

Implications for Public Health

To our knowledge, #Vax4Community was one of the first public health social media campaigns to employ digital storytelling as a way to culturally connect with targeted underserved populations. We found the combination of digital storytelling and social media outreach to be a novel and useful way to disseminate emotionally relatable and trusted public health information. Although the campaign was not set up as a research program to evaluate individual behavior change, a culturally curated social media campaign has the potential to combat misinformation and disinformation and to encourage vaccine uptake. With relatively little investment, the campaign reached a significant number of social media users in NYC.

Several insights emerged from this initiative. First, the three-week targeted ad campaign within the larger six-month social media campaign demonstrated that boosted ads were not as effective as targeted, paid advertising that greatly increased the reach of the posts during the ad campaign. Furthermore, though engagement numbers with the posts were significantly lower compared to post impressions or reach, the purpose of this campaign was to expose more individuals to trusted vaccine information and create a climate of positivity around the vaccine; thus, exposure was more important than engagement.

There were also important lessons about how best to design a social media campaign. For example, we initiated the ad campaign with specific targeting regarding location (within 20 miles of NYC), ages (e.g., younger people, based on research regarding the ‘moveable middle’), and a few user interests. After a week, ads started reaching “creative fatigue,” meaning that individuals were seeing the same video ads multiple times, resulting in a decrease in post impressions over time. In response to this creative fatigue, we expanded our targeting by relaxing the criteria and expanding the geography (e.g., up to 40 miles of NYC) and age range at various points during the remaining period. In a future campaign, a more tailored and intensive outreach strategy embedded into our partner CBOs’ workflow would have improved the reach of our content. An additional improvement to our campaign would be to create second, shorter and more graphically designed video versions to improve overall reach.

Past studies have found using social media to be effective in nutrition, diabetes self-management, and physical activity interventions through increasing health literacy and communication between peers, as well as introducing gamification and integrated social incentives (Chau et al., 2018; Kim & Utz, 2019; Fang et al., 2019; Hunt et al., 2022). For example, a study addressing seasonal influenza vaccine uptake among African Americans

and Latinos found that a social media campaign increased knowledge and positive perceptions of the flu vaccine (Bonnieve et al., 2020). That study also found that utilizing a ground-up approach through storytelling was more effective at reaching groups with lower vaccination rates (Bonnieve et al., 2020). Future research should build on the lessons learned in our campaign and examine whether digital storytelling can be effective in fostering health behavior change.

While this brief shares a novel approach to building a social media campaign in public health, a major limitation is that the program was not set up as a research endeavor. Thus, we did not have the resources to evaluate individual-level outcomes, such as changes in vaccine confidence or uptake or any potentially differential responses across communities. The goal of this paper is to share the process and content of the campaign in the hopes that such a ground-up approach could be considered for adoption in future formal research programs.

In conclusion, our social marketing campaign was able to reach a large population using culturally tailored digital storytelling and social media outreach. This paper serves to share examples of the branding and digital stories used, which may help inform the design of future public health programs. The approach shared has the potential to prime target populations to respond more optimally to other more specific policy and behavioral interventions.

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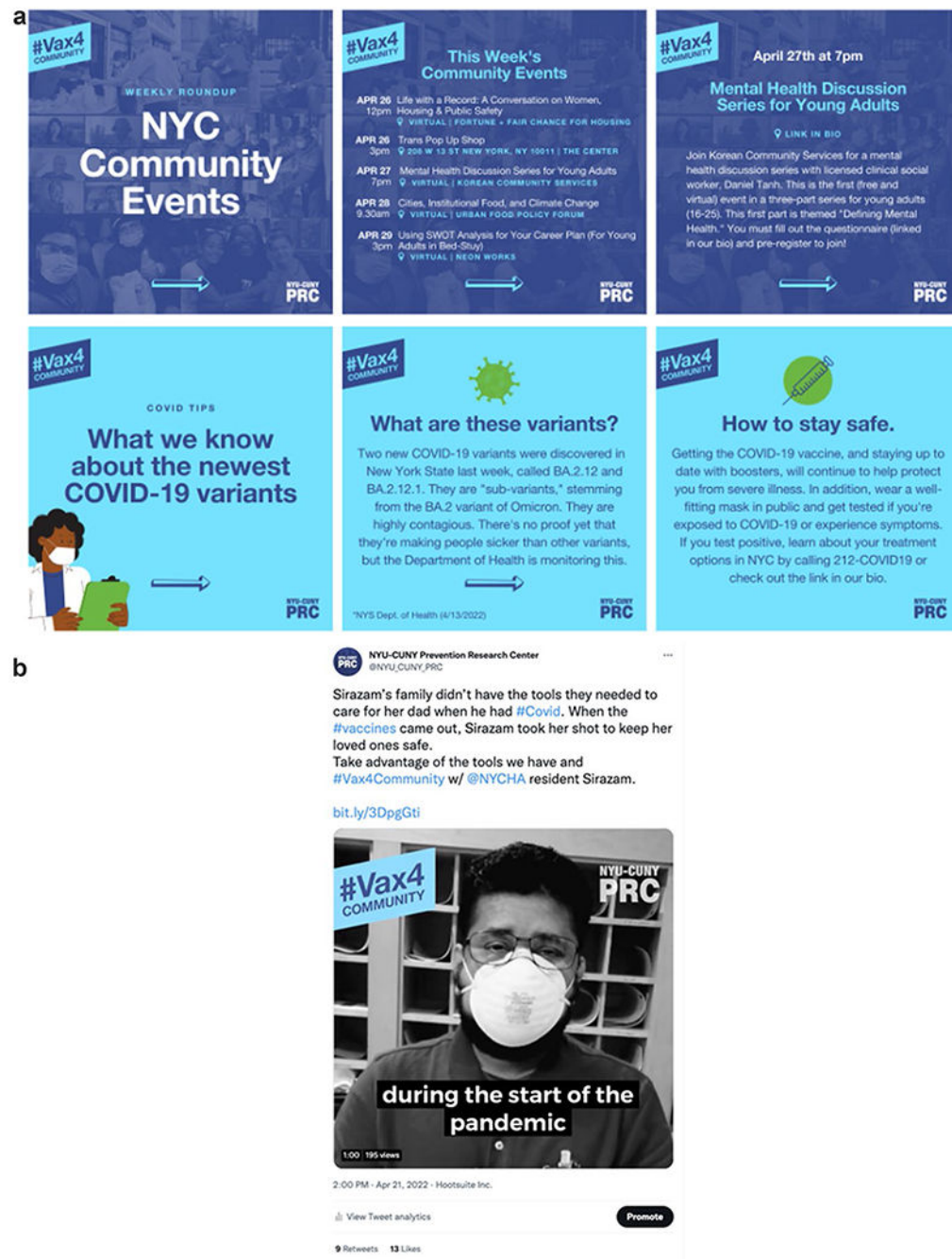


Fig. 1.
Examples of #Vax4Community Content. **a.** Social media branding. **b.** Example social media post

Table 1

Post impressions and reach by social media channel, January-July 2022

	January	February	March	April	May*	June	July	Total
Instagram Impressions	11,420	16,098	2,927	2,867	887,386	1,598	1,744	924,040
Facebook Impressions	19,288	109,740	14,524	2,161	831,686	1,244	708	979,351
LinkedIn Impressions	645	1,644	1,400	2,115	864	324	279	7,271
Total Impressions	31,353	127,482	18,851	7,143	1,719,936	3,166	2,731	1,910,662
Instagram Reach	9,658	14,348	1,744	1,260	671,084	787	891	699,772
Facebook Reach	17,506	96,466	12,505	998	620,561	561	446	749,043
LinkedIn Reach	311	788	725	822	423	199	145	3,413
Total Reach	27,475	111,602	14,974	3080	1,292,068	1,547	1,482	1,452,228

Note.

* In May 2022, a targeted paid advertising strategy (beyond general paid boosts) was tested over 3 weeks, leading to much greater reach