The Influence of Constructed Family Membership on HIV Risk Behaviors among Gay, Bisexual, and Other Men Who Have Sex with Men in New Orleans

Meagan C. Zarwell, PhD · William T. Robinson, PhD

Published online: 18 October 2017
© The New York Academy of Medicine 2017

Abstract Gay, bisexual, and other men who have sex with men (MSM) represent more new HIV infections than all other at-risk populations. Many young black MSM belong to constructed families (i.e., the house ball community, gay families, and pageant families) which are often organized in a family structure with members referred to as parents and children. Many constructed families are associated with a family surname which is informally adopted by members. In some cases, however, constructed families do not identify with a collective family name. In 2014, 553 MSM were recruited through venue-based time-space sampling during the National HIV Behavioral Surveillance (NHBS) in New Orleans to complete a structured survey and HIV test. Black, Latino, and other race MSM were more likely to belong to constructed families in comparison to white MSM. In

addition, participants who belonged to constructed families with a family name were more likely to engage in protective behaviors including wearing condoms at last sexual intercourse. Overall, younger, white MSM who did not belong to any social groups were more likely to engage in at least one risk behavior. These findings significantly contribute to understanding variations in HIV risk behavior among members of constructed families.

Keywords HIV risk behaviors · Men who have sex with men · National HIV behavioral surveillance · Constructed families

Introduction

Rates of HIV remain stubbornly high among gay, bisexual, and other men who have sex with men (MSM) in the USA, most notably in southern states. The number of MSM with HIV rises every year and remains consistently high compared to other risk groups, particularly among young MSM of color. Young black MSM represent more new infections than all other subgroups by race/ethnicity, age, and sex [1].

The epidemic within Louisiana and New Orleans reflects national disparities by transmission mode, race/ethnicity, and age [2, 3]. In 2014, Louisiana ranked second and New Orleans ranked third for HIV case rates per 100,000 people, and 71% of all new diagnoses were among African Americans who only make up approximately 32% of the state's population [4]. In New Orleans in 2015, 75% of new diagnoses were men who reported

M. C. Zarwell PhD (✉)
Center for AIDS Intervention Research, Medical College of Wisconsin, 2071 N Summit Avenue, Milwaukee, WI 53202, USA
e-mail: mczarwell@gmail.com

W. T. Robinson PhD
Louisiana Office of Public Health, STD/HIV Program, 1450 Poydras St. Suite 2136, New Orleans 70112 LA, USA
e-mail: billy.robinson@la.gov

M. C. Zarwell PhD · W. T. Robinson PhD
LSU Health Sciences Center - School of Public Health, Behavioral and Community Health Sciences, 2020 Gravier Street, 3rd floor, New Orleans, LA, USA

M. C. Zarwell PhD
NO/AIDS Task Force, d.b.a CrescentCare, 3308 Tulane Ave, New Orleans, LA 70119, USA

having sex with men, 66% were black, and more than half were among individuals younger than age 35 [4].

Many black MSM belong to social groups that are important to the gay, lesbian, bisexual, and transgender (LGBT) community such as constructed families [5, 6]. Constructed families have historically played an important role in human society, as noted in a number of anthropological studies of social groupings worldwide, wherein people manipulate social ties to form new definitions of family [7]. Constructed families are comprised of unrelated individuals who consider one another family and provide social support, rights, statuses, materials, and other duties for members [8]. David Schneider first described these relationships as forms of fictive kinship among LGBT in the 1980s [9, 10]. Studies have noted that constructed families are social ties which may occur after LGBT experience adversity or disassociation from families of origin [11].

Recently, there has been increased attention within HIV prevention to house and ball communities, and to a lesser extent, other forms of constructed kinship such as gay and pageant families which are distinct from the house ball scene. However, each of these groups is considered form of constructed families because friends refer to each other as family using traditional kinship terminology and offer social support to members.

The house and ball community is a form of constructed families composed of young black and Latino LGBT individuals. “Houses” refer to a familial structure and “balls” are events at which members congregate for social support and entertainment. House ball communities have historically served as important sources of identification and a foundation of support to LGBT persons who forge new kinship ties via friendships in large cities in the USA [12]. House members use adopted surnames synonymous with well-known fashion designers or icons and compete at balls for awards based on talent, fashion, and performance. As many as 50 houses are recognized nationally and ball events are held throughout the year in various cities across the country [12].

Gay families are also important to the LGBT community but are not synonymous with the house ball community [9, 13]. Gay families are similar to houses in that they offer social support, and resilience that legitimizes friends as family relationships. Gay families share resources with one another [11], such as mentorship, financial support, and emotional support [14], and also facilitate new social network connections among MSM. Gay families may adopt a family surname but

this is not the same as a house name. Thus, gay families are distinct in that they are not considered houses and gay families do not compete in ball events.

Pageants and the pageant circuit are important and central to many gay communities, wherein individuals compete in categories based on beauty and talent for awards. Gay pageants operate across the USA; however, they are discrete from balls as they consist of different competition categories and procedures. “Children” within pageant families may help prepare costumes, makeup, travel, and other tasks related to the competition. Pageant families may also identify with a family surname; however, pageant families are not considered houses and do not compete in balls.

While each of these forms of constructed families is meaningful to MSM, the bulk of recent public health literature has focused on the house and ball community. In community-level HIV interventions, popular opinion leaders (POLs) have been used to identify and train peers to encourage healthy sexual behavior by addressing cultural and social norms [15, 16]. The structure of houses has been seen as an opportunity for parents to act as POL, and the resilience and strength offered by membership in the house ball community have been described as a supportive mechanism for community-engaged interventions [17]. Evidence of high HIV testing rates among participants at balls has been attributed to the presence of service agencies at events, which has supported calls to ramp up testing interventions at ball events [12].

Nonetheless, the very factors that make houses appealing have in contrast been described as potential risks for participants at balls because house members have reported engaging in high-risk behaviors or report high rates of HIV. This paradox has paved the way for studies to examine risk and prevalence within the house and ball scene [18]. One such study explored HIV risk behavior, prevalence, and stressors among MSM and transgender female house members in New York [6]. Within the sample of house members, 20% were HIV positive, 73% of whom were unaware of their infection [6]. In Los Angeles, another study found higher patterns of substance use by house members as compared to other young MSM [19].

Less literature has explored risk behavior and opportunities for intervention among MSM who associated with forms of constructed families such as gay families or pageant families, which are independent from the house and ball scene. There is a need for more studies

which examine membership in constructed families that may not be affiliated with the house ball scene and other meaningful social groups among MSM [20].

The purpose of this research is to examine whether membership in constructed families promotes or constrains risk behaviors. This study investigates variation in HIV risk between constructed families (i.e., the house and ball community, gay families, and pageant families) and other social groups of MSM.

Methods

This study took place in tandem with the CDC's National HIV Behavioral Surveillance (NHBS) MSM4 cycle to investigate constructed families among MSM in New Orleans in 2014. Each NHBS cycle utilizes mixed methods beginning with a formative research component and ending with primary data collection in the form of a structured survey and HIV testing [21].

Participants

A total of 553 respondents were surveyed. Eligible participants were 18 years of age or older, residents of the New Orleans seven parish metropolitan area, able to take the survey in English, born and self-identified as male, and reported ever having sex with a man.

Recruitment

Respondents were recruited through venue-based time-space sampling (VBTS) in accordance with NHBS protocol. VBTS techniques utilize formative research to identify venues and to establish daytime periods for recruitment of participants. A monthly calendar was used to schedule days and times for the recruitment events at venues in a two-stage sampling design [22, 23]. A total of 79 recruitment events were held in venues frequented by MSM such as bars, sex clubs, and dance clubs in New Orleans from July through December 2014. At events, MSM were systematically approached and screened for eligibility. Those eligible were asked to participate in an anonymous survey and HIV testing. Consenting participants were reimbursed for their time with a \$25 cash-value gift card for the survey and an additional \$25 cash-value gift card for HIV testing. All study participants received prevention materials, information about prevention and testing in New Orleans,

and referrals to additional services or programs as needed. This research was submitted and approved through the LSU Health Sciences Center and Louisiana Department of Health's Institutional Review Board.

Measures

Survey data were collected using the core NHBS and locally developed survey questions regarding sexual behavior, substance use, and membership in social groups. Each interview lasted approximately 45 min and HIV tests were offered at the completion of the interview.

Demographics

Age was calculated from the self-reported date of birth and categorized 18–29, 30–39, 40–49, and 50+. Because of the relatively few number of participants (13%) who identified as some race or ethnicity other than white or black, race was dichotomized into two categories of “white” and “black, Latino, or other race.” Household income consisted of four categories ranging from less than \$15,000 to more than \$50,000 in the past 12 months. Education level was defined as less than high school, high school equivalent, some college, and college graduate.

Social Group Types

All participants were asked “Please tell me whether you belong to any of the following groups. You can choose more than one option (Check all that apply).” The response categories for social groups and organizations were based upon formative research findings and included gay family, pageant family, house ball community, faerie community, gay fraternity, bear community, leather community, other, and none. Any participant who reported belonging to any of the three constructed family categories was additionally asked if their family had a name. Among participants in constructed families, 46% did not report a family name. Therefore, the final operationalization of group type distinguished between named and non-named constructed families, other social groups, and no social group membership. Thus, MSM who reported belonging to any constructed families were categorized as “named” or “non-named.” The third group type, labeled “other social group,” included any participant who reported belonging to any other

social groups, club, or organizations to which MSM associate within the gay community. Finally, MSM who did not identify with any group were labeled “none.”

HIV Risk Behaviors

Four risk measures were operationalized using core NHBS survey and local questions. The first, completely unprotected anal sex was a combination of no preventive antiretroviral medication use for self and last sex partner and no condom use at last sex. MSM who were considered to have engaged in completely unprotected sex at last sex were coded as “1”; otherwise, they were coded “0.”

The second risk measure, condomless anal sex, was based upon condom use during anal sex at last sex. MSM who reported having either receptive or insertive anal sex at last sex and who did not use a condom (neither initially nor the whole time) were given a “1”; otherwise, they were coded “0”.

The third measure of risk, substance use at last sex, was defined using the question “Before or during the last time you had sex with this partner, did you use alcohol, drugs, both alcohol and drugs, or neither one?” Participants who reported neither one were coded “0”; otherwise, MSM who used alcohol, drugs, or both were coded “1” for using substances at last sex.

The fourth risk measure, an aggregate risk measure, combined three measures of risk: condomless anal sex, substance use, and exchange sex. Exchange sex measures included whether the participant gave or was given money or drugs in exchange for sex in the past 12 months. Ultimately, the exchange sex measure was not used for hypothesis testing because so few participants reported engaging in the behavior. The aggregate risk measure added each dichotomous measure for condomless anal sex at last sex, substance use at last sex, and exchange sex together for a combined score ranging from 0 to 3.

Analyses

All survey data were analyzed using SAS 9.3. Descriptive statistics were generated for all demographic and study variables followed by a bivariate analysis to examine associations between age, race, education level, income level, employment status, sexual identity, HIV testing history, health insurance, and HIV risk behaviors.

Bivariate results with significant p values and relevant constructs were included in regression models to test a whether group type influenced HIV risk.

Multiple regression analyses examined variations in risk behaviors by employing PROC LOGISTIC for binary outcomes (i.e., completely unprotected sex and condomless anal sex) and PROC GLM for the continuous outcome measure (i.e., aggregate risk). Each model controlled for the following covariates: age, race, income, and education level. Two additional potential indicators were initially explored including whether participants currently had health insurance (yes/no) and their self-reported sexual identity (i.e., whether participants identified as heterosexual, gay, or bisexual). However, these two variables were not included in model testing because health insurance was unrelated to any of the risk measures and the majority of the sample identified as gay. Thus, a parsimonious model was selected which controlled for age, race, income, and education level organized by risk measure.

Results

Table 1 provides the demographic breakdown of the sample of 553 MSM who completed both the core NHBS survey and the local questionnaire within each social group. The majority of participants were white (53%), followed by black, Latino, or some other race (34%). The majority of the sample identified as gay and 77% had at least some college education. Income level was relatively high as over half the sample reported annual household incomes of \$30,000 per year or higher. In addition, most participants were employed full time (64%) and the average age of the sample was 37 years old (not shown).

In terms of social group membership, 61% reportedly did not belong to any social groups. Of those who did belong to a social group, constructed families were most common (25%), followed by other social groups (14%). Furthermore, 73 respondents belonged to a named family (14%), compared to those without a name (11%). Membership in each social group type varied in terms of race, age, education, sexual identity, and health insurance coverage. Participants who identified as black, Latino, or other race were more likely to belong to a named family than any other group, whereas white MSM were more likely to belong to other social groups ($P < 0.0001$). Age was also significantly related to group

Table 1 Demographic characteristics and bivariate associations within social groups of MSM

	Total		Named family		Non-named family		Other social group		None		P value
			N	%	N	%	N	%	N	%	
Race											<0.0001
Black, Latino, or other race	258	47%	56	77	22	36	19	25	153	46	
White	295	53%	17	23	39	64	57	75	177	54	
Age											<0.0001
18–29	207	37%	47	64	21	34	18	24	116	35	
30–39	139	25%	20	27	14	23	25	33	77	23	
40–49	88	16%	2	3	7	12	14	18	63	19	
50+	119	22%	4	6	19	31	19	25	74	22	
Education											0.0083
Less than high school	15	3%	3	4	0	0	0	0	11	3	
High school	116	21%	25	34	12	20	11	15	65	20	
Some college	170	31%	24	33	25	41	24	32	95	29	
College graduate	252	46%	21	29	24	39	41	54	159	48	
Income											0.0002
Less than \$15,000	118	22%	26	37	14	23	10	13	62	19	
\$15,000–\$29,999	110	20%	22	31	13	21	9	12	65	20	
\$30,000–\$49,999	120	22%	11	15	10	16	20	26	78	24	
\$50,000+	199	36%	12	17	24	39	37	49	121	37	
Sexual identity											0.0005
Homosexual	436	79%	63	86	53	87	71	93	238	73	
Bisexual	94	17%	7	10	8	13	5	7	72	22	
Heterosexual	20	4%	3	4	0	0	0	0	17	5	
Health insurance											0.0023
Yes	408	74%	42	58	47	77	64	84	244	74	
No	145	26%	31	42	14	23	12	16	86	26	
HIV status											0.8125
Negative	438	79%	55	75	48	79	61	80	265	80	
Positive	115	21%	18	25	13	21	15	20	65	20	
Total	553		73	13	61	11	76	14	330	60	

membership. Named family members tended to be younger than members of all other group types ($P < 0.0001$). Named family members also were less likely to have health insurance. In contrast, MSM who belonged to other social groups were more likely to hold college degrees and reported higher incomes.

Study participants engaged in varying levels of each of the four indicators of risk measured which included substance use, condomless anal sex, completely unprotected anal sex, and an aggregate risk measure. Substance use at last sex was reported most often (44%), followed by condomless anal sex (34%) and completely unprotected sex (29%). Very few MSM engaged in exchange sex. For the aggregate risk

score, MSM in the sample reported less than one of the combined three risk measures on average. Bivariate associations between the four measures of HIV risk, demographic indicators, and social group types are provided in Table 2. Due to the lack of association between the predictor variable (group type), no multiple regression model results were tested for substance use at last sex.

For each of the remaining measures of risk, the majority of black, Latino, and other race participants and members of constructed families were less likely to engage in risk behaviors. White MSM were more likely to engage in both measures of risk, as were younger MSM aged 18–39. Notably, more than 60%

Table 2 Bivariate associations with HIV risk measures

	Completely unprotected sex					Condomless anal sex					Substance use last sex					Aggregate risk		
	Yes	%	No	%	<i>P</i> value	Yes	%	No	%	<i>P</i> value	Yes	%	No	%	<i>P</i> value	Mean	β	<i>P</i> value
Race					<i>0.0086</i>					<i>0.0170</i>					<i>0.3163</i>			<i>0.0658</i>
Black, Latino, or other race	62	38	196	50		74	40	184	50		108	44	150	49		0.79	-0.13	
White	101	62	194	50		113	60	182	50		136	56	159	51		0.91		
Age					<i>0.0359</i>					<i>0.0093</i>					<i>0.2409</i>			<i>0.2953</i>
18–29	58	36	149	38		66	35	141	39		81	33	126	41		0.80	-0.18	
30–39	53	33	86	22		59	32	80	22		66	27	73	24		0.96	0.14	
40–49	26	16	62	16		34	18	54	15		38	16	50	16		0.88	0.06	
50+	26	16	93	24		28	15	91	25		59	24	60	19		0.82		
Education					<i>0.2293</i>					<i>0.1576</i>					<i>0.3515</i>			<i>0.1813</i>
Less than high school	6	4	9	2		6	3	9	2		6	2	9	3		1.00		
High school	26	16	90	23		29	16	87	24		43	18	73	24		0.72	-0.28	
Some college	55	34	115	30		61	33	109	30		80	33	90	29		0.92	-0.08	
College graduate	76	47	176	45		91	49	161	44		115	47	137	44		0.86	-0.14	
Income					<i>0.7113</i>					<i>0.8230</i>					<i>0.3589</i>			<i>0.7330</i>
Less than \$15,000	31	19	87	23		36	19	82	23		52	21	66	22		0.86	-0.03	
\$15,000–\$29,999	35	22	75	20		39	21	71	20		59	23	54	18		0.93	0.07	
\$30,000–\$49,999	39	24	81	21		42	22	78	22		47	19	73	24		0.81	-0.05	
\$50,000+	58	36	141	37		70	37	129	36		89	37	110	36		0.86		
Group type					<i>0.0307</i>					<i>0.0035</i>					<i>0.1322</i>			<i>0.0497</i>
Named family	12	8	61	16		13	7	60	17		25	10	48	16		0.62	-0.27	
Non-named family	18	11	43	11		22	12	39	11		33	14	28	9		0.92	0.04	
Other social group	29	18	47	60		35	19	41	11		32	13	44	15		0.92	0.04	
None	101	63	229	12		113	62	217	61		149	62	181	60		0.88		
Total	163	29	390	71		187	34	366	66		244	44	309	56		0.85	0.79	

Note: Significant values at the 0.05 level are shown in italics

of participants who engaged in completely unprotected sex and condomless anal sex did not belong to any of the identified social group types. This finding suggests that group membership in any form was protective against this measure of risk. Similarly, the aggregate risk score was significantly related to group type; members of constructed families with names reported fewer risk behaviors on average than all other groups.

Three multivariable regression models tested whether the relationship between group type and three measures of risk remained after accounting for age, race, income, and education level (Table 3). While bivariate analyses showed associations between group type and each risk measure, the only significant relationship that

remained after controlling for all covariates was condomless anal sex. In comparison to those who did not belong to any groups, participants in named families reported lower-risk behavior overall. MSM in named families more than twice as likely to refrain from completely unprotected sex (0.45 [0.22–0.89]; $P < 0.0882$) and had lower scores for the aggregate risk measure ($P < 0.1012$). Similarly, named family members were 2.43 times more likely to wear condoms at last sex than MSM who did not belong to any groups (0.41 [0.21–0.80]; $P < 0.0138$). These findings suggest that members of constructed families affiliated with a family name engage in less risk on average than MSM who do not belong to any groups.

Table 3 Multiple regression models measuring the influence of group type on HIV risk measures

	Completely unprotected sex			Condomless anal sex			Aggregate risk	
	OR (95% CI)	Chi square	P value	OR (95% CI)	Chi square	P value	β	P value
Age		10.22	<i>0.0167</i>		12.99	<i>0.0047</i>		0.4973
18–29	<i>1.98 (1.10–3.56)</i>			<i>2.22 (1.26–3.92)</i>			0.07	
30–39	<i>2.50 (1.41–4.45)</i>			<i>2.76 (1.57–4.85)</i>			0.16	
40–49	<i>1.54 (0.81–2.90)</i>			<i>2.03 (1.10–3.77)</i>			0.05	
50+ ^a								
Race		4.74	<i>0.0294</i>		2.11	0.1460		0.1377
Black, Latino, or other race ^a								
White	<i>1.61 (1.05–2.46)</i>			<i>1.36 (0.90–2.04)</i>			0.08	
Income		1.14	0.7679		0.55	0.9070		0.7529
<15 K	0.97 (0.53–1.77)			1.02 (0.58–1.82)			0.06	
15–29 K	1.25 (0.72–2.16)			1.21 (0.71–2.07)			0.09	
30–49 K	1.20 (0.72–2.01)			1.07 (0.65–1.78)			–0.04	
50 K+ ^a								
Education		3.53	0.3172		4.61	0.2029		0.2011
College graduate	0.49 (0.14–1.69)			0.67 (0.20–2.29)			–0.24	
Some college	0.57 (0.16–1.96)			0.67 (0.20–2.32)			–0.17	
High school	0.37 (0.10–1.32)			0.40 (0.11–1.42)			–0.35	
Less than high school ^a								
Group type		6.54	0.0882		10.64	<i>0.0138</i>		0.1012
Named family	0.45 (0.22–0.89)			<i>0.41 (0.21–0.80)</i>			–0.26	
Non-named family	0.92 (0.50–1.72)			1.11 (0.61–2.00)			0.02	
Other social group	1.26 (0.74–2.17)			1.53 (0.91–2.60)			0.02	
None ^a								

Note: Significant values at the 0.05 level are shown in italics

^a Denotes referent group

Discussion

The number of MSM with HIV remains disproportionate to other at-risk groups, and the burden is particularly high among young black MSM who represent more new infections than all other subgroups by race/ethnicity, age, and sex. Because gay, bisexual, and other men who have sex with men are often disenfranchised, the social connections they maintain are important to identify. This study demonstrates that MSM are not a homogenous group. Participants reportedly belonged to gay families, pageant families, the house and ball community, the bear community, the leather community, and other social groups. The majority of the sample who belonged to any group were members of a constructed family—associated with a family named or otherwise. MSM in named families were more likely to be black, Latino, or another race;

younger; and had lower education, income, and health insurance coverage. In comparison, white MSM were more likely to have higher socio-economic status and belong to families without names or other social groups.

Four measures of risk were examined for the purposes of this study: completely unprotected sex, condomless anal sex, substance use, and an aggregate risk score. In sum, MSM who did not report belonging to any social groups engaged in greater risk, followed by members of other social groups and families without names. These results suggested that group affiliation influences HIV risk behavior, above and beyond age, race, income, and education level. Thus, membership in constructed families bounded by a family name was protective against multiple measures of HIV risk behavior.

These findings are not without limitations. First, because NHBS utilizes a cross-sectional observational

study design within a limited geographic area, these findings do not permit discussion of causality or generalizations to other regions, cities, or groups that were not surveyed [24]. Second, possible biases associated with self-reported behavioral measures such as social desirability may exist. Third, due to the sampling strategy, the results of NHBS do not pertain to MSM who may not attend venues but are otherwise eligible [22, 25]. Lastly, social groups of MSM are dynamic, not static. The locally constructed social groups identified in this study may not be generalizable to those found outside of New Orleans.

Conclusions

While the results of this study do not predict or influence behavior change among MSM, they highlight a public health issue that is underrepresented in the literature but is relevant for future studies and HIV prevention efforts. The diversity of social ties which weave throughout the LGBT community is evidenced by the numerous social groups identified through this study. These findings bolster our understanding of the convergence of social groups and health behaviors by exploring multiple measures of risk. Since protective factors were associated with belonging to named constructed families composed primarily of black, Latino, and other MSM, more research is needed to understand mechanisms which make membership protective.

The implementation of multilevel approaches which incorporate individual-, network-, and community-level studies to better understand risk variation in racial groups of MSM are needed [26]. The findings of this research highlight the need for qualitative research to provide an ontological understanding of constructed families and identify which, if any, higher-level mechanisms diminish risk through group membership. Recent studies have provided evidence that membership in particular families influences risk [27], and members within constructed families may promote protective behaviors [28]. If specific forms of risk tend to cluster within certain houses or families, new lines of inquiry should investigate whether social support and social capital explain variations in risk due to social norms, regulations, trust, and reciprocity garnered by familial ties.

This study also illustrates the need to expand and evaluate the efficacy of HIV-prevention interventions within social groups engaging in varying degrees of risk through opinion leaders [29]. There is great potential for

parents in constructed families to engage in existing HIV prevention and adherence efforts. A number of recent studies of the house and ball community have argued that the existing family structure inherent within houses combined with the setting of ball events make it attractive as viable opportunities for HIV-focused interventions via POL within families [17, 19, 30]. For example, house mothers have encouraged condom use and provided information about HIV testing and fathers promoted self-development and community building [12]. One pilot study for a POL intervention within the house and ball community found that recruiting and training house leaders to disseminate risk reduction information was feasible [31]. Similarly novel approaches that harness constructed families distinct from the house and ball community could be instrumental for developing tailored and culturally relevant interventions.

Research and interventions which access endogenous social support connections are underutilized within public health. The results of this study may be used to inform existing services, outreach programs, and public health goals to foster community among MSM. Facilitating or creating a space for constructed families to meet, organize, and mobilize to share information, resources, or develop tailored culturally relevant programs may be important for local intervention efforts. For example, constructed family members could be contributory to the development of combination HIV prevention interventions and efforts to address broader health issues affecting the LGBT community such as racism, stigma, and discrimination. Family members may also be valuable for consultation on social marketing campaigns.

Future studies are needed to identify the most effective methods of integrating constructed families into HIV prevention initiatives. Research that identifies existing human and social capital within communities of MSM is vital to effectively promote testing, provide access to treatment, and engage diverse communities in comprehensive risk reduction strategies to prevent HIV.

Acknowledgements This publication was supported by the Cooperative Agreement Number 1U1B TS003252-004 from The Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention. Preparation of this manuscript was supported by grants P30MH0522776 and T32MH019985 from the National Institute of Mental Health. The authors would like to acknowledge everyone who assisted in the study including NHBS participants and interview staff. In addition, the authors would like to thank Narquis Barak for her expertise and support.

References

1. CDC. Diagnosed HIV infection among adults and adolescents in metropolitan statistical areas—United States and Puerto Rico, 2011. *Surveillance Suppl Report*. 2013;18(8): 1–87.
2. CDC. HIV Surveillance Report, 2014: diagnoses of HIV infection in the United States and dependent areas. vol.26. 2015; Available at: <http://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-report-us.pdf>. Accessed 3/3, 2016.
3. CDC. HIV Surveillance Report, 2013; vol. 25. 2015; Available at: <http://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-report-vol-25.pdf>. Accessed 3/2, 2016.
4. LADHH. Louisiana HIV, AIDS and Early Syphilis Surveillance Quarterly Report. vol. 13, No.4. 2015; Available at: <http://www.hiv411.org/files/File/Fourth%20Quarter%202015%20HIV%20and%20Syphilis%20Report.pdf>. Accessed 3/3, 2016.
5. Murrill CS, Liu KL, Guilin V, Colon ER, Dean L, Buckley LA, et al. HIV prevalence and associated risk behaviors in New York City's house ball community. *Am J Public Health*. 2008;98(6):1074–80.
6. Sanchez T, Finlayson T, Murrill C, Guilin V, Dean L. Risk behaviors and psychosocial stressors in the New York City house ball community: a comparison of men and transgender women who have sex with men. *AIDS Behav*. 2010;14(2):351–8.
7. Parkin R, Stone L. Kinship and family: an anthropological perspective. Oxford: Blackwell Publishing Ltd; 2004.
8. Chatters L, Taylor R, Kody R. Fictive kinship relations in black extended families. *J Comp Fam Stud*. 1994;297–74.
9. Weston K. Families we choose: lesbians, gays, and kinship. 1st ed. New York: Columbia University Press; 1991.
10. Schneider D. American kinship: a cultural account. 2nd ed. Chicago: University of Chicago Press; 1980.
11. Oswald RF. Resilience within the family networks of lesbians and gay men: intentionality and redefinition. *J Marriage Fam*. 2002;64(2):374–83.
12. Holloway IW, Traube DE, Kubicek K, Supan J, Weiss G, Kipke MDHIV. Prevention service utilization in the Los Angeles house and ball communities: past experiences and recommendations for the future. *AIDS Educ Prev*. 2012;24(5):431–44.
13. Lewin E. Lesbian and gay kinship: Kath Weston's "families we choose" and contemporary anthropology. *Signs*. 1993;18(4):974–9.
14. Muraco A. Intentional families: fictive kin ties between cross-gender and different sexual orientation friends. *J Marriage Fam*. 2006;68:1313–25.
15. Kelly JA, St Lawrence JS, Diaz YE, Stevenson LY, Hauth AC, Brasfield TL, et al. HIV risk behavior reduction following intervention with key opinion leaders of population: an experimental analysis. *Am J Public Health*. 1991;81(2):168–71.
16. Kelly JA. Popular opinion leaders and HIV prevention peer education: resolving discrepant findings, and implications for the development of effective community programmes. *AIDS Care*. 2004;16(2):139–50.
17. Kubicek K, Beyer WH, McNeeley M, Weiss G, Omni LF, Kipke MD. Community-engaged research to identify house parent perspectives on support and risk within the house and ball scene. *J Sex Res*. 2013;50(2):178–89.
18. Phillips G 2nd, Peterson J, Binson D, Hidalgo J, Magnus M, YMSM of color SPNS Initiative Study Group. House/ball culture and adolescent African-American transgender persons and men who have sex with men: a synthesis of the literature. *AIDS Care*. 2011;23(4):515–20.
19. Kipke MD, Kubicek K, Supan J, Weiss G, Schrager S. Laying the groundwork for an HIV prevention intervention: a descriptive profile of the Los Angeles house and ball communities. *AIDS Behav*. 2013;17(3):1068–81.
20. Dickson-Gomez J, Owczarzak J, St Lawrence J, Sitzler C, Quinn K, Pearson B, et al. Beyond the ball: implications for HIV risk and prevention among the constructed families of African American men who have sex with men. *AIDS Behav*. 2014;18(11):2156–68.
21. Allen DR, Finlayson T, Abdul-Quader A, Lansky A. The role of formative research in the national HIV behavioral surveillance system. *Public Health Rep*. 2009;124(1):26–33.
22. Lansky A, Sullivan PS, Gallagher KM, Fleming PLHIV. Behavioral surveillance in the U.S.: a conceptual framework. *Public Health Rep*. 2007;122(Suppl 1):16–23.
23. MacKellar DA, Gallagher KM, Finlayson T, Sanchez T, Lansky A, Sullivan PS. Surveillance of HIV risk and prevention behaviors of men who have sex with men—a national application of venue-based, time-space sampling. *Public Health Rep*. 2007;122(Suppl 1):39–47.
24. Gallagher KM, Sullivan PS, Lansky A, Onorato IM. Behavioral surveillance among people at risk for HIV infection in the U.S.: the national HIV behavioral surveillance system. *Public Health Rep*. 2007;122(Suppl 1):32–8.
25. Lansky A, Drake A, DiNenno E, Lee CWHIV. Behavioral surveillance among the U.S. general population. *Public Health Rep*. 2007;122(Suppl 1):24–31.
26. Sullivan PS, Peterson J, Rosenberg ES, Kelley CF, Cooper H, Vaughan A, et al. Understanding racial HIV/STI disparities in black and white men who have sex with men: a multilevel approach. *PLoS One*. 2014;9(3):e90514.
27. Horne SG, Levitt HM, Sweeney KK, Puckett JA, Hampton ML. African American gay family networks: an entry point for HIV prevention. *J Sex Res*. 2015;52(7):807–20.
28. Young LE, Jonas AB, Michaels S, Jackson JD, Pierce ML, Schneider JA, et al. Social-structural properties and HIV prevention among young men who have sex with men in the ballroom house and independent gay family communities. *Soc Sci Med*. 2017;174:26–34.
29. Smith RA, Lanza ST. Testing theoretical network classes and HIV-related correlates with latent class analysis. *AIDS Care*. 2011;23(10):1274–81.
30. Arnold EA, Bailey MM. Constructing home and family: how the ballroom community supports African American GLBTQ youth in the face of HIV/AIDS. *J Gay Lesbian Soc Serv*. 2009;21(2–3):171–88.
31. Hosek SG, Lemos D, Hotton AL, Fernandez MI, Telander K, Footer D, et al. An HIV intervention tailored for black young men who have sex with men in the house ball community. *AIDS Care*. 2015;27(3):355–62.