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A multi-site intervention using influencers to communicate about syringe service programmes

Erika Bonnevie[a], **Melissa Dunn Silesky**[b], **Jaclyn Goldbarg**[c], **Caitlyn Gudmundsen**[d], **Megan Fields**[d], **Joe Smyser**[a]

[a]The Public Good Projects, New York, NY, USA

[b]The Public Good Projects, Alexandria, VA, USA

[c]The Public Good Projects, San Diego, CA, USA

[d]CDC Foundation, Atlanta, GA, USA

Abstract

Introduction: In the USA, syringe services programmes (SSPs) provide a range of harm reduction services and have numerous benefits for communities. However, stigma, misconceptions about SSPs and changing policies/legislation remain a challenge to effective implementation. This study reviews the implementation of two digital interventions, Appalachian Influence and Shared Influence, which used social media influencers and digital volunteers to communicate positive information about harm reduction and SSPs.

Methods: The intervention was designed to deliver accurate and supportive messaging in locally relevant and meaningful ways. Messaging was informed by interviews with subject matter experts and community organisations, and was integrated into prompts used by local influencers (paid individuals with more than 1,000 followers) and digital volunteers (unpaid individuals with no following requirement, who joined the project independently).

Results: In the first 6 months of implementation, Appalachian Influence and Shared Influence engaged a total of 9,014 individuals, 236 of whom were paid influencers and 8,778 of whom were digital volunteers. Paid influencer posts achieved a total of 868,943 impressions, 42,432 engagements and 1,567 comments. Comments on paid influencer posts were overwhelmingly positive, with 87.4% positive and 0.8% negative. Interviews showed the importance of understanding local realities, leading with compassion and emphasising the 'human' aspects of dependency and addiction in messaging.

Conclusion: This study shows the potential to implement an influencer-led social media intervention to reach people with authentic and compassionate messaging about harm reduction and SSPs. Future research should examine intervention effectiveness and how this approach can be applied to other stigmatised topics.

Corresponding author: Erika Bonnevie, The Public Good Projects, 33 Irving Pl, Third Floor, New York, NY 10003, USA. erika.bonnevie@publicgoodprojects.org.

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Keywords

Digital media; harm reduction; health communications; influencers; social media; syringe services programmes

Introduction

Syringe services programmes (SSPs) are community-based programmes in the USA that provide a range of harm reduction services designed to reduce the spread of blood-borne viruses and mitigate adverse health outcomes related to drug use (Centers for Disease Control and Prevention (CDC), 2021a; National Harm Reduction Coalition, 2023; Ritter and Cameron, 2006). While the services provided by SSPs vary, they can include safe disposal of needles and syringes, testing for infectious diseases such as HIV/hepatitis C virus (HCV), and the distribution of sterile injection supplies as well as naloxone, an injected or inhaled drug that reverses opioid overdoses. Many SSPs also act as an information resource to connect individuals with other health promotion resources and substance use counselling and treatment (CDC, 2019; Jarlais et al., 2015). Research on the benefits of SSPs and best practices for effective implementation is well established (Javed et al., 2020). New users of SSPs are five times more likely to enter drug treatment and three times more likely to stop using drugs, compared to those who do not use SSPs (Hagan et al., 2000). SSPs improve community safety by reducing unsafe needle disposal practices and litter, and communities that have implemented SSPs have seen no increases in crime (Galea et al., 2001; Levine et al., 2019; Marx et al., 2000). SSPs also reduce the transmission of infectious diseases such as HIV and HCV (Platt et al., 2017).

Despite decades of research around the benefits of and best practices in SSP implementation, stigma against SSPs remains a challenge. Stigma and misinformation are barriers to promoting pro-SSP policies and to individuals seeking treatment (Paraskos et al., 2019). Misconceptions about SSPs include beliefs that SSPs ‘enable’ addiction and attract crime, condone and promote drug use and increase environmental hazards from discarded needles (Broz et al., 2021). Public attitudes towards SSPs are not well studied, although limited research has shown high levels of stigmatising attitudes (McGinty et al., 2018; Schlosser et al., 2022; Zeller et al., 2022). The active promotion of misinformation and disinformation about harm reduction and SSPs is an another key factor that increases stigma and opposition to these programmes (Stoltman et al., 2023). Policies that guide the implementation of SSPs are nuanced and frequently subject to debate and change, which complicates the ability for SSPs to provide consistent services. (North America Syringe Exchange Network, 2022). In various states and communities around the country, policies have been enacted that close long-standing SSPs or change implementation of their services (NASEN, 2023). It is critical to increase public support for SSPs as a way of supporting people who use drugs and reducing infectious disease outbreaks. There is a need for strategies to communicate positive information about SSPs. Those who support SSPs often lack the talking points needed to counter anti-SSP positions. As a result, visible community support for SSPs appears absent, even in communities that could benefit from SSP services.

In 2021, The Public Good Projects (PGP) partnered with the CDC Foundation on a project that engaged social media influencers to communicate information about SSPs. Social media influencers are individuals who have built a reputation on social media and are followed by people who look to them as trusted messengers of information (Geyser, 2017). PGP has previously partnered with social media influencers to communicate about various health topics. Evaluations of previous programmes have proven influencers to be a feasible and potentially effective way to communicate about challenging topics, such as vaccination (Bonnevie et al., 2020b, 2021d), sexual health (Bonnevie et al., 2021c), mental health stigma (The Public Good Projects, 2019) and opioid use stigma (Bonnevie et al., 2021b). This present study will explore how this study applied lessons learned from previous interventions, with the aim of using influencers to increase public support for SSPs and harm reduction. This paper reviews the creation of the programme and examines the feasibility of using influencers to communicate information about harm reduction.

Methods

Study settings

As part of this project, PGP created two interventions that recruited individuals into two influencer networks spanning six areas, selected based on their risk of viral hepatitis infections or HIV outbreaks (CDC, 2021b): West Virginia; eastern Tennessee; eastern Kentucky; Minneapolis/St. Paul, Minnesota; Boston/Lowell, Massachusetts and Philadelphia, Pennsylvania.

Influencers in West Virginia, Tennessee and Kentucky were part of a programme called Appalachian Influence, while influencers in Hennepin County, Boston/Lowell and Philadelphia were part of a programme called Shared Influence. The two programmes had separate branding and messaging based on their regions, unique websites (appalachianinfluence.org and sharedinfluence.org) and accounts on Facebook and Instagram (handles: apinfluence and sharedinfluence) that provided information and recruited people to the influencer network.

Appalachian Influence was launched in West Virginia in April 2022, with expansion to counties in Tennessee and Kentucky in July 2022. Shared Influence was launched across Boston, Minneapolis and Philadelphia in July 2022.

Engagement with paid influencers and digital volunteers

Appalachian Influence and Shared Influence engaged with two types of individuals – paid influencers and digital volunteers. Paid influencers were individuals who hold influence in an intervention's geographic area, were recruited by PGP through influencer marketing software and were paid to post on behalf of the intervention. Digital volunteers were individuals who lived in the target area and signed up to join the network and use their social media to share public health messages. Digital volunteers and paid influencers received ongoing education and technical assistance to support online content and conversations with peers and social media followers.

Paid influencers made up the minority of programme members, comprising approximately 5% of the overall Appalachian Influence and Shared Influence networks. Paid influencers were recruited through an influencer management software system which provides a centralised platform for identifying, contacting and collaborating with influencers. 'Influence' was based on number of followers, reach, typical engagement levels and relevance to specific areas. Paid influencers were required to have at least 1,000 followers. Influencers worked with PGP to post educational messages about harm reduction and SSPs on their social media accounts. Before creating content, paid influencers were provided with a Welcome Guide that included background on the issue, educational talking points, and tips for constructing posts on the topic. This helped paid influencers write accurately about harm reduction services, provided them with information to use in posts and guided them on responding to comments they could receive. Influencers were encouraged to personalise their posts by adding their own voice and experiences. PGP reviewed all influencers' content prior to posting to ensure accuracy and alignment with programme strategy. Paid influencers were required to tag their content as being a brand partnership. Influencers were allowed to post multiple times on different platforms, depending on their interest and on which platforms they were active. Digital metrics for their post (e.g. likes and comments) were gathered from the influencer software system. To test different ways of communicating information and fostering engagement with the public, 11 influencers were also asked to post Instagram story polls. Influencers were asked to watch a short training video, then share a series of five Instagram stories: two short videos, one poll and two graphics. In these stories, influencers explained what they learned about the harm reduction and talked about the process of educating themselves on the issue.

Digital volunteers comprised most of the Appalachian Influence and Shared Influence networks (~95%) and expanded programme reach. Digital volunteers were invited to sign up as a way of using their social media to make their community healthier, as part of a volunteer network. Signups were promoted through digital ads on Instagram and Facebook. Clicking on an ad took volunteers to the relevant social media pages or websites, which provided information on the programme and how to participate. Digital volunteers were not paid to post, and anyone could join regardless of follower count. After signing up, digital volunteers received three emailed newsletters to provide knowledge about harm reduction and how to have accurate and positive conversations about the topic. They also received monthly Network Update emails with examples of local influencer posts. Digital volunteers also received a short training video with tips on how to make an educational and motivating post and were encouraged to visit the programme's social media pages to share images with their own networks. Digital volunteers were invited to tag Appalachian Influence or Shared Influence for exposure and tracking, but it was not a requirement.

Programme messaging

The intervention was designed to deliver accurate and supportive SSP messaging in locally relevant and meaningful ways. To inform programme strategy and messaging, project researchers engaged in a multi-phased environmental scan, with a focus on understanding the local context of each implementation area. The environmental scan consisted of a literature review, interviews with subject matter experts and representatives from

community-based organisations and media monitoring to understand online conversations about SSPs and harm reduction. The environmental scan was ongoing throughout the project period to incorporate new information or to speak with newly identified subject matter experts.

Messaging introduced the concept of harm reduction and syringe services, with a focus on the range of services offered by SSPs and their benefits to the community. Rather than encouraging use of harm reduction services, messaging focused on increasing awareness and support of harm reduction programmes in the community that help others. All messages were grounded in compassion, empathy and encouragement. Appalachian Influence and Shared Influence had their own unique messaging that reflected the cultural and legal differences in each area. For example, the following text was used in Appalachian Influence:

> Just like our fears won't disappear until we face them, our problems won't either. Appalachia is facing an opioid issue, and we need to act on it. That means using harm reduction techniques to make sure our loved ones are safe. Protect the well-being of your community at the link in our bio.

The same message was adapted for Shared Influence:

> The opioid crisis isn't going away. We have to step up and advocate for our community's needs; it's the only way to address our problems. Learn more about resources that prevent overdoses and how to stop the spread of infectious diseases at the link in our bio.

An online supplemental file provides examples of the messaging used in the programmes.

Subject matter expert and community-based organisation interviews

All interviews followed a semi-structured interview guide and were conducted in English over Zoom. Interviewees were informed that they could skip any question, and interviews with subject matter experts were recorded with the consent of the interviewee. Interviews with community-based organisations were not recorded; instead, an analyst took notes throughout. Interviews were conducted with 16 subject matter experts, 8 of whom had expertise at national-level harm reduction or public health organisations, and 8 had experience working in SSPs in the local areas (two experts in each area: Appalachia, Hennepin County, Boston/Lowell and Philadelphia). Interviews took place in two phases, with the first phase in January 2022 and the second phase in July 2022. Subject matter experts were selected based on their broad knowledge of the field, as well as awareness of the local context.

Twelve representatives from community-based organisations participated in interviews, from September 19, 2022 to November 18, 2022. Non-harm reduction organisations were chosen to broaden the programmes' reach and provide a new perspective. Organisations were selected within each of the areas to provide insight on community attitudes towards harm reduction and share social content on their organisation's social media account. While community-based organisations were intentionally selected outside of the harm reduction community, their philosophies aligned with harm reduction principles. As part

of their onboarding, project researchers held interviews with representatives from the organisations to understand more about their communities, familiarity and support of harm reduction services, and their communities' experiences with the opioid crisis and other harm reduction-related topics.

Analysis for interviews was conducted in Microsoft Excel by one researcher (M.S.), with themes generated through a process of deductive analysis.

Media monitoring

PGP used multiple software platforms to monitor conversations about SSPs and harm reduction in the intervention areas. Platforms collect publicly available messages transmitted across multiple media channels, including social media, video sites, news sites and websites, online forums and so on. Data are used to understand the knowledge, attitudes and behaviours of the public towards specific health topics. For this project, project researchers adapted procedures used by PGP previously (Bonnevie et al., 2020a, 2021a) to monitor conversations about harm reduction. Data collected were contingent upon a keyword query constructed by project researchers using Boolean search methodologies. Throughout the project period, data were continuously monitored to identify spikes in conversation about SSPs. This allowed us to proactively prepare influencers and accounts for potential negative responses, and also revealed positive stories that could be highlighted in messaging.

Digital metrics

Digital metrics were used to understand paid influencer performance and reach. Metrics were provided by the influencer recruitment platform and included reach (people who have seen the content), total impressions (times content was displayed), total engagements (likes, comments, shares) and post engagement rate (engagements/followers). All metrics were analysed cumulatively.

The total comments on posts were obtained from the influencer posts directly, as part of the process of sentiment analysis. Project analysts conducted sentiment analysis on every paid influencer post. Two analysts coded each comment found on a paid influencer's post approximately 2 weeks after the influencer posted. Comments were coded to understand whether they were positive, negative or neutral. Positive comments were defined as any comments that expressed positivity towards the post, including comments that directly referenced the content in the post or comments that expressed general positivity (e.g. 'Amazing message!'). Neutral comments were defined as positive comments that clearly did not pertain to the post content (e.g. 'I love your hair'), or comments that did not express a positive or negative sentiment. Negative comments were defined as comments that expressed negativity towards the post content. PGP provided support to influencers who experienced negative or abnormal comments (e.g. one influencer received a large amount of spam). However, none of the paid influencers received negative comments they were unable to manage on their own. Methods for comment sentiment analysis were adapted from previously published work (Bonnevie et al., 2021d).

Results

Digital metrics

Between March and November 2022, Appalachian Influence and Shared Influence engaged a total of 9,014 individuals across both areas: 6,576 for Appalachian Influence and 2,438 for Shared Influence (Table 1). A total of 236 paid influencers posted, 100 of whom posted on behalf of Appalachian Influence and 136 posted on behalf of Shared Influence. By geographic region, Appalachian Influence recruited most participants from West Virginia (3,385), followed by Tennessee (1,515) and Kentucky (1,148). Shared Influence recruited most participants from Minneapolis (1,041), followed by Philadelphia (781) and Boston (487). Despite the fact that posts were targeted towards these specific areas, 129 people were recruited from other areas, potentially due to the fact that their permanent locations were in other cities or states.

Paid influencers were allowed to post across multiple platforms (Table 2). A total of 415 posts were made by paid influencers, 180 for Appalachian Influence and 235 for Shared Influence. Posts achieved 868,943 impressions, 348,525 for Appalachian Influence and 520,418 for Shared Influence. Despite the lower number of influencers recruited for Appalachian Influence, posts received over double the number of engagements (likes, comments, shares), at 29,133 for Appalachian Influence and 13,299 for Shared Influence. When examining the sentiment of comments received on paid influencer posts, a total of 1,567 comments were analysed. Of those, the majority (87.4%) expressed positive sentiment, while a small number (0.8%) expressed negative sentiment. One influencer received an abnormal amount of spam, which accounted for the majority of the spam comments (11.9%).

Eleven influencers were invited to participate in Instagram story polls which engaged their followers through an Instagram story and a poll at the end. On average, 76% of viewers tapped through this entire series, 133 people took the poll and 70% said they were familiar with the term harm reduction.

Subject matter expert and community-based organisation interviews

Interviews highlighted the following themes, which were incorporated into messaging:

The importance of understanding local realities.—Interviewees felt strongly that messaging should reflect realities on the ground and be guided by individuals who understand community challenges. Subject matter experts felt that this is particularly important because there are sensitivities around SSP legalisation: in some areas SSPs may not be legal, and becoming legal may force them to cut long-standing services (e.g. changing from needs-based syringe exchanges to 1:1 exchanges). Any work to promote SSPs should support people and the work being done on the ground, instead of jeopardising it.

Highlighting the ‘human’ aspects of dependency and addiction.—All interviewees highlighted the importance of the ‘human’ aspect of harm reduction and compassionate messaging. Subject matter experts felt that this includes highlighting the ways SSPs align with a community’s values and are part of a holistic, supportive approach

to promoting health in the greater community. Compassion-based messages should focus on building people up – emphasising common experiences, destigmatising addiction and SSPs services and highlighting ways people can support each other.

Focus on services.—Rather than emphasising SSPs as a programme, subject matter experts felt that in some areas it may be more accepted to reference the services that SSPs provided and how they supported the community. This approach may be more comfortable for unlicensed SSPs or SSPs operating in areas that have tenuous legal standing. In contrast, there may be opportunity for direct education about SSPs in areas where legalisation was not a challenge. Infectious disease testing and wraparound services are less stigmatised than syringe exchange and may be a better initial focus as a way of building incremental support.

Communities are not aware of the breadth of harm reduction.—Communities may be aware of some harm reduction services, but not all. For example, several community-based organisations said members of their community were familiar with naloxone, as they or other organisations had hosted naloxone training and distribution events. Other communities are familiar with SSPs because they operate in their community or from hearing about them in the media. Organisations felt their communities were not familiar with other services like fentanyl test strips, infectious disease testing or the term ‘harm reduction’.

Community-based organisations are trying to address the upstream and downstream effects of the opioid crisis.—Every community-based organisation said they are working to address the effects of the opioid crisis in some way. Some offered job training programmes for people formerly incarcerated for drug use or possession, hold parenting classes for grandparents raising grandchildren, help people with substance use disorders find housing or food and provide peer support recovery programmes.

Discussion

To the best of our knowledge, Appalachian Influence and Shared Influence are the first influencer programmes dedicated to educating the public about harm reduction and SSPs and their services. These programmes were based in evidence gathered from formative research, with messaging that considered the nuances of communicating about a topic often subject to debates. Interviews with subject matter experts and community-based organisations highlighted the importance of grounding messaging in local realities, emphasising the human aspect of addiction and taking a compassionate approach. Appalachian Influence and Shared Influence merged best practices in health communication and public health, with new strategies for communicating information that reflect the places where people spend their time online (Bonnevie et al., 2021b; National Academies of Sciences and Medicine, 2016). Preliminary digital metrics indicated that the interventions performed in accordance with benchmarks set for social media marketing campaigns, a positive finding considering that the programmes focused on harm reduction (Sehl, 2023). We believe that this approach holds promise in communicating educational information about harm reduction and SSPs in a way that is positively received by the public.

There are various reasons why this approach has the potential to change attitudes about SSPs. Online communities are often places where people go to find trusted health information from peers. A majority of people have sought health information online and via social media (Chen et al., 2018; Pew Research Center, 2013; Zhao and Zhang, 2017).Peer-generated health information – often found on social media – is an increasingly important form of information, and people often use it as a starting point for additional research and health decision-making (Rupert et al., 2016). While research on the influence of peer-generated health information on social media is still in its infancy, an initial study shows that trust in a source is more predictive of health-related outcomes than time spent on a site (Hether et al., 2014). This makes trusted peers, including those on social media, a potential way to positively communicate health information (Evans, 2016). The comment sentiment analysis undertaken as part of the programmes may support this research: nearly all comments on influencer posts were positive (87%) and across 1,567 comments, only 12 of them were negative. Notably, the percentage of positive comments observed in this study is consistent with what has been found in previous projects using influencers to communicate about COVID-19 and flu vaccines, which received 96% and 94% positive comments, respectively (Alvarado-Torres et al., 2022; Bonnevie et al., 2021d). This suggests that the model of using influencers as trusted sources can be feasibly applied across various issues that tend to cause debate. Future research should undertake further thematic analysis to examine the specific themes within comments, to further help guide messaging.

The use of digital media also allows for a level of flexibility that is important for a health topic subject to constant conversation and policy changes. The implementation of SSPs is often in flux, particularly since the COVID-19 pandemic which forced programmes to close or curtail services (Bartholomew et al., 2020). Misinformation about SSPs can contribute to negative perceptions about SSPs and reinforce stereotypes about people who use the programmes. Posts on social media that have been critical of SSPs can also impact service provision, particularly if pro-SSP voices are not equipped to show their support. For this reason, media monitoring was a critical project component, allowing analysts to identify spikes in conversation that people might be exposed to. The flexible nature of the digital messaging allowed for the teams to reframe messaging based on these spikes and address issues in real-time. These applications of media monitoring are an innovative way to inform health communications.

This flexibility also allowed analysts to experiment with different communication approaches, which is not possible with more traditional media (e.g. billboards and TV/radio ads). One example was the use of Instagram story polls, which consisted of two videos, one poll and two graphics. On average, 76% of viewers tapped through this entire series, a number that is in line with industry standards for non-health topics (Rival, 2023). Other studies have corroborated the potential for using Instagram stories to change behaviour. While most research has been within for-profit marketing, promise has also been shown in medical training and academia (Buffer, 2018; Katz and Nandi, 2021; Nguyen et al., 2021). This shows the potential for alternate ways to communicate more in-depth information about harm reduction via social media, aside from just images and videos on a feed.

This programme can also be feasibly applied across various contexts, from Appalachia to urban areas, while still having a local look and feel. Sentiment analysis showed that nearly all comments on posts were positive, suggesting that if done in an intentional and targeted way, it is possible to use social media influencers to build support for harm reduction, regardless of location. Future research should examine ways to select influencers based on the sociodemographic characteristics of followers, to increase support for harm reduction among groups that traditionally show more resistance or criticism.

This paper fills a gap in research on digital approaches to communicate educational messaging to the public about SSPs. Communicating to the public about SSPs through social media is encouraged by SAMHSA (2018), but there is less information on best practices for doing so. Research on communicating about SSPs to the public also tends to be framed around responses to disease outbreaks. For example, a study in West Virginia reviewed how national, state health departments and local health departments collaborated to disseminate information about SSPs after an HIV outbreak among people who inject drugs (Watson et al., 2022). While providing critical information, it also focused on an active outbreak. There is less information on how to communicate to communities outside of an outbreak. It is critical to understand how to create sustained support for SSPs when the immediate emergency of an outbreak is over. There has been more research focused on increasing support towards SSPs among specific populations, such as law enforcement (Allen et al., 2022; CDC, 2022; Davis et al., 2014; Franco et al., 2021; National Governors Association, 2022). Strategies have also focused on reaching people who use SSPs, with messaging that is non-stigmatising and increases the use of SSPs (Lancaster et al., 2020; Pasman et al., 2022; World Health Organization et al., 2007). Given this, there is a clear need for more information on reaching the general public with digital content, outside the experience of an infectious disease outbreak.

Limitations

This study has some limitations. It is possible that influencers' followers were predisposed to have more positive attitudes towards SSPs compared to the general population. We tried to mitigate this possibility by selecting influencers representing an array of interests, not just related to health. In addition, while we can obtain general social media reach numbers for influencer posts, it is not possible to know how many people read the influencer's post and understood the information. While we asked digital volunteers to tag the programme name in their social media post, this was not a requirement and we are unable to estimate the reach of content shared by digital volunteers. To address these limitations, we implemented various methods to understand perceptions and engagement with content. Finally, this study only shows the feasibility of implementing an influencer-led programme around SSPs and harm reduction. Evaluation of programme effectiveness is currently underway.

Conclusion

SSPs are critical sources for communities. This study provides information on the process of localising an influencer-led social media intervention and reaching people in a positive way through authentic, compassionate messaging. Future research should examine how the

messaging used in this programme can have real-world impacts on increasing acceptance of SSPs, and how it can be applied to other highly stigmatised public health topics. Since this type of intervention requires long-term implementation to evaluate impact, we believe that sustained investment in an influencer-led programme would increase acceptance in target communities and increase support for SSPs.

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Table 1.

Recruitment for Appalachian Influence and Shared Influence, by region and type of individual.

Metric	Appalachian Influence (*N* = 6,576)	Shared Influence (*N* = 2,438)
Overall recruitment		
Paid influencers	100 (1.7%)	136 (5.6%)
Digital volunteers	6,476 (98.5%)	2,302 (94.4%)
Recruitment by region		
West Virginia	3,385 (51.5%)	N/A
Kentucky	1,148 (17.5%)	N/A
Tennessee	1,515 (23.0%)	N/A
Minneapolis	N/A	1,041 (42.7%)
Boston	N/A	487 (20.0%)
Philadelphia	N/A	781 (32.0%)
Other	N/A	129 (5.3%)

Table 2.

Digital metrics for Appalachian Influence and Shared Influence.

Metric	Total	Appalachian Influence	Shared Influence
Total paid influencers	236	100	136
Paid influencer posts	415	180	235
Potential reach	614,146	169,931	444,215
Impressions	868,943	348,525	520,418
Total engagements	42,432	29,133	13,299
Post-engagement rate[a]	1.04%	1.6%	0.05%
Total comments on posts[b]	1,567	N/A	N/A
Positive sentiment	1,369 (87.4%)	N/A	N/A
Negative sentiment	12 (0.8%)	N/A	N/A
Spam	186 (11.9%)	N/A	N/A

[a]Engagement rate for stories is unavailable.

[b]Comment sentiment analysis was performed across all posts and not analysed by programme.