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THE ROLE OF PUBLIC SCHOOLS IN HIV PREVENTION: PERSPECTIVES FROM AFRICAN AMERICANS IN THE RURAL SOUTH

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Though African-American youth in the South are at high risk for HIV infection, abstinence until marriage education continues to be the only option in some public schools. Using community-based participatory research methods, we conducted 11 focus groups with African-American adults and youth in a rural community in North Carolina with high rates of HIV infection with marked racial disparities. Focus group discussions explored participant views on contributors to the elevated rates of HIV and resources available to reduce transmission. Participants consistently identified the public schools' sex education policies and practices as major barriers toward preventing HIV infection among youth in their community. Ideas for decreasing youth's risk of HIV included public schools providing access to health services and sex education. Policymakers, school administrators, and other stakeholders should consider the public school setting as a place to provide HIV prevention education for youth in rural areas.

African American youth continue to be at high risk for HIV infection. Nearly 10,000 African-American youth and young adults age 13–29 are infected each year (Prejean et al., 2011). In the southeastern region of the United States where rates of sexually

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transmitted infections (STIs) and HIV/AIDS are high and paired with marked racial disparities (Aral, O'Leary, & Baker, 2006; Reif, Geonnotti, & Whetten, 2006), the need for intervention is evident. Specifically, in North Carolina, a predominately rural southern state, African Americans comprise 22% of the population, yet constitute 67% of those living with HIV/AIDS (North Carolina Department of Health and Human Services, 2010).

Until recently, the United States Congress appropriated funding to support abstinence until marriage education, despite a lack of evidence supporting its efficacy in reducing high-risk sexual behaviors (Trenholm et al., 2007; Waxman, 2004), and research supporting the use of comprehensive approaches to sex education (Kirby, Laris, & Rolleri, 2007; Santelli, Ott, Lyon, Rogers, & Summers, 2006; Santelli et al., 2006). Unlike abstinence until marriage education, which emphasizes abstinence as the expected approach to promote sexual and reproductive health in youth, comprehensive sex education programs also provide extensive information on how to prevent unintended pregnancy, STIs, and HIV infection (Santelli, Ott, Lyon, Rogers, Summers, et al., 2006).

Following the U.S. Congress, many states have enacted abstinence until marriage education laws. In 1995, the North Carolina General Assembly passed a law requiring public schools to provide abstinence until marriage education (Teach Abstinence Until Marriage, 1995). Despite high STI and HIV rates and research showing that most North Carolina parents wanted their children to receive information on how to prevent unintended pregnancy and HIV infection in addition to abstinence education (Ito et al., 2006), very few public schools provided a comprehensive sex education option for students (Bach, 2006).

In 2009, Congress shifted financial support from abstinence education to evidence-based programs (Consolidated Appropriations Act, 2010, 2009; Omnibus Appropriations Act, 2009, 2009), and North Carolina adopted a policy requiring public schools to expand the current abstinence until marriage education approach to provide a comprehensive sex education option (Healthy Youth Act, 2009). Still, not all North Carolina school districts have policies that include a comprehensive sex education option for students. In order for policymakers, researchers, and practitioners to close the gap between HIV prevention research, policy, and practice, we must understand how community-level barriers, such as social, political, and economic factors, may affect the uptake of comprehensive sex education.

To date, no published research has examined a rural community's perspectives about sex education policy in public schools and its impact on a community with high rates of HIV/AIDS. The purpose of this study is to explore this rural community's perspectives about: sex education policy in public schools and how it influences youth's sexual practices, how the school should be utilized as a key place for HIV prevention efforts, and what barriers to school-based intervention exist. Gaining insight from African-American youth and adults living in rural counties, those who are most at risk for HIV infection, would facilitate the state's implementation of a comprehensive sex education policy (Healthy Youth Act, 2009).

METHODS

STUDY SETTING AND DESIGN

This study was conducted as formative research for Project GRACE (Growing, Reaching, Advocating for Change and Empowerment), a community-based partici-

patory research (CBPR) project that is governed by a Steering Committee comprised of both academic and community members (Corbie-Smith et al., 2010). We conducted focus groups as part of a community needs and assets assessment to inform the development of HIV-prevention interventions for African Americans in two contiguous rural counties (referred to as "County 1" and "County 2") in eastern North Carolina. Although separated by geopolitical county lines, citizens in these counties function socially as one community due to a shared central city. Both counties have a population between 50,000 and 95,000, with sizeable African-American communities (County 1: 37%, County 2: 57%) (U.S. Census Bureau, 2010). African Americans account for over 85% of HIV/AIDS cases in these two rural counties (North Carolina Department of Health and Human Services, 2011).

We identified four subgroups within the African-American population whose perspectives the Project GRACE Steering Committee perceived as critical in understanding the community's needs and assets regarding HIV prevention. The subgroups included: (1) youth (ages 16–24), (2) youth perceived to be at high risk for HIV/AIDS infection (defined by the Project GRACE Steering Committee as those who had dropped out of school or had a history of contact with the juvenile justice system), (3) adults, and (4) formerly incarcerated individuals. We purposefully sampled (Miles & Huberman, 1994) and recruited participants from each of these subgroups by working closely with community-based organizations and county health departments, and by recruiting through community events, media advertising, and word-of-mouth. Participants, age 18 and older, provided verbal informed consent; participants under the age of 18 provided verbal assent and written informed consent from a parent/guardian. All participants received a cash incentive of $20. The University of North Carolina Biomedical Institutional Review Board approved this study.

DATA COLLECTION

Members of the Project GRACE Steering Committee developed a focus group moderator's guide containing 12 open-ended questions exploring community members' views about community, policy, social and institutional level contributors to the high HIV rates in their community, and, then, local resources available to prevent its transmission. Lastly, barriers to their suggestions were explored. We conducted 11 focus groups, stratified by age and gender: four focus groups with youth, two of which were defined by the Steering Committee as being high-risk youth (See Table 1), and seven focus groups with adults, two of which were with formerly incarcerated adults. The focus groups were 90 minutes long and were held at various community-based sites in spring and summer of 2006.

ANALYSIS

Focus group discussions were audiotaped and transcribed verbatim. The transcripts were entered into Atlas.ti 6.0 for coding and analysis (Muhr, 2008). Guided by grounded theory, we used thematic content analysis to understand perspectives presented by participants (Glaser & Strauss, 1967). Each transcript was coded initially with broad topical codes based on the interview guide. Then, based on a thorough review of the data, Steering Committee members and project staff derived interpretive codes representing consistently mentioned ideas from youth and adults concerning HIV prevention among youth in their community. We created a codebook that detailed each code and when it should be applied. To ensure inter-coder reliability, project staff independently coded a transcript and then compared codes, resolving discrepancies and revising the codes as needed. Of note, when codes were

TABLE 1. Focus Groups Conducted

Youth Focus Groups (*n* = 4)	**Adult Focus Groups (*n* = 7)**
General population	General population
1 male focus group	2 male focus groups
1 female focus group	3 female focus groups
High-risk[a] population	Formerly incarcerated population
1 male focus group	1 male focus group
1 female focus group	1 female focus group

Note. [a]High risk defined as dropping out of school or having contact with the juvenile justice system.

shortened for presentation in the manuscript, they were removed from the context of the discussion. To clarify the meaning of these statements, information about the context of the statement is provided in brackets within the quote.

Using visual displays, project staff then employed constant comparison content analysis techniques to discern reoccurring themes (Miles & Huberman, 1994; Ulin, Robinson, & Tolley, 2005). The analysis revealed that most focus group discussions about youth and HIV-prevention efforts in their community centered on the current social and political environment regarding sex education in public schools and its influence on youth's sexual practices. By exploring these concepts of HIV prevention and sex education policy in the public school setting, we sought to discern how participants linked them to the high rates of HIV infection among African Americans in their community.

RESULTS

Ninety-three people (55 adults and 38 youth) participated in this study. Among the 55 adult participants, 52% were female, 47% had never been married, and 54% were working full-time. Of the adult participants, 27% were receiving public assistance. Among the 38 youth participants, ranging from 16 to 24 years old, 53% were male, 72% were currently in school, and 63% were receiving public assistance. Socio-demographic characteristics of participants are shown in Table 2.

Participants consistently identified the public schools' sex education policies and practices as major barriers toward preventing HIV infection among youth in their community. The emergent themes related to the community's perspective on HIV prevention reflected consistent beliefs and opinions across both youth and adult groups. Focus group participants articulated strong views about the school's role in promoting the sexual health of youth in their community. Youth expressed dissatisfaction as they described the sex education they had (or had not) received in school. When asked their view of abstinence until marriage education, participants provided reasons why the current policies and practices were inadequate at meeting their community's needs. Participants suggested ideas for improving sex education policy and practices, and increasing access to health services and condoms in schools. However, participants believed each suggestion would be met with a range of barriers for implementation in their community.

TABLE 2. Focus Group Participant Characteristics

	Youth (*n* = 38)	Adults (*n* = 55)
Female (%)	47.4	51.9
Age (mean, range)	18.1	34.9
	16–24	22–53
Highest level of education (%)		
<High school degree	84.2	27.3
High school graduate or GED[a]	13.2	41.8
College graduate[b]	—	21.8
Completed graduate school	2.6	1.8
Refused	—	7.2
Currently in school	71.1	9.1
Working (%)		
Full time	7.9	54.5
Part time	23.7	14.5
Never married (%)	78.9	47.3
Receiving public assistance[c] (%)	63.2	27.3

Note. [a]Includes "some college" and "technical or training school." [b]Includes "some graduate school." [c]Includes temporary assistance for needy families, food stamps, and Medicaid.

Youth experiences with local public school–based sex education: "All that they [the school board] want taught in schools is abstinence."

Descriptions of the content and duration of public school sex education programs varied greatly between youth participants, with key differences noted by gender. When describing the type of sex education they received in school, one female in the youth focus group recalled, "They made us watch a video and then just told us about the different diseases and that was it." Similarly, another female in the same group said, "They give you a little paper where you sign and say you'll keep it, you'll be abstinent." A small number of female youth stated that they had received information about contraceptive options. For example, one female said she received the message, "you can have sex if you use protection" and was given information on where to access health services and condoms.

Although most females reported receiving some sex education in school, males reported less exposure to it, particularly beyond middle school. Male youth acknowledged that sex education was covered in an optional course in their school but said they elected not to take this class because it was perceived to provide inadequate information and cater to the needs of females.

Perspectives on public school sex education policies and practices: "People think it's [abstinence education] a joke."

The majority of discussions in all groups about abstinence education reflected skepticism, disapproval, and frustration. Adults believed youth in the community were having sex earlier than in previous generations yet receiving far less guidance in school about sexual health issues, such as STI/HIV prevention and contraceptive

options. Many adults recalled sex education as a routine, accepted part of the public school curriculum during their childhood, but perceived it as a forbidden subject in current public schools. One adult male offered, "When I was in school, sex education was a class we took. Nowadays, you can't talk about sex in school." In the adult focus groups, some participants expressed their concern that "nothing" was being taught because some schools were steering clear of sex education altogether to avoid political controversy. "They [the schools] won't talk about HIV; [it is] like they don't want to be a part of it," said an adult male.

Adults expressed concern about the effectiveness of the local abstinence until marriage education practices in preventing the spread of HIV in their community. There was a nearly universal perception that local policymakers need to "get real" about the situation. "We've got to say no sex is the safest way, but be honest, they're [youth] gonna have sex!" expressed one adult male. Some adults felt abstinence until marriage education put youth who had decided to become sexually active at a disadvantage by not providing them with the information they needed to make healthy decisions. Another female adult supported this point when she added, "The people with the money [are] still trying to keep those without the money limited [in] their knowledge."

Youth also viewed the abstinence until marriage education approach as inadequate. Similar to the adults, the youth shared that many of their peers were sexually active before reaching high school, pointing to the high number of pregnancies among 12 and 13 year olds as evidence. Abstinence education, particularly abstinence pledges, was therefore deemed an inappropriate approach given the realities of local teens' sexual lives. One female youth described the response of her peers to their school's abstinence pledge, "Half of them were like 'I can't sign this. I've already had sex.'"

Linking sex education to high HIV/AIDS rates: "Schools need to implement a class talking about HIV/AIDS 'cause it has become an epidemic in our society."

Some participants believed that the shift from comprehensive sex education to an abstinence until marriage policy in public schools had contributed to the elevated rates of HIV/AIDS in their community: "That's why we see that disease [HIV] so populated in our [African-American] community because we have [turned] a blind eye," said an adult male. Participants stated that it was imperative for youth to receive comprehensive sex education to ensure they could make informed decisions about their health; however, several participants did affirm that abstinence education was appropriate with younger children. As one female youth focus group member stated, "[We need] better sex education at an earlier age…not the whole sex thing, but learning about your body." Another male youth participant supported this notion when he said, "You need to come in elementary [school] and start teaching them early. It [curiosity about sex] starts early so if you can get it [knowledge about sex] through their head early, then when they grow up, they'll know what to do and what not to do." Neither youth nor adults suggested that public schools should not be involved in providing sex education.

Suggestions for improving sex education: "[In schools] we need to go back to promoting awareness [with the message being] 'you should use condoms.'"

Participants felt strongly that sex education should begin as early as elementary school in order to promote healthy sexual decision-making skills. Participants suggested this timeframe because they believed that youth should have the information before they became sexually active, which, according to some participants, often occurs not long after elementary school. As one adult female said, "I used to say [sex education should start in] fifth grade, and then my son went to sixth grade. All those girls were pregnant and he was like, 'How in the world did they get pregnant?'" Adults and youth also felt that the curriculum should build on itself, with content expanding from year to year in order to be developmentally appropriate. Moreover, youth and adult participants expressed the need to expand the number of sex education courses offered in schools as well as the curricular content. Some adult participants believed sex education should be a requirement for all students.

Youth and adults highlighted the importance of selecting appropriate individuals to teach the sex education curricula. Some male youth felt their teachers were unapproachable regarding questions about sexuality. One male youth insisted, "I would never listen to a teacher [providing sex education]." Youth expressed a desire to learn from health professionals (e.g., physicians, nurses, health educators), role models (e.g., coaches), or people living with HIV/AIDS rather than teachers, whom they perceived as uncomfortable teaching sexual health and unable to relate to the everyday experiences of youth. For example, one female youth suggested, "Have doctors come out to schools and teach us more information about how easy it is to contract AIDS or HIV." Participants further suggested having a health professional, such as a school nurse, permanently available in public schools to answer students' sexual health questions and to provide sexual health services, such as STI/HIV testing and access to condoms. As one female adult said, "We should introduce a nurse into schools that would be able to diagnose if there is an STD present and then refer them [students] to the local health department right then and there."

Barriers to change: "A lot of schools are really trying to reject the sex education courses…they don't want to have sex education classes at all."

Participants identified political opposition, fear among teachers of inadvertently violating sex education policies, parents withholding consent for sex education, lack of political engagement by parents who support comprehensive sex education, and a lack of funding for expanded programs as key barriers to implementing a comprehensive sex education policy in public schools. Adults and youth both viewed some parents and politicians, specifically local school board members, as unsupportive of comprehensive sex education. Participants believed this opposition reflected the political views of a small but powerful and vocal minority constituency. Participants reported that controversy around the state's abstinence legislation created an atmosphere in which teachers and school administrators avoided discussing sex education out of fear of inadvertently violating the state-wide abstinence until marriage policy. For example, an adult female commented on how a previous state investigation at a local school led some teachers to err on the side of silence regarding sexual health to avoid inadvertently overstepping the law when she said, "There were some things that we could not discuss in the public school system regarding [sexual] health care and [condom] protection a year and a half ago…and I wouldn't even discuss these things now in that school."

Youth and adults also expressed concerns that even if the public schools were able to implement a comprehensive sex education curriculum, some parents would

withhold consent for their child to receive this instruction. Adults believed the parental consent portion of the state's sex education policy was harmful to youth because it denied youth access to the information they may need to make informed sexual health decisions. As one adult female mentioned, "[Parental consent for sex education doesn't make sense to me because] at the health department you could go and get tested and you don't have to tell…you have a choice whether you want to tell your parents or not, but in the school system, you have to get consent from your parents to take a [sex education] class."

Adult participants also identified a lack of advocacy efforts by residents who are supportive of comprehensive sex education as another barrier. Although most of the focus group participants voiced disagreement with the state's abstinence until marriage policy, no participants mentioned having participated in advocacy efforts to change the policy. One adult female stated, "When they have city hall meetings or they have council board meetings or when they have education meetings, instead of complaining about it, [you need to] go there and voice your opinion and let yourself be heard."

Lastly, adult participants identified the fiscal reality of local public schools being underfunded as a barrier toward expanding sex education programs. When discussing alternatives to the abstinence until marriage programs that take place in school, one adult male acknowledged the school system's financial barrier by simply stating, "In order for the school system to do that [provide an after-school sex education program], they need money. Just like everything else, they need money."

Differences in thematic content by focus group strata were analyzed and are presented in Table 3. Most themes were consistent across adult and youth focus groups; however, adults presented three themes that were not present in the youth focus groups. In the adult focus groups, participants suggested that comprehensive sex education be mandatory for all youth. Further, adults articulated two additional barriers to school-based HIV prevention: a lack of funding for programs and a lack of political engagement by those who supported comprehensive sex education. There were no differences between groups stratified by whether they were recruited from the general population or from formerly incarcerated adults or high-risk youth. There were also no differences when groups were stratified by gender.

DISCUSSION

In this study, youth and adult participants disagreed with the state's abstinence until marriage sex education policy and believed the lack of comprehensive sex education in their community's public schools was contributing to the disproportionately high HIV/AIDS rates among African Americans in their community. Participants believed that their public schools should provide a comprehensive sex education curriculum to all students, and their implementation recommendations are similar to research findings that support a comprehensive sex education curriculum for youth (Kirby, et al., 2007; Santelli, Ott, Lyon, Rogers, & Summers, 2006), including those in elementary school (American Public Health Association, 2011; American School Health Association, 2007; Sexuality Information and Education Council of the United States, 2004), and the important role comprehensive sex education could play in addressing the disproportionate rate of STIs and HIV/AIDS among African Americans in their community (Adimora, Schoenbach, & Floris-Moore, 2009).

TABLE 3. Themes on School-Based HIV Prevention

Contributors to high HIV rates in this community
Current approach to sex education, abstinence until marriage education, is inappropriate.
School as a key place to prevent HIV transmission.
Sex education should include comprehensive information on prevention options.
Sex education should start early.
Comprehensive sex education should be required[a]
Appropriate sex education teachers are needed.
Sexual health counseling and STI/HIV testing should be available in schools.
Schools should provide access to condoms.
Barriers to school-based intervention
Opposition from those in power prevents shift to comprehensive sex education.
Schools and teachers are afraid of crossing political boundaries and public opinion.
Parents keep their child from taking part in any sex education.
Supporters of comprehensive sex education are not engaged in political discourse.[a]
There is a lack of funding to implement school based HIV prevention programs.[a]

Note. [a]Theme present in adult focus groups only.

Participants' implementation recommendations and perceptions of community-level barriers provide guidance for a culturally tailored school-based intervention in a southern, rural community with marked racial disparities in STIs and HIV/AIDS rates. For example, participants described early sexual debut among youth as evidence to support comprehensive sex education in their community's elementary schools. With research findings that rural African-American youth experience earlier sexual debut than urban African Americans (Milhausen et al., 2003) and with nearly 20% of eastern North Carolina's African-American youth reporting having had sex before age 13 (North Carolina Healthy Schools, 2011), participants' recommendation for a comprehensive sex education curriculum beginning in elementary school is empirically supported. Participants' recommendations and this research (Milhausen, et al., 2003; North Carolina Healthy Schools, 2011) illustrate why abstinence until marriage education policies may not meet the needs of this community's youth.

Youth participants expressed reservations about having their regular classroom teacher—rather than a health professional, role model, or a person living with HIV/AIDS—deliver a comprehensive sex education curriculum. Adults also described the importance of having a knowledgeable person providing sex education. Vigilant public surveillance of sex education practices described by participants in this study has been documented in North Carolina (Lehman, 2006). Further, rural area schools and teachers may receive more attention from their community regarding sex education based on stronger community involvement in the decision-making process around what is taught and because teachers in less populated rural areas have less anonymity compared to those in urban areas (Blinn-Pike, 2008). Thus, the use of trained health educators rather than regular classroom teachers—along with school administrators communicating a clear understanding of local sex education policies and regulations to parents, teachers, and the community—could improve implementation of a comprehensive sex education curriculum.

Some participants in this study believed that those parents, administrators, and policymakers who support the abstinence until marriage education policy have contributed to the disproportionate rate of HIV/AIDS among African Americans in their

county. Studies describe how school personnel and various community members, including local leaders, teachers, and parents, are influential in sex education policy and its implementation (Devaney, Johnson, Maynard, & Trenholm, 2002; Hoff, Greene, McIntosh, Rawlings, & D'Amico, 2000; Landry, Darroch, Singh, & Higgins, 2003). Second only to funding, North Carolina school principals identified the influence of community opposition as a major barrier toward implementing HIV-prevention education in their schools (North Carolina Healthy Schools, 2009). Participants' perceptions—that community support for the abstinence until marriage education policy and practices contributes (directly or indirectly) to the disproportionately high rates of HIV/AIDS among African Americans—should be addressed by tailored interventions.

To support health promotion activities around HIV prevention, both youth and adult participants suggested having a health professional in the schools to increase youth's access to STI/HIV prevention information, STI screening, HIV testing, and condom use. Research shows that a lack of access to health care can be a barrier for health promotion activities in rural areas and for minority communities (Flores & Tomany-Korman, 2008; Probst, Moore, Rood, & Baxley, 2002). School-based health clinics increase access to care for rural youth (Crespo & Shaler, 2000) and have the potential to decrease health disparities for underserved populations (Guo, Wade, Pan, & Keller, 2010). Further, school-based clinics have also demonstrated increased STI screening (Braun & Provost, 2010) among youth in high STI prevalence areas. Thus, according to community members and published research, policymakers, school administrators, and other stakeholders should consider the school setting as a place to provide health care services and consequently decrease the risk of HIV among their community's youth.

This study has several limitations. The convenience sampling of residents from two North Carolina counties may limit the transferability and applicability of these findings to other communities. However, similarities of our findings to those of other studies demonstrating a general desire among parents nationwide for more comprehensive approaches to sex education support the applicability of our results with population-based sample results (Bleakley, Hennessy, & Fishbein, 2006). Another limitation was our focus group data collection method and the potential for social desirability bias (Collins, Shattell, & Thomas, 2005). Analysis of our data found consistency of results across multiple focus groups, and the validation of these results through community forums minimized this bias. A final limitation was the five-year period between the time our data was collected and the report of our findings. Although our data was collected in 2006, there have been no significant changes in the rate of HIV/AIDS among African Americans in these counties (North Carolina Department of Health and Human Services, 2011) and, in some public schools in this community, abstinence until marriage education continues to be the prevailing approach to sex education. As such, the data presented in this manuscript continues to be relevant.

Our study setting was a rural community in which sex education policies could have a significant impact and where opinions about such policies were likely to be strong. One strength of our study was conducting it in a relatively tight-knit community with a stable population because adults were able to compare past and present sex education experiences and discuss how the movement toward an abstinence until marriage sex education policy impacted the future health of their community's youth.

Our use of CBPR methods is also a notable strength of this study (Minkler, 2010). Throughout the focus group planning, implementation analysis, and writing process, there was an academic-community partnership. Specifically, members of the Project GRACE Consortium provided insights into the social, historical, and political workings of their community, driving the research agenda and further substantiating the findings. The CPBR approach led investigators to a better understanding of the social and institutional factors affecting HIV/AIDS rates in the rural South, including the role of the public school policy both as a contributor to these disparities and as a potential resource in hastening the HIV/AIDS rates in this community.

To our knowledge, this is the first study investigating perceptions from a rural community with disproportionately high HIV/AIDS rates among African Americans about a state's sex education policy and its perceived impact on HIV prevention efforts among youth. By focusing on abstinence until marriage education, or eschewing sex education altogether, some schools may have contributed to the HIV epidemic in their community by downgrading the importance of preventative behaviors and leaving uninformed youth at risk. The perspectives presented in this study illustrate a broad disconnect between the needs of the African Americans in this community and the policies that affect their access to health education.

As North Carolina and other states expand their approach to offer comprehensive sex education, our findings suggest areas for improvement and are particularly timely. Though recent changes in state legislation and shifts in Congressional funding bring us nearer to closing the gap between STI and HIV prevention research, policy, and practice, community-level factors, such as those mentioned by our participants, have the potential to stifle such progress. Our study highlights the importance of community-level factors on sex education practice and policy and provides public health researchers, practitioners, and policymakers with insightful evidence to consider when developing culturally appropriate HIV prevention policies and interventions for rural communities that have disproportionately high rates of HIV.

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