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A Radio Drama's Effects on HIV Attitudes and Policy Priorities: A Field Experiment in Tanzania

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Abstract

A growing body of evidence investigates how entertainment education influences knowledge about HIV, stigma toward those with HIV, and openness to disclosing one's HIV status. The present study shows that in addition to these effects, mass media interventions may influence audiences' policy priorities, such as their demand for local access to HIV/AIDS medical care. A condensed (2 hours) version of a popular Swahili radio drama was presented to rural Tanzanians as part of a placebo-controlled experiment, clustered at the village level. A random sample comprising 1,200 participants were interviewed at baseline and invited to attend a presentation of the radio drama, and 83% attended. Baseline respondents were reinterviewed 2 weeks later with a response rate of 95%. In addition to increasing listeners' knowledge and support for disclosure of HIV status, the radio drama produced sizable and statistically significant effects on listeners' preference for hypothetical candidates promising improved HIV/AIDS treatment.

Keywords

attitudes, entertainment education, HIV/AIDS, media

A large body of research investigates the effects of media and entertainment education ("edutainment") on knowledge about HIV/AIDS and stigma toward those living with it (Banerjee et al., 2019; Bertrand, 2005; LaCroix et al., 2014). These interventions are generally premised on one or both of the following propositions. First, changing *individual beliefs* about the risks of HIV/AIDS, the pathways of HIV transmission, and the efficacy of HIV treatments reduces risky behaviors and promotes the adoption of effective treatments (Bogale et al., 2011; McGill & Joseph, 1996; Valente & Bharath, 1999; Vaughan et al., 2000; Xiaoming et al., 2000). Second, reducing *stigma* around HIV/AIDS decreases the harmful social effects of living with HIV and encourages HIV positive people to disclose their status and seek medical care (Bekalu et al., 2014; Creel et al., 2011; Mbonu et al., 2009; O'Leary et al., 2007).

However, the literature on edutainment strategies to address HIV/AIDS has generally neglected a third channel of media influence: changing the *policy preferences* of citizens with respect to government provision of HIV/AIDS medical care. In addition to their effects on individual knowledge and social attitudes, narrative media interventions may increase citizen demand for government action by highlighting the social costs of HIV/AIDS and the value of government health services, especially in areas where those services are generally unavailable.

In this study, we present evidence from a field experiment in Tanzania's northeastern Tanga Region designed to test the effects of an entertainment education campaign to address HIV/AIDS. The radio drama *Wahapahapa* was developed by a Tanzanian media organization to increase awareness of HIV/AIDS treatments, reduce stigma toward HIV positive individuals, and increase listeners' willingness to disclose their HIV status. We conducted a cluster-randomized trial testing the effects of exposure to a condensed version of *Wahapahapa* in 30 villages in Tanga. In addition to measuring standard outcomes about knowledge and stigma, we also measure a category of outcomes that has largely been overlooked in prior edutainment studies on HIV/AIDS, namely, the relative importance of access to HIV/AIDS medical care among government priorities.

Our findings demonstrate the powerful influence that entertainment education can have on audiences' demand for government action in domain of public health. When interviewed 2 weeks after exposure to the radio program, villagers

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assigned to the treatment group were substantially more likely to list HIV/AIDS treatment as a top community priority (more than one village-level standard deviation [*SD*]) and gave 16 percentage points more vote support to a hypothetical candidate running on a platform to increase access to medical care. These effects are much larger than corresponding effects on HIV knowledge, stigma, and willingness to disclose one's HIV status. The implication is that health-related dramatizations may have effects on public opinion that go beyond specific behaviors and norms that are modeled by the characters.

Method

Setting

The study was conducted in Tanga, a northeastern region of Tanzania. Tanga is statistically similar to other rural parts of the country in terms of economic development (United Nations Development Program, 2017). Literacy rates among those 15 years or older are 82% among males and 70% among females (Demographic and Health Survey, 2010). Limited state capacity is evident throughout rural Tanga—there are few paved roads, little electrification, and no sewage infrastructure. Although immunization rates have increased markedly since the 1990s, hospitals and clinics remain rare outside urban areas.

With regard to HIV in particular, the nationwide 2016–2017 Tanzania HIV Impact Survey (Ministry of Health, Community Development, Gender, Elderly and Children, 2017) found 8.7% of rural households have at least one HIV-positive member, and prevalence in Tanga is similar to rural Tanzania as a whole. Roughly two-thirds of Tanzanian adults report having been tested for HIV in the past, but this rate is lower in rural areas. Of HIV-positive individuals in Tanga, 43% were unaware of their status, underscoring the importance of testing and access to antiretroviral drugs (ARVs). As of 2019, 75% of Tanzanian adults living with HIV are on retroviral treatment (Avert, 2020); this figure is believed to be much lower in rural areas. As Sanga et al. (2019) note in their study of rural Tanzania, the main barriers in linking those living with HIV to proper care include "Fear of stigma, lack of disclosure, denial and being asymptomatic, belief in witchcraft and spiritual beliefs."

Intervention

The radio drama was a 1 hour and 50-minute abridged audio screening of *Wahapahapa*, a serialized Swahili radio drama written and produced by Media for Development International. As explained in the Supplemental Appendix, the abridged version enabled us to present many of the main themes and characters of the longer drama in the span of a single sitting. The writing of *Wahapahapa* was inspired by a pair of longstanding arguments about what makes edutainment effective. The first is that narrative messages circumvent counterarguing and other forms of resistance by promoting emotional involvement and character identification (Green & Brock, 2000; Slater, 2002). The second is that audiences tend to emulate the behavior of characters with whom they identify (Moyer-Gusé, 2008). The plot of the abridged version of *Wahapahapa* concerns Ray, a young musician living in an unnamed town who comes to terms with his own HIV-positive status. The narrative also follows Ray as he discloses his status to his female romantic partner, employer, and friends, and receives their support in seeking out ARVs and medical support from clinics and physicians. When editing the original drama for length, we sought to preserve its essential narrative elements. The protagonist Ray models the process of seeking out appropriate medical care, as opposed to traditional or spiritual remedies, and the audiences sees the positive impact of ARVs on his well-being.

Placebo villages received a 1 hour and 45-minute abridged audio screening of *Tamapendo*, a serialized Swahili radio program developed by the nongovernmental organization Uzikwasa, which focused on reducing support for early and forced marriage (EFM). The effects of the placebo on EFM-related opinions are reported in a separate study (Green et al. 2020). For purposes of the present study, the key feature of this abridged version of *Tamapendo* is that it makes no mention of HIV or access to medical care. Thus, the placebo is expected to have no influence on the outcome measures of interest here.

In each village, 40 randomly selected respondents were invited to attend a community screening of the abridged radio drama. A single screening was held in the early evening to accommodate respondents' work obligations. The screenings were held in a classroom or other indoor community meeting place near the center of town, and attendees were provided light snacks and refreshments. At all sites, two members of the research team briefly discussed the logistics of the screening and provided refreshments midway through the event but did not explain the content of the shows or facilitate group discussion.

It is common for Tanzanians to listen to the radio together rather than alone. In our sample, 54% of respondents who reported listening to the radio reported that they sometimes listened with other members of their community. Moreover, data from a nationally representative survey in 2017 shows that Tanzanians often report listening to the radio despite having no radio in their own household, suggesting that at least some of these respondents are listening with others. For example, close to 30% of respondents in the nationally representative Afrobarometer Round 7 who report neither owning a radio nor living in a household that owns a radio nevertheless report listening to the news via radio a few times a week or every day.

Site Selection

The study sites comprised 30 rural villages distributed evenly across 15 wards in Tanzania's northeastern Tanga Region.

Sites were eligible for inclusion if they met the following criteria: (1) villages did not border a main or secondary road and were at least 8 km from a major town, to focus the study on rural areas and limit the risk of attrition and (2) villages were at least 4 km from any other selected village, to minimize the risk of spillovers. In wards containing three or more eligible villages, we randomly selected two villages.

Random Assignment and Blinding

We assigned villages to experimental groups after blocking at the ward level, on the assumption that villages in the same ward are likely to share background attributes that predict our experimental outcomes. This assumption proved to be correct; for all outcomes, the inclusion of block fixed effects increases the adjusted R^2 and thus improves the precision with which treatment effects are estimated.

Because the study was designed as a placebo-controlled trial, we made every effort to maintain symmetry between experimental groups when encouraging participation in the listening events. Enumerators conducting baseline surveys were blind to the treatment assignment of each village so that their encouragement to participate could not be affected by the content of the audio drama. Consistent with the assumptions of our design, attendance rates were nearly identical in treatment villages (82.80%) and placebo villages (82.84%).

Respondent Sampling

In each village, we employed a four-step strategy to sample study participants. First, the research team used satellite maps to identify the approximate village radius as 200, 400, 600, or 800 meters from the village center. Second, a census team listed all households living within the village radius, as well as the age and gender of household members between 18 and 65 years old. Third, the census team's survey software randomly selected 20 households for the female respondent group and 20 households for the male respondent group, and randomly selected a household member of the targeted gender. Female respondents were interviewed by women, and male respondents were interviewed by men. Fourth, if an individual of the targeted gender and age range was not available from the household during the census phase, the household was dropped and a replacement household was randomly selected.

Data Collection

The baseline survey was rolled out consecutively across wards so that the treatment and placebo pair in each ward received the baseline survey, audio screening, and end-line evaluation at similar points in time. An overview of the data collection timeline appears in the Supplemental Appendix. Cooperation rates were extremely high. The initial sample of 1,200 respondents completed a baseline survey and were invited to attend a screening with others surveyed from their village three or four days later. Of the baseline respondents, 998 (82.8%) attended. The end-line survey team conducted a follow-up survey 13 to 16 days after the village screenings, regardless of respondent attendance. 95% of baseline respondents completed the follow-up survey.

Table 1 reports the baseline characteristics of individuals who attended screenings in treatment and placebo-assigned villages. As expected, random assignment is not significantly correlated with pretreatment characteristics of screening attendees. Analysis of pretreatment balance between treatment and placebo groups across all baseline variables appears in the Supplemental Appendix. Of 41 prespecified pretreatment covariates, two covariates (4.8%) show differences between treatment and placebo attendees greater in magnitude than the largest 5% of differences obtained under 10,000 hypothetical rerandomizations, and four covariates (9.7%) show differences larger than the largest 10%.

Ethics

The *Wahapahpa* radio series had been aired in some regions of Tanzania prior to our evaluation, so ethical concerns focus primarily on the question of how the series affected listeners. We randomly assigned half the listeners to the treatment condition because, ex ante, it was unclear whether a disclosure narrative would improve health or policy outcomes. The research team sought to minimize risk of harm to those participating in the screening process, especially psychological harm to individuals living with HIV/AIDS, and respecting the autonomy of participants. The data collection team shared daily qualitative reports about conversations and feedback following each screening to ensure that the screenings were not promoting anti-HIV stigma or having other adverse consequences. We received no negative reports about the reception of *Wahapahpa* during the intervention. Second, we designed the data collection process to ensure that neither the baseline nor follow-up surveys undermined the safety of research participants. We worked closely with Tanzanian researchers to ensure that the wording of questions, in particular questions about HIV status and stigma, were phrased so that they did not pressure respondents to disclose their HIV status or produce negative emotional effects.

Outcome Measures

The primary outcomes are measured by responses to the follow-up survey. English translations of the Swahili survey questions used to measure each outcome are provided in the Supplemental Appendix.

Knowledge. Like other evaluations of HIV-related entertainment education interventions, ours attempts to assess gains in knowledge from information provided via the drama. The knowledge questions focus on familiarity with ARVs and mother-to-infant transmission of HIV during pregnancy.

Table 1. Baseline Demographic Characteristics and Attitudes.

Dependent variables	HIV drama group ($n = 593$)	Placebo drama group ($n = 612$)	RI p-value
A. Demographic characteristics			
Age, years, *M* (*SD*)	38.29 (11.86)	38.53 (12.01)	.831
Education, years, *M* (*SD*)	7.14 (3.21)	7.33 (3.06)	.550
Male, %	49	52	.442
Married, %	66	66	.931
Born in village, %	56	58	.708
B. Religion, %			
Muslim	65	65	.953
Christian (nondenominational)	13	12	.921
Christian (Catholic)	13	10	.465
Christian (specific Protestant denomination)	10	13	.683
C. Media access, %			
Own TV	31	33	.563
Own radio	80	78	.497
Own cell phone	14	19	.853
D. Baseline HIV attitudes			
Aware of HIV, %	99.80	99.80	.700
Believe it is safe for HIV+ person to work with kids	44	45	.771
Comfortable sitting with HIV+ person on bus	92	91	.768
Witnessed HIV+ exclusion (No. of 4 situations), *M* (*SD*)	0.78 (0.85)	0.79 (0.79)	.909

Note. Randomization inference (RI) p-values based on 10,000 rerandomizations. All values are for compliers (respondents who attended the screenings).

Confidence in Traditional Healing Methods for HIV. One of the important themes of the drama is the efficacy of ARVs and, in contrast, the danger of relying on traditional medicine. Confidence in traditional healing is measured by a question that asks, "Do you believe that spiritual efforts like prayer and traditional medicine are likely to cure HIV/AIDS?"

Stigma Attitudes and Norms. Another set of outcome measures assesses whether the drama's message reduced HIV stigma, or negative attitudes toward HIV-positive people. To measure stigma against HIV-positive people, two questions asked whether the respondent would be willing to work alongside or cohabitate with an HIV-positive person. To further measure the propensity to exclude HIV-positive people socially, respondents were presented with the question, "Do you think a young boy with HIV should be allowed to play football with other boys?" Finally, as a measure of perceived social norms, respondents were asked how others in the community would feel about working alongside an HIV-positive person.

Disclosure. Disclosure of one's HIV status is another prominent theme in the drama. Four questions measure the respondent's willingness to disclose to a spouse, family, friend, and coworker; a fifth question asks whether the respondent would want a family member to disclose their HIV status.

Communication. Finally, we measure three outcomes that gauge the importance that respondents accord HIV. The first question invites respondents to reflect about a list of topics they may have discussed with friends or family during the past 2 weeks. One of the listed items is HIV/AIDS; this measure is scored 1 if the respondent indicates discussing this topic, 0 otherwise. Our expectation is that the radio drama increases the salience of HIV/AIDS and precipitates conversations about the topic.

Community Priorities. A second measure of priorities gauges the importance accorded to HIV compared with other "goals for your village." Respondents were handed a set of cards, each with the name and image associated with a given goal: reduce the number of people who do not have enough food to eat, reduce the incidence of forced marriage, increase the number of roads, increase the availability of electricity, reduce the amount of crime, and increase the availability of medicine for HIV/AIDS. Respondents were asked, "Please choose and rank the three that are currently the most important to you, and indicate the item that is least important." The resulting scale ranges from 0 (HIV rated least important) to 4 (HIV ranked first). To avoid contamination by the placebo treatment, we removed the priority ranking associated with forced marriage. For example, if a respondent ranked forced marriage as their top priority and HIV as their second priority, we coded HIV as the respondent's top priority. This recoding scheme results in a scale that ranges from 1 = *HIV rated least important or unranked* to 4 = *HIV ranked first or ranked second if forced marriage is ranked first*. In the Supplemental Appendix, we

explain this coding scheme and the assumptions underlying it; we also show that results are robust to alternative coding strategies.

Electoral Priorities. The final measure of policy importance is expressed through a series of votes in a hypothetical local election. Using randomly rotated candidate names signaling different genders and religions, we pitted candidates against one another, each running on a different platform. One candidate seeks to "increase the availability of medicine for HIV/AIDS," while the other candidate's platform is to improve the quality of roads in the village or to reduce the amount of crime. The outcome variable is scored 1 if the candidate running on the HIV platform attracts the respondent's vote; 0 otherwise. In control sites, the correlation between HIV-driven vote choice and access to HIV health care as a village policy goal is 0.28.

Although these electoral choices are hypothetical, the survey took place 2 months before local elections were planned in Tanzania, and the platforms were chosen because they reflected plausible priorities advocated by candidates for village chairperson. Despite being a dominant party regime where the ruling Chama Cha Mapinduzi (CCM) political party has won elections since independence in 1961, Tanzania regularly hosts competitive legislative and local elections. This political competition drives the dominant CCM party to provide public goods and services to ensure large governing majorities (Rosenzweig, 2015). All political parties, including the CCM, campaign on detailed party platforms that initiate and frame national as well as local political debate during and after elections (Bowles, 2020).

Statistical Analyses

OLS is used to estimate the effects of the radio drama on respondents' knowledge, stigma attitudes, willingness to disclose HIV status, and policy preferences. In line with the preanalysis plan, the pool of subjects is restricted to compliers, that is, those who complied with the invitation to attend a radio screening (either the treatment screening on HIV or the placebo screening on EFM). Because villagers were unaware of their assignment to the treatment or placebo condition until they attended the screening, we can be confident that compliers in each condition are comparable. This assumption is confirmed by nearly identical rates of compliance in the treatment and placebo condition and the fact that the two groups have statistically indistinguishable background attributes (see Supplemental Appendix Table 1).

Let y_j denote the survey outcome for subject j in one of the $k = 30$ villages, and let d_j denote this subject's assigned treatment (1 if HIV, 0 if early and forced marriage). The regression model

$$y_j = \beta d_j + \gamma_1 ward_{1j} + \gamma_2 ward_{2j} + \cdots + \gamma_{kj} ward_{kj} + u_j,$$

expresses the outcome as a linear function of the randomly assigned treatment, indicator variables for each of the wards (blocks), and an unobserved disturbance term u_j. The key parameter of interest is β, which represents the average causal effect among compliers. This regression estimator is similar to the difference-in-means estimator, since the block indicators are weakly correlated with the assigned treatment due to small variations in the number of compliers in each village. Because assignment to treatment occurs at the village level, we report clustered standard errors. To obtain exact *p*-values from our blocked and clustered design, all hypothesis tests use randomization inference under the sharp null hypothesis of no treatment effect for any subject (Ludbrook & Dudley, 1998).

Results

Knowledge and Beliefs

Table 2 shows the effect of the *Wahapahapa* screening on a variety of standard outcomes from previous research on mass media interventions to address HIV/AIDS: knowledge, stigma attitudes and norms, and status disclosure. Our first set of outcomes assesses how respondents think HIV is transmitted and how it is best treated. Three questions reflect the drama's recurrent narrative, the necessity and efficacy of ARVs. Two of the questions related to information conveyed only in specific scenes: the possibility of mother-to-child HIV transmission in pregnancy and the ineffectiveness of alternative herbal treatments. In line with our preanalysis plan, we constructed a knowledge index by averaging the number of correct responses out of five questions. On average, villagers who attended the *Wahapahapa* radio drama answered 0.29 more questions correctly (out of 5) than villagers in the placebo group ($p < .01$). The drama was particularly effective at increasing knowledge about the main topic of the drama, ARVs, while its effects on knowledge about transmission and nontraditional treatments was weaker and not statistically distinguishable from zero. Taken together, these results suggest that the radio drama has a significant impact on knowledge, but only on those topics that were depicted repeatedly.

Disclosure

Did *Wahapahapa* increase the willingness of respondents to speak openly about their HIV status? The radio drama directly modelled HIV status disclosure. A central plotline in the drama concerned whether the main character would share his HIV status with his boss and family. When he does share his status, his family and coworkers are accepting and supportive. Modeling disclosure appears to have affected listeners' attitudes. Respondents who attended the *Wahapahapa* screening were 9 percentage points more likely to say that they did not want their family members to keep their HIV status a secret ($p = .01$). We also asked respondents whether they would

Table 2. Knowledge, Disclosure, and Stigma Outcomes by Treatment Group.

Dependent variables	Treatment drama group ($n = 507$)	Placebo drama group ($n = 491$)	ATE	*SE*	RI *p*-value	Village *SD*	*N*
A. Knowledge and beliefs about transmission and treatment							
Knowledge index (Number correct of 5 questions)	3.39	3.11	0.29	0.05	.003	0.27	868
1. % Aware of ARVs (no prompt)	19.92	12.65	7.68	1.74	.003	8.55	997
2. % Aware of ARVs (with prompt)	76.24	67.48	8.99	2.71	.023	15.88	994
3. % Aware of any drug to treat HIV/AIDS	87.18	80.61	6.80	2.00	.026	8.99	997
4. % Aware mother can transmit HIV during pregnancy	60.44	57.27	3.62	2.72	.161	13.12	895
5. % Who don't believe prayer/ alternative medicines can cure HIV	92.11	92.01	0.00	1.79	.497	4.68	957
B. HIV+ status disclosure							
% Who want HIV+ family member to disclose status	75.49	66.33	9.17	2.30	.011	0.12	996
Would disclose HIV+ status to . . . (Average of four groups)	2.82	2.53	0.29	0.09	.031	0.47	998
1. Spouse %	86.39	85.74	0.42	2.54	.472	0.11	998
2. Family %	89.35	82.69	6.63	2.06	.023	0.11	998
3. Friend %	55.03	44.20	10.92	3.67	.031	0.18	998
4. Coworker %	50.89	40.33	10.70	3.09	.020	0.16	998
C. HIV stigma attitudes							
% Willing to work with HIV+ person	84.62	91.04	−6.50	3.61	.895	0.05	998
% Willing to share house with HIV+ person	95.46	96.33	−0.93	1.24	.691	0.02	998
% % Who would allow a young HIV+ boy to play football with others	91.42	89.81	1.60	1.57	.119	0.03	982
D. HIV stigma norms							
% Who perceive others are willing to work with HIV+ person	89.74	85.56	4.20	2.10	.109	0.07	975

Note. ATE = average treatment effect; RI = randomization inference (10,000 re-randomizations); *N* = sample size; ARV = antiretroviral drugs. ATE estimated using ordinary least squares regression, with block fixed effects at the ward level. All values are for compliers (respondents who attended the screenings).

keep their *own* HIV status a secret from their spouse, family, friends, or coworkers if they were HIV positive. Averaged across the four categories, respondents were willing to disclose to 0.29 more groups ($p = .03$). The radio drama's effect was strongest for sharing with coworkers and friends, but the effect on sharing with one's spouse is small and not statistically significant. These results suggest that the dramatization encouraged disclosure in most but not all contexts.

Stigma Attitudes

Next, we turn to the effect of *Wahapahapa* on stigma toward people with HIV/AIDS. We asked respondents about their acceptance of HIV positive individuals in three contexts. The first two questions related to the primary types of stigma modelled by the drama: acceptance of HIV positive persons in the household and the workplace. The third question addressed a type of stigma not discussed in the drama: a respondent's willingness to allow his or her child to play football on the same team as an HIV positive child. Surprisingly, we find no evidence that *Wahaphapa* increased acceptance of individuals with HIV/AIDS in any of these domains.

Stigma Norms

However, when we asked respondents about whether *other villagers* would accept an HIV positive person in the workplace, we found suggestive evidence that the radio drama reduced *perceived* stigma on the order of one-half of a village-level *SD*, although this estimate falls short of the conventional 0.05 level of statistical significance.

Communication With Others

Wahapahapa markedly increased respondents' conversations about HIV/AIDS. Table 3 shows that respondents who attended the *Wahapahapa* screening were 18.5 percentage points more likely to report having talked about HIV/AIDS ($p = .001$). This effect represents a shift of approximately two village-level *SD*s.

Community Priorities

Table 3 also demonstrates a profound shift in the priority ranking that respondents assign to the goal of "increasing the

Table 3. Communication, Community Priorities, and Voting Priorities by Treatment Group.

Outcome measure	Treatment drama group ($n = 507$)	Placebo drama group ($n = 491$)	ATE	*SE*	RI *p*	Village *SD*	*N*
A. Communication							
% Discussed HIV previous 2 weeks	58.97	40.73	18.46	2.16	.001	9.86	998
B. Community priorities							
HIV priority ranking (Average Rank 1–4), *M (SD)*, placebo item (FM) rank removed[a]	1.87 (1.17)	1.51 (0.89)	0.35	0.06	<.001	0.24	998
HIV priority ranking (average rank 0–4), *M (SD)*, placebo item (FM) rank included	1.64 (1.25)	1.24 (0.83)	0.40	0.06	.003	0.19	998
HIV ranked top 2 (placebo item removed 0–1) %, placebo item (FM) rank removed[a]	29.20	16.00	12.10	2.50	.002	9.53	998
C. Electoral priorities							
% Vote for candidate with HIV platform	49.24	34.15	15.80	3.73	.005	15.89	508

Note. ATE = average treatment effect; RI = randomization inference (10,000 rerandomizations); *N* = sample size; FM = forced marriage. ATE estimated using ordinary least squares regression, with block fixed effects at the ward level. See Supplemental Appendix Table 3.B for details. All values are for compliers (respondents who attended the screenings).
[a]Forced marriage ranking removed before calculating outcome.

availability of medicine for HIV/AIDS." The radio drama substantially increased respondents' prioritization of HIV/AIDS by more than a village-level *SD*. Respondents were 12 percentage points more likely to rate HIV/AIDS among their top two priorities ($p < .01$). The average ranking of HIV/AIDS rose by 0.35 scale points. To visualize the magnitude of this shift amid the village-level distribution of opinion, consider the first panel of Figure 1, which compares average HIV/AIDS priority rankings in treatment and placebo villages. Each village is represented by a letter, and treatment and placebo villages in the same ward share a capital and lowercase letter, respectively. Figure 1 leaves no doubt that the treatment led to a substantial and statistically significant increase in HIV/AIDS priority ranking ($p < .01$).

Electoral Priorities

Did shifts in community priorities correspond to changes in electoral preferences? When asked to choose between two hypothetical candidates running for village chairperson in Tanzania's impending local elections, respondents who attended the *Wahapahapa* screening were 15.8 percentage points more likely to vote for a candidate espousing a platform to increase access to HIV/AIDS care as opposed to a candidate who proposes to improve roads or crack down on stealing in the village ($p < .01$). To put this in perspective, the average vote share received by the HIV-focused candidate in the control group was just 34.8%. The second panel of Figure 1 illustrates the vote shares received by candidates advocating increased HIV/AIDS care in treatment and placebo villages. The apparent effect is both large and statistically significant.

Discussion

The entertainment education literature in health has seen randomized trials assess a wide array of media formats, ranging from brief advertisements to feature films, deployed in countries that range widely in terms of economic development. The basic conclusion from this literature is encouraging: Dramatizations typically generate positive effects on health-related perceptions and behaviors, especially in low-income countries (Orozco-Olvera et al., 2019; Shen & Han, 2014; Wakefield et al., 2010). The focus of the present study is whether, in addition, entertainment education shapes the policy priorities of the audience.

Not only do we find effects that are statistically significant approximately 2 weeks after exposure; these effects are substantively large by almost any standard. Whether we consider the issues that respondents rank as priorities for their village or the votes they would cast for hypothetical candidates running on different issue platforms, exposure to an HIV/AIDs-themed radio drama substantially increased the primacy of this issue.

The apparent effect on policy priorities overshadows the effects on other outcomes. The audio drama did produce a small but significant uptick in listeners' ability to correctly answer questions about transmission and treatment. We also find a small but significant increase in listeners' endorsement of the view that others should disclose their HIV status and equivocal evidence that listeners became more willing to disclose their own status. Surprisingly, however, we see no indication that the audio drama reduced audiences' proclivity to isolate or exclude those living with HIV/AIDS. Thus, judged on outcomes other than policy priorities, the audio drama seems to be somewhat less effective than other entertainment education interventions on HIV/AIDs that have been evaluated by randomized trials (Banerjee et al., 2019; Bertrand, 2005; LaCroix et al., 2014).

Although the *Wahapahapa* drama seems to have markedly altered listeners' policy priorities, we are quick to acknowledge two important limitations of the current study. The first is that outcomes were measured 2 weeks after exposure to

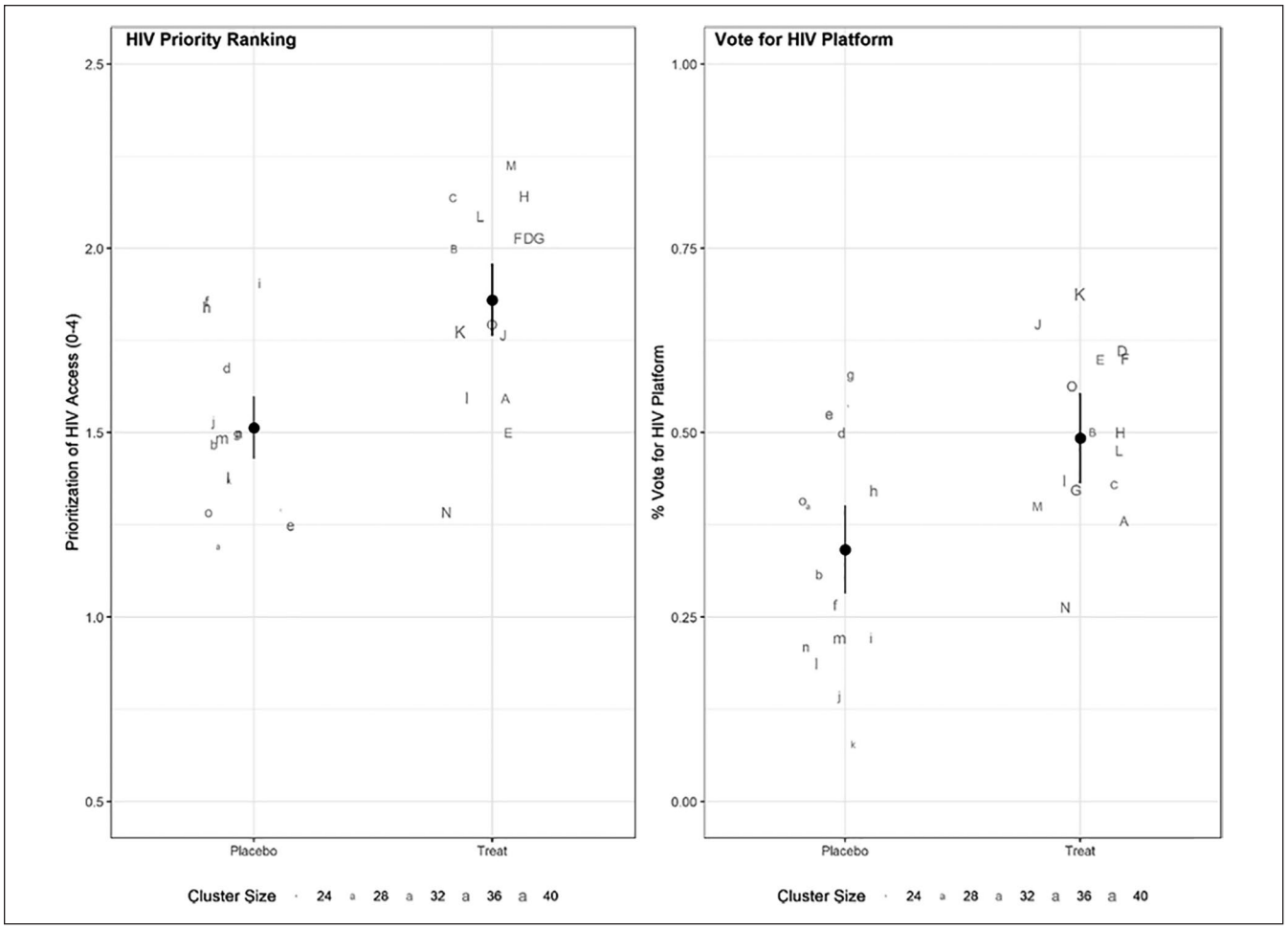

Figure 1. HIV-related policy priorities and electoral preferences, by treatment and placebo villages.
Note. Villages in each ward are represented by a unique letter. Capital letters indicate a treatment village, lower case letters indicate a placebo village; The size of the letter reflects the number of respondents who attended the screening in each village.

the media intervention. It may be that the drama was still at the top of respondents' minds when responding to the follow-up survey. Another, related concern is that listeners to *Wahapahapa* felt obligated to express concern about HIV/AIDS when reinterviewed two weeks later. These concerns about priming and socially desirable responses are best addressed using a less obtrusive experimental design, such as one in which media messages are transmitted via channels that have no apparent connection to a follow-up survey (e.g., Green et al., 2020).

The main substantive question going forward is whether entertainment education routinely shapes policy-related priorities across different issue domains. The placebo arm of the current study speaks to this question, albeit in a limited way. Revisiting the treatment-placebo comparison to assess the effects of the *Tamapendo* audio drama on early and forced marriage, we see elevated priority rankings and voter support for ending early marriage. However, these effects, although statistically significant, are smaller in magnitude than the corresponding *Wahapahapa* effects on policy priorities. It may be that the information conveyed about retroviral drugs was especially striking to Tanzanian villagers, who were unaware of this technological breakthrough and wanted to enjoy its benefits. Our hope is that more studies of this kind will gauge policy priorities so that we can better understand the conditions under which dramatization creates public demand for health-related government action. If edutainment is found to reliably increase public demand, the next question is whether this demand translates into actual public service provision and, in turn, improved health outcomes.

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Ethical Approval

This research was approved by Columbia University's Institutional Review Board (Protocol No. IRB-AAAR5582) and Tanzania's Commission of Science and Technology (Protocol No. 14528).

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