HEALTH COMMUNICATION CAPACITY COLLABORATIVE

Evidence Review Synthesis

Impact of Community-Level Factors on HIV Prevention Outcomes

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USAID FROM THE AMERICAN PEOPLE

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Introduction

International work on HIV prevention, treatment and treatment adherence often focuses on individual risk behavior and vulnerable populations, and minimizes the role of community-level factors (Kippax, 2013). Recent acknowledgement of the importance of community in HIV/AIDS prevention by UNAIDS, among other organizations, necessitates a thorough understanding of how communities engage with and mobilize efforts to prevent and/or mitigate the sequalae of HIV/AIDS (UNAIDS, 2012; UNAIDS, 2013). This recognition further highlights how essential community-wide systems are for motivating use of HIV prevention and treatment services and argues for an expanded research agenda in this direction (Coates, 2013).

The need for a better understanding of community-level factors in HIV prevention as part of the larger effort to design effective and sustainable programs and interventions that improve prevention, treatment, and adherence practices is evident. This review was performed to 1) assess the existing literature that explores community-level factors associated with HIV prevention, treatment, and adherence, and 2) identify interventions that have been designed to address those factors.

This *draft* review synthesizes diverse work from low- and middle-income countries as part of a larger effort to demonstrate the ways in which compositional and contextual community-level factors have been defined and assessed in work on HIV/AIDS. A total of 85 articles from peer-reviewed journals met our inclusion criteria and are synthesized in this document. Social and structural support, supportive social norms, social capital, community efficacy, and stigma are just some of the important predictors of HIV prevention, treatment, and care. Most striking are the multiple pathways through which community-level factors interact to affect individual and community-wide experiences of HIV/AIDS.

Methodology

This survey of the literature sought to answer the following research questions:

- What are the community-level factors in low- and middle-income countries that promote/inhibit HIV prevention, encourage/discourage uptake of appropriate treatment, and support/undermine adherence and care?
- What HIV-related interventions (including the full range from prevention through to treatment and care) have been designed to change community-level factors? Which community-level factors have those interventions addressed? How and with what effect?

Based on these questions, the research team drew up a list of search terms. Each term was searched in tandem with "HIV" so as to narrow the results to relevant articles. The following search terms were used:

- Community-level factors
- Community-based factor
- Community factors
- Neighborhood factors
- Neighborhood-level factors
- Neighborhood-based factors
- "Social norm" AND "Community"
- Social structure
- Community efficacy
- Community participation
- "Stigma" AND "Community"
- Social exclusion
- Unstable housing
- " "Social factors" AND "Community"
- "Community" and "Cultural factors"
- "Social capital" AND "Community"
- Multi-level factors
- "Social capital" AND "Neighborhood"
- Community capacity
- Community support
- Community domains
- Community resilience
- Structural factors
- Structural-level factors
- Collective efficacy

The SCOPUS, PubMed, PsychINFO and Popline databases were used and included articles published through August 2013. Over 10,000 articles were generated from these search terms and were eventually narrowed down to 105 articles. An additional 16 articles were added from a previous literature review due to their relevant nature. Overall, 121 articles were assessed for inclusion in this document.

Two independent readers reviewed each article based on the following inclusion criteria: (1) community-level factors were assessed in relation to HIV, (2) the articles were peer-reviewed and (3) the studies were conducted in low- or middle-income countries.

After two readers had independently reviewed each of the articles, those with discordant assessments were discussed by all the readers until a consensus was reached on whether to

include or exclude the article. At the end of this process, 85 articles met the inclusion criteria so are referenced in this document and form the foundation upon which to build a more extensive literature review in the coming months.

Assumptions

There are two broad categories of community-level factors[1] mentioned in the literature: contextual and compositional. Contextual factors reflect the ontological notion that "the whole is more than the sum of its parts." As such, these variables are "integral" to the community and only measurable at that level. Examples would include the range and availability of jobs, educational opportunities, access to or level of health care services available, among others, as well as variables that measure the number of community groups, number of community groups that provide care and support, etc.

Compositional factors are aggregated or derived from individual-level variables and are much more readily available than integral or contextual variables. Examples include median household wealth index scores, social normative beliefs and actions; percent of the population that has more than one sexual partner, percent who use condoms, etc. There is often an unspoken assumption that derived variables represent integral effects (Diez-Roux, 1998), while others argue that the contextual or integral factors are unique. Recognizing that the distinction between compositional and contextual factors is not always relevant (or testable), we only refer to this distinction when it helps elucidate the findings.

Limitations

There are a number of limitations to this draft survey of the literature:

- Because this is *not* a systematic review, potential articles that should have been included might have been missed or overlooked
- Because the inclusion criteria only included peer-reviewed articles, numerous other studies from the gray literature were not reviewed
- Because the inclusion criteria only included studies that took place in low and middle-income countries, numerous other studies from high-income countries were not reviewed
- This review only searched four databases. Other databases could have produced articles that did not show up in this search

[1] There is a third category or the "collective dimension" that takes into account socio-cultural and historical attributes of a community (Macintyre, Ellaway & Cummins, 2002).

HIV/AIDS Prevention and Treatment Cascade Outcomes

The results of the literature review are presented below by HIV prevention, treatment and care outcomes. Each topic area is then divided into community-level factors that were found to be associated (negatively or positively) with that HIV topic area. Please see Appendix A for a list of community-level factors by HIV/AIDS outcome area for each of the articles included in this report.

Condom Use

Condom use is one of the most effective methods of HIV prevention. Despite widespread condom-promotion efforts in developing countries, consistent condom use still remains relatively limited (Benefo, 2010). Most studies examining factors associated with risk of HIV in developing countries focus on individual-level factors. Increasingly, policymakers, implementers, and researchers alike who are involved in HIV prevention, treatment and care efforts recognize the importance of multi-level interventions, including those that address community-level factors, to enable and expand condom use for HIV prevention (Lippman et al, 2012).

Community-level demographics

An article based on DHS data from three African countries found that men who live in more gender-equitable communities, as evidenced by high rates of participation in education and employment among women, generally report lower rates of risky transactional sex – i.e., paid sex without condom use (Stephenson et al, 2013). The authors conjecture that this could be related to women's enhanced negotiating skills as a result of education and/or gainful employment or it could be that communities in which women are higher achievers are more supportive of women's rights (Ibid.). The same article also found that men who live in communities in which women delay their first birth were less likely to participate in risky transactional sex. Urban environments and neighborhoods where families tend to have lived for a long time have also been found to be associated with increased condom use (Kayeyi et al, 2013).

Accessibility and availability of condoms

Studies show unavailable or expensive condoms can lead to unprotected sex (Mwanga et al, 2011; Urada et al, 2012; Ye et al, 2012). One study even found that people created their own condom-like contraceptive when condoms weren't available. Participants in focus group discussions reported crafting condoms with a plastic bag by cutting out a shape of an ordinary condom in two pieces and gluing them together (Mwanga et al, 2011). Environmental-structural support has been noted as particularly important for FSWs; condom access, support from establishment owners, and health promotion were associated with consistent condom use (Urada et al, 2012; Ye et al, 2012).

Stigma and norms

Knowledge of, and communication about, HIV are key to stigma reduction related to HIV and people living with HIV/AIDS (PLHIV). Mean community HIV knowledge has been shown to encourage condom use because it helps eliminate associated myths and stigma (Stephenson et al, 2013). Increased HIV/AIDS interpersonal communication at the community level has also been associated with increased condom use for similar reasons (Benefo, 2010; Cain et al, 2013).

By changing condom-related norms, condom use can increase (Baral et al, 2013). When condom use is discouraged through stigmatization, however, unsafe sex will likely increase. For example, one study examined sexual risk behaviors among young people in Zambia and found that despite extensive condom promotion, condom use during high-risk sex was estimated at only 40% (Kayeyi et al, 2013). This seeming conundrum was due to social barriers, according to the authors, especially the influence of the church—in 2003 more than two-thirds of the participants believed that condoms promoted promiscuity (Kayeyi et al, 2013).

Additional evidence exists on the use models to guide the development of interventions that address HIV. With respect to addressing HIV risk behaviors in general (though not explicitly focused on condom use), use of the Community Readiness model in the Caribbean, informed the program about the climate of stigma and denial (McCoy et al, 2007).

Gender norms

In many communities, condom use has become a symbol of suspicion and mistrust, leading to problems with condom negotiation among partners who are sexually intimate (Mwanga et al, 2011). Therefore, community-specific gender norms should be carefully considered when looking at community-level factors and condom use. In communities with a male-dominated social structure, women are more likely to have little relationship power and are thus less likely to ask their partner to use condoms (Stephenson et al, 2013). This is especially true among key populations, such as female sex workers (FSWs).

Social capital

Social capital, including grassroots participation in local decision-making, often results in collective benefits that come from cooperation among individuals and groups. With regards to condom use, several articles point out that social capital is important because communities with strong social capital understand the collective benefits of using condoms to reduce the likelihood of HIV transmission (Kayeyi et al, 2013; Sen et al, 2010). Both social capital and proxy efficacy, the perception that others can work on one's behalf, predicted intentions to use condoms in Namibia (Smith et al, 2009). Young female members of sports clubs compared with non-members were found in one study to be more likely to use condoms with casual partners (Campbell et al, 2002).

Collectivization

Collective efficacy is "the shared belief in the ability of a group to address problems when it acts conjointly… In community settings, collective efficacy is the belief held by community members that together people can make a difference" (Cain et al, 2013, p. 886). It strongly

affects collective action because it helps determine whether perceptions regarding the capability of one's group will influence individual behavior. In Andhra Pradesh, India, female sex workers (FSWs) and men who have sex with men (HR-MSM) who reported greater collective efficacy were more likely to engage in consistent condom use (Saggurti et al, 2013).

If a community perceives that it is capable of collectively preventing HIV, this belief will likely contribute to an increase in condom use (Cain et al, 2013; Guha et al, 2012; Kippax et al, 2013; Urada et al, 2012). Collective efficacy is best fostered through collective identity and support—if a community feels a sense of shared identity, its members are likely to feel more comfortable making decisions together (Ghose et al, 2008; Guha et al, 2012). This sense of collective efficacy will increase collective agency and action. For example, community mobilization was associated with increased feelings of empowerment in FSWs in south India, and collective empowerment predicted increased self-efficacy and use of condoms in this population (Blanchard et al, 2013).

A comparison of the Sonagachi and Summertown projects, which were two programs promoting HIV prevention, including condom use, among FSWs in India and South Africa respectively, showed how social norms can offer support (i.e. through stable community network relationships). Norms in Sonagachi provided support to FSWs that did not exist for FSWs in Summertown (Cornish et al, 2009). Unlike the Summertown project, the Sonagachi project addressed issues of stigma by providing increased social support and opportunities for activism and decision-making (Ibid).

In an assessment of a sexual health intervention in Tanzania, researchers found that by focusing solely on youth in school, the intervention failed to engage the entire community and had difficulty changing norms surrounding condom use (Wight et al, 2012).

Similarly, an evaluation of an intervention to promote protective environments for youth in South Africa found that the intervention strengthened social networks and perceived social support, which was accompanied by the sense that the community could successfully face problems. This intervention shifted blame from women in the community and increased collective empowerment to minimize the spread of HIV, including condom use (Paruk et al, 2009).

Several interventions targeting FSWs have explored how social cohesion and collective identity can enable community mobilization and action to prevent HIV/AIDS. For example, a multi-level intervention in Brazil demonstrated that an integration of individual-, interpersonal-, and community-level strategies increased social cohesion and improved condom usage by FSWs (Lippman et al, 2012). An evaluation of the Sonagochi project, discussed above, indicated that efforts to increase FSW participation created a community with a positive self-image and ability to mobilize collectively (Evans et al, 2010). This collective identity was associated with increased condom use (Ghose et al, 2008). In another study, FSWs who reported greater collective agency (as measured by action with other FSWs on behalf of the group) had greater odds of consistently using condoms (Blankenship et al, 2008).

In Tanzania, the Young Citizens Program utilized an adolescent-centered health promotion curriculum to improve education and community mobilization around HIV/AIDS prevention. An evaluation of individual and neighborhood collective efficacy before and after this randomized controlled trial indicated that adolescents in treated neighborhoods who received this curriculum had increased deliberative and communicative efficacy and adults showed higher collective efficacy to provide support for children (Carlson et al, 2012).

Multiple Partners

The practice of having multiple concurrent sexual partners is widely acknowledged as a key contributor to the HIV/AIDS epidemic (Kayeyi et al, 2013; Uchudi et al, 2012). Concurrent sexual partnerships are relationships in which an individual has two or more sexual partnerships that overlap in time, creating the potential for the development of large sexual networks that facilitate the spread of HIV by increasing the number of individuals who are exposed to HIV during the initial period of acute infectivity when one member of the sexual network becomes HIV positive.

Demographics

Research establishes the association between several community-level demographics and multiple partners in low- and middle-income countries. Urban environments with cash employment opportunities have higher rates of concurrent sexual partnerships according to a 20-country study (Uchudi et al, 2012), which the authors suggest could be due to increased expendable income and exposure to new social interactions.

A study from Nigeria demonstrated that individual and community wealth status are independent predictors of women's sexual behavior, with significant neighborhood variation in odds of multiple concurrent sex partners (Uthman et al, 2008). A study observing sexual behaviors among youth in Zambia discovered that neighborhood labor force participation was a significant predictor of premarital sex (Kayeyi et al, 2013).

Dickson-Gomez, McAuliffe, de Mendoza et al. (2012) found a wide range of community–level factors, including poverty, the threat or fear of violence, and negative attitudes towards police, among other factors, were associated with sexual risk taking and drug use.

Gender and cultural norms

Men are more likely to have multiple partners than women (Kayeyi et al, 2013; Speizer et al, 2011). In Zimbabwe, norms around sex outside marriage affect the risk of HIV. Women living in communities where women and men engage in premarital and non-marital sex, for example, are at greater risk for HIV; a factor even more pronounced in rural communities (Speizer et al, 2011).

A study analyzing data from 20 sub-Saharan African countries found that multiple sex partners are most prevalent in societies in which "sexual norms are widely permissive" (Uchudi et al, 2012). Many communities embrace cultural norms that promote gender inequality. For example, some communities promote wife sharing, which often reinforces

patriarchal ideology in a society. This cultural norm not only promotes concurrent sexual partnerships among men, but it also promotes a male-dominated social structure where men have command over their wives' sexual practices (Mwanga et al, 2011). Other practices, such as polygamy, can lead to gender inequality as well. However, the role of these practices in partner reduction and exposure to HIV is nuanced and must be treated as such (Uchudi et al, 2012).

Social capital

Although strengthening social capital, social networks, and collective efficacy at the community level generally lead to reduced odds of multiple partners, there are potential negative effects (Frumence et al, 2011). Sometimes a close-knit community with rigid consensual norms and values exclude some of their fellow citizens, such as excessive alcohol drinkers or gamblers, from the benefits of social ties (Frumence et al, 2011). Another study found that female members of *stokvels* (voluntary savings clubs accompanied by social festivities) were more likely than non-members to have a casual partner (Campbell et al, 2002).

PMTCT

Health professionals have long combated the vertical transmission of HIV/AIDS-from mother to child. As a result, much progress has been made in many low- and middle-income countries. However, there is still much to be done in promoting the prevention of mother to child transmission (PMTCT) – during pregnancy, labor, delivery and breastfeeding – across social ecological levels, including within communities.

Demographics

Community socio-economic status is positively correlated with involvement in PMTCT (Gregson et al, 2013). For example, men's involvement in antenatal care (ANC) visits and PMTCT – a widely recognized factor in combating vertical transmission – is curtailed when they face economic constraints (Byamugisha et al, 2010). Higher mean educational attainment has also been shown to have a positive relationship with PMTCT practices (Byamugisha et al, 2010). This could be due to the fact that communities with higher educational attainment levels tend to have higher socio-economic status levels.

Male involvement

As mentioned earlier, the positive impact of male involvement in PMTCT programs has become better and more broadly understood with time and research (Auvinen et al, 2013; Byamugisha et al, 2010; Peltzer et al, 2011). However, efforts to involve fathers in family-based PMTCT counseling, infant feeding counseling, and general decision-making have not had the anticipated impact. There are many community-level factors that create barriers for male involvement in PMTCT programs. ANC health services generally are not very male-friendly and often not only forget to include men in the process, but also fail to sensitize men to ANC and educate them on its importance (Auvinen et al, 2013; Byamugisha et al, 2010). Additionally, the lack of couples counseling to strengthen partner communication and

involvement in PMTCT activities can be considered a barrier to male involvement (Auvinen et al, 2013). Not only do health services need to change, but so too do cultural beliefs and norms about male involvement in PMTCT (Auvinen et al, 2013; Gourlay et al, 2013). Male involvement in such programs has been viewed as emasculating and, therefore, socially discouraged (Auvinen et al, 2013).

Resources and services

Health care services and resources play an important role in encouraging PMTCT programs. One factor that needs to be considered is whether health care staff are friendly and receptive—if health workers are not encouraging of people who choose to participate in PMTCT services, the community is less likely to make use of such services (Byamugisha et al, 2010; Gourlay et al, 2013).

Another factor to consider is the integration of PMTCT programs with HIV testing and treatment. Many clinics and health systems fail to link PMTCT services with other HIV services and therefore miss the opportunity to encourage PMTCT uptake by people who make use of other HIV testing or treatment services and vice versa. Additionally, the organization and upkeep of health records is integral to improved PMTCT services as accurate records can keep track both of women who have been tested or treated for HIV and might one day become pregnant and of pregnant women who seek multiple PMTCT services. By keeping accurate records, accessing proper treatment becomes more streamlined and effective (Gourlay et al, 2013).

Community support

Finally, community support can reduce the latent stigma that often surrounds accessing PMTCT services (Gourlay et al, 2013). With the proper support, whether it is through community-based organizations or through partners/family, individuals in a community are more likely to feel comfortable seeking PMTCT programs (Gourlay et al, 2013). Through greater involvement of people living with HIV in larger coalitions, their collective strengths and skills can be used to improve reach and coverage of HIV services and reduce vertical transmission through strengthened linkages with healthcare facilities (Mburu et al, 2012). As with other aspects of the HIV spectrum, community support is essential to combating HIV/AIDS.

Voluntary Medical Male Circumcision (VMMC)

While the initial review identified two articles that focused on factors that inhibit or enable VMMC, neither examined the effects of community-level factors on VMMC.

HIV Testing and Counseling

HIV testing and counseling (HTC) services have become widely recognized as effective means for reducing HIV transmission. Despite this recognition and despite increases in the uptake of

HIV testing services, many people around the world remain unaware of their HIV infection status.

Demographics

A study based on data from eight sub-Saharan African countries found higher levels of HTC participation among married men who lived in communities with higher mean levels of educational attainment for both men and women, a greater proportion of currently employed men, higher mean levels of HIV knowledge, and a greater proportion of men who reported using condoms at last sex (Stephenson et al, 2013). In two of the countries (Uganda and Zimbabwe), women's employment at the community level was negatively associated with men's uptake of testing (Ibid).

Community organizations

Most communities have wide-ranging social groups and organizations that cater to varying interests, such as religion, politics and sports. Studies suggest that communities with high levels of membership in organizations and groups tend to utilize HTC services more frequently than communities with lower participation rates (Gregson et al, 2013; Paz-Soldan et al, 2012). This relationship could be related to the positive association between community involvement in organizations and the level of social support for HTC (Gregson et al, 2013).

As mentioned above (see Multiple Partners), while community-based groups and organizations are usually beneficial, they sometimes exclude and alienate community members who are not perceived to abide by dominant social norms (Frumence et al, 2011). This exclusion weakens marginalized populations' incentives to utilize HTC services due to fear of further exclusion. Social cohesion, especially in specialized groups like religious ones, can also lead to stigmatization, resulting in increased reluctance to get tested, seek counseling, or participate in HTC programs (Abdool Karim et al, 2008).

Stigma

HIV-related stigma is known to be associated with the reluctance to test for HIV and fear of disclosure, among other barriers to HIV prevention (Airhihenbuwa et al, 2009; Jewkes, 2006). Among women in Central Asia, HIV stigma is associated with decreased HIV testing as well as decreased receipt of HIV testing results at the community level (Smolak et al, 2013).

The authors of one article note that the root causes of stigma and associated discriminatory actions lie not with the individual, but in the larger social and cultural contexts so argue that interventions should be informed by research into cultural understandings (Airhihenbuwa et al, 2009). Another study found evidence of an association between community group membership and reduced stigma towards PLHIV (Nhamo-Murire et al, 2013). The authors also found that community group members were more likely than non-members to have taken an HIV test.

Social support

Social support is critical to improving access to and the use of HIV testing and counseling services. One study found that increased exposure to hospital-based social support

interventions increased an individual's likelihood of disclosing his or her status to a main partner (Suzan-Monti et al, 2011).

To build a sense of social support at the community level, improving community collectivization – i.e., collective efficacy, agency and action – is crucial as it evolves over time through interaction, agreement, and collaboration, thus strengthening social networks. When community members collectively believe that they can access HIV testing and counseling services, individuals will feel a greater sense of self-efficacy to access HTC (Parimi et al, 2012).

In their evaluation of the Health Communication Partnership Zambia, Underwood et al. (2013) explored the effects of capacity-building efforts (as measured by social cohesion, collective efficacy, leadership, effective leadership, conflict management, and participation/self-efficacy) that were designed to strengthen community-based systems and networks, mobilize religious and traditional leaders, and promote more equitable gender norms. Results indicated that the intervention improved community capacity and that community capacity was associated with community action for health. Community capacity, mediated by community action, was significantly and positively related to women's contraceptive use and HIV testing (Underwood et al, 2013).

Access to Health Services & ART

With the introduction of antiretroviral treatment (ART), HIV went from a terminal illness to a treatable chronic condition, especially in developed countries. This is not necessarily true, however, for low- and middle- income countries, where 70% of the 9.7 million people who are in need of ART have no access to it (Posse et al, 2009).

Social support

Because ARTs are relatively new and not well understood by many community members, access to health services and ART is limited. Several studies have shown that strengthened social support is associated with increased access to health services and uptake of ARTs (Campbell et al, 2013; Jones et al, 2013; Roura et al, 2009; Gourlay et al, 2013) by allowing individuals to feel more comfortable seeking such services.

Social support, however, does not directly lead an individual or a community to take action. According to one study, this is accomplished through building overall collectivization, which includes collective efficacy, collective agency, and collective action (Parimi et al, 2012). By increasing all three, the authors contend, a community is likely to increase their access to health services, especially ART, as a result of the joint effort to affect change and encourage ART adherence.

Structural support

The structure of a community, especially in relation to community-based organizations (CBOs) and health system, is a critical determinant of access to HIV/AIDS services like ART (Campbell et al, 2013; Gourlay et al, 2013; Kakietek et al, 2013; Krüsi et al, 2010; Posse et al,

2009). A study assessing the availability and utilization of HIV/AIDS-related services in Nigeria found that the strength of CBO engagement in a community has the potential to increase both the availability and utilization of HIV/AIDS-related services (Kakietek et al, 2013). Community-based organizations are often thought to be more adaptable than governmental agencies due to lower overall costs and less bureaucratic red tape. This is not to suggest that CBOs can replace governments or that governmental agencies are ineffective – rather, CBOs that work with governmental organizations were found to be effective in increasing access to HIV/AIDS-related services (Kakietek et al, 2013).

Other aspects of health systems also contribute to improved access to HIV/AIDS-related health services. Availability of information on treatment for HIV/AIDS would help communities understand what services they should seek and where to find them (Posse et al, 2009; Roura et al, 2009). Distance to clinics is a common barrier to clinic attendance, especially when transportation is costly or rarely available (Posse et al, 2009; Roura et al, 2009). Not only is the affordability of transportation important, but so too is the affordability of ART. The free provision of ART removes one barrier to adherence (Roura et al, 2009). And finally, communities with strict patient confidentiality see increased reliance on these services as well (Posse et al, 2009).

Adherence to ARTs

The availability and use of antiretroviral therapy (ART) has improved in many low- and middle-income countries, including most countries across sub-Saharan Africa (Lyimo et al, 2012). The design and implementation of interventions that effectively encourage ART adherence in light of the local context, culture and available facilities – that is, factors that go beyond the individual – point to the need for a closer look at community-level factors in determining adherence to ART.

Knowledge

Community support and community mobilization, as mentioned in the section about HTC, can encourage or lead to reductions in stigma and harmful traditional practices. In many communities that are traditionally religious, ART adherence is often weak because those affected by HIV choose to rely on faith-healing or fatalism instead of medical treatment (Lyimo et al, 2012; Musheke et al, 2012; Skodval et al, 2013). By increasing communal knowledge of what ART is and does, misconceptions are likely to be reduced or even eliminated with concomitant increases in support for people affected by HIV (Lyimo et al, 2012; Shuster et al, 2009; Skovdal et al, 2013).

Stigma reduction

Research has found that stigma reduction is essential to building community support and mobilization because it eliminates many barriers that prevent a community from understanding, accepting, and encouraging ART adherence (Campbell et al, 2012; Lyimo et al, 2012; Musheke et al, 2012; Roura et al, 2009).

Social Support

Social support is positively associated with ART adherence (Campbell et al, 2013; Lyimo et al, 2012; Musheke et al, 2012; Roura et al, 2009; Ware et al, 2009) for much of the same reason that it is positively associated with access to HIV/AIDS health services – it reflects the fact that individuals receiving ART have found encouragement and comfort from their community. Membership in support groups increases adherence for multiple reasons. When members are able to discuss their treatment with others, it gives them an outlet to talk about stigma they may be experiencing in the community and find ways to work past it while focusing on the benefits of remaining on treatment instead of dwelling on the challenges (Campbell et al, 2013).

According to a qualitative study, patients who are expected by their helpers, including health clinic staff, to adhere are more likely to do so, in part to retain or enhance social capital (Ware et al, 2009). Research also suggests that community mobilization – resulting in collective efficacy, agency and action – is positively associated with adherence to ARTs (Hodgson et al, 2012). One study that examined mobilizing community collectivization among FSWs to promote service utilization in government health facilities in Andhra Pradesh, India determined that sex workers with a high degree compared with low degree of overall collectivization were significantly more likely to report high self-efficacy to use government health facilities (Parimi et al, 2012).

Social support is an important mechanism through which HIV/AIDS prevention, treatment, and adherence practices can be improved. For example, an intervention in Ethiopia sought to improve treatment, care, and ART adherence of people living with HIV by training respected traditional burial groups to provide support for PLHIV. Social support from this community group resulted in high ART adherence (99%) and decreased mortality rate over four years in participants (Okello et al, 2012).

A study in South Africa measuring viral load demonstrated the positive effect of community support initiatives on ART outcomes after six months, whereas patient characteristics had little effect. After two years of treatment, community support again emerged as the most important predictor of treatment success (Wouters et al, 2009). Evidence from Malawi also supports the finding that community support is associated with better antiretroviral treatment outcomes and a considerably lower death rate (Zachariah et al, 2007). Further evidence demonstrates that community support initiatives are promising in addressing scale-up through patient empowerment, defaulter tracing, and human resource shortages among others (Wouters et al, 2012).

The same is true among pediatric clients. Sustaining adherence to ART among pediatric clients in western Kenya, for example, required the supportive presence of community members, teachers, and health care providers (Vreeman et al, 2009).

Structural Support

The availability and quality of a community's health system is central to ART adherence. Not surprisingly, people in need of ART treatment who cannot access a clinic due to distance or cost of transportation are less likely to adhere to their regimen because they are unable to

reach the clinic on a consistent basis, which is needed for ART adherence (Campbell et al, 2012; Skodval et al, 2013). The quality of health services can be enhanced by increasing patient resources – ensuring enough pills for treatment, better staffing, food for PLHIV, etc. (Campbell et al, 2012; Lyimo et al, 2013; Roura et al, 2009). The presence of patient advocates at ART facilities has also been shown to be effective in retention and adherence (Grimwood et al, 2012).

Labor conditions constitute another community-level factor that affects adherence. Individuals with inadequate incomes due to poor wage standards or a dearth of jobs will be unable to afford the transportation costs and clinic fees necessary to access ART consistently. Also, labor conditions that prohibit or discourage PLHIV from receiving treatment (e.g. not allowing time off to receive treatment) have been shown to weaken individuals' motivation to adhere to ART (Musheke et al, 2012). Finally, the role of CBOs and non-governmental organizations (NGOs) within a community is vital to ART adherence. CBOs and NGOs are able to address community health issues, such as factors related to ART adherence, more swiftly and sometimes more effectively than the government, as discussed earlier (Kakietek et al, 2013; Skodval et al, 2013).

To better address the range of social and structural factors that influence ART adherence, a framework that incorporates both tangible (material and institutional factors) and intangible (symbolic and relationship factors) contexts is proposed (Skovdal et al, 2011). The authors argue that understanding these contexts will enhance adherence so should be used for ART programming.

The piece by Krüsi et al (2008) advocated for the inclusion of a range of social and structural factors in addressing suboptimal HAAET adherence among people who inject drugs. In particular, they point to the social factors of stigma, social exclusion and structural barriers, including unstable housing environments, the organization of health care systems, and illicit drug policies as barriers to adherence.

Care and Support

While care and support services require inputs at all levels within a social system – from the individual to the structural – this survey of the literature found evidence of a broad range of community-level factors that augment the care and support provided by family members and health providers.

Demographics

Research suggests that community-level demographics play a role in a community's care and support for PLHIV. One study pointed to the association between higher levels of community education and increased community care and support for PLHIV (Chiao et al, 2009). The authors argue that HIV-related knowledge is positively associated with exposure to a broader range of social situations, including interacting with PLHIV, which increases the likelihood of supporting the needs of PLHIV. Another study found a positive association between community wealth and the level of care and support for PLHIV (Chiao et al, 2009). A three-

country study found that young people who lived in communities with higher levels of male education or reported higher percentages of currently employed men or women espoused significantly more supportive attitudes toward those with HIV (Stephenson, 2009).

Stigma

Several studies found that stigma reduction was accompanied by increased social support and care for PLHIV at the community level, which was attributed to broadening community understanding regarding the reality of HIV, dispelling myths and misconceptions about PLHIV and opening the door for more tolerance and acceptance of PLHIV (Chiao et al, 2009; Stephenson, 2009). Addressing and eliminating harmful traditional norms can also diminish stigma (Foster, 2007). For example, some communities in sub-Saharan Africa believe that people affected by HIV/AIDS are "bewitched" because they did something "bad"(Foster, 2007). In Namibia, those who did not feel threatened by HIV personally reported greater willingness to support PLHIV and adopt orphans (Smith et al, 2007).

Stigma is especially important to consider when working with key populations. For example, men who have sex with men (MSM) or female sex workers (FSWs) are often given less care and support because of the stigma specifically associated with their practices; community members often do not understand these key populations and believe these groups "deserve" their HIV+ status (Cáceres et al, 2008).

Social Capital

Social capital is important for care and support because "communities possessing a diverse and wide-ranging set of social networks are in a stronger position to confront risk and vulnerability or take advantage of opportunities" (Thomas-Slater et al, 2011, pp. S325). A large network is advantageous because it gives individuals access to many different social groups, therefore creating diversity within a community and allowing for more social inclusion as well as resources (Cáceres et al, 2008). A study in Tanzania concluded that social capital may reduce HIV risk through its effect on social norms (Frumence et al, 2010).

Structural Support

Although sometimes overlooked, the involvement of CBOs and NGOs that deal with care and support is an important factor to consider (Kakietek et al, 2013; Skovdal et al, 2013; Thomas-Slater et al, 2011). As mentioned earlier, CBOs and NGOs that are involved with local networks and partnerships as well as the government are key players in combating HIV.

Another structural factor that plays out at the community level is the extent of resource provision (Lifson et al, 2013; Skovdal et al, 2013). One study found that long distances to a clinic, lack of hospital funds, and lack of food for PLHIV were major barriers to improving HIV care and support (Lifson et al 2013). Another way to enhance community resources is to strengthen community safety nets that can help protect people in the community from the effects of HIV (Foster, 2007).

Encouraging communities to contribute to and understand the advantages of a community safety net may well lead to more security along with the provision of resources for community members affected by HIV/AIDS (Foster, 2007). These safety nets provide both emotional

support and access to more material support from co-members of community groups and may act as ' critical enablers' to the HIV response (Skovdal et al, 2013).

In rural Edo State, Nigeria, an intervention by the Nigerian National Youth Service Corps (NYSC) aimed to engage the community and improve AIDS competency by challenging norms and values that restrict discussions about sex and perpetuate gender inequalities (Omorodion et al, 2012). This intervention increased community mobilization around HIV/AIDS and began to change social norms by improving communication and providing opportunities for economic empowerment and networking.

HIV Transmission and Risk

Demographics

A quantitative study conducted in Tanzania found strong correlations between HIV-positive status and living in communities with high levels of socio-economic activity, high levels of mobility, and a relatively high proportion of bar workers living the community (Bloom et al, 2002). The authors argue that these contextual factors should be considered when deciding where to intervene with prevention programs.

Another study found increased odds of HIV for men and women were associated with proximity to a major road and proximity to a public health clinic (Feldacker et al, 2011). The same study also found higher community income inequality increased women's (but not men's) odds of HIV. While not studying income inequality per se, another study found that young women who live in lower or middle-income neighborhoods had higher levels of HIV prevalence than those in higher-income neighborhoods in the same city (Gabrysch, et al, 2008).

In contrast to the Feldacker et al. (2011) study, however, the latter study found that proximity to a health clinic was protective. Residential mobility significantly increased vulnerability to HIV and STIs in a study in southwestern China as did better socioeconomic conditions (Yang, 2005). A study from Zambia found that urban living and low neighborhood educational attainment were associated with HIV prevalence among young women aged 15–24 (Kayeyi et al, 2009). After adjusting for this neighborhood variable, the authors found that individual-level educational attainment was strongly protective, but tended to be a risk factor for rural women.

Social capital

The literature found variable associations between group membership and HIV status. Two Zimbabwe-based studies (Gregson et al, 2001; Gregson et al, 2004) found that, among young women, membership in well-functioning community groups was associated with heightened chances of avoiding HIV infection, though this protective effect was less evident for women of lower educational attainment. Membership in poorly functioning groups was correlated with a greater likelihood of contracting HIV. A study conducted with both men and women in Zimbabwe confirmed the finding among women that participation in a well-functioning group is associated with both lower rates of multiple partnerships and lower rates of HIV

acquisition (Gregson et al, 2011). Among men, however, membership was not associated with lower HIV rates, although it was positively associated with a reduction in the reported number of partners. The authors argued that the protective effects for women seemed to work through enhanced self-efficacy; heightened self-efficacy was not found among male members of high-functioning community groups.

Moreover, men were morel likely to join sports clubs and political groups where the focus was on competitiveness and power, while women tended to join groups where AIDS was discussed and/or groups that were supportive of household livelihoods. Another study found that male and female youth who were members of sports clubs were more likely to be HIV negative than their non-participation counterparts (Campbell et al, 2002). The same article, however, found that male members of *stokvels* were more likely than nonmembers to be HIV positive.

Research found evidence that membership in formal groups and higher levels of social capital were associated with reduced fear of transmission of HIV/AIDS, lower levels of feelings of shame, blame and judgment as well as high levels of perceived collective action toward community goals (Sivaram et al, 2009).

Vaccine Development

Through the process of gauging vaccine acceptability and willingness to participate in vaccine trials, social stigma and discrimination in health care settings emerged as barriers (Chakrapani et al, 2012; Newman et al, 2012). Without addressing community norms and other factors while also mitigating stigma and barriers to access in HIV testing, counseling and treatment among key populations, gaps will continue to exist between clinical trial efficacy and real world effectiveness (Newman et al, 2012).

Conclusions

This preliminary survey sought to highlight the community-level factors identified in the literature as associated, whether positively or negatively, with HIV prevention, treatment and care outcomes in low- and middle-income countries. With the exception of VMMC and harm reduction for people who inject drugs, the reviewed articles pointed to wide-ranging community-level factors that were correlated with all HIV outcomes of interest – from prevention through ART adherence.

Community demographics, changes in which will require long-term commitments, were among the factors associated with HIV prevention and mitigation. The role of positive social norms, social support and social capital organized around HIV prevention and mitigation were widely discussed in the literature and are areas with potentially high levels of impact. In particular, equitable gender norms, appropriate treatment of key populations, and stigma reduction were identified as areas that benefit from social normative change. At the same time, community-level interventions alone are not sufficient. Many articles noted the importance of structural-level change, including in policies, access to health care services, and broader economic factors.

The second aim of this review was to identify interventions relevant to the topic at hand. Only eight articles were found in this preliminary review that evaluated interventions designed to influence or alter community-level factors. Evaluations of interventions designed to change individual-level factors and that did not explicitly discuss community-level change (at either the contextual or compositional level) were eliminated from the review. This could explain, in part, the dearth of relevant evaluation articles. It is very likely that some articles were overlooked due to search term or search engine limitations. And it may well be that few interventions designed to have community-level effects have been evaluated. There is a clear need for research that evaluates such interventions.

Finally, this review did not assess the quality or strength of the evidence presented in the articles, which is clearly an area that requires further study and will be undertaken in the next phase of this review.

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HIV STUDIES

Author/Year	Title	Country	CLFs: Compositional or Contextual	HIV Focus Area	Stigma	Social Capital	Social Norms/ beliefs	Support	Empowerment	Gender norms	Health System	Social exclusion	Community Mobilization	Social and Economic Activity	Collective Efficacy	Resiliance	Demographics	Structural	Knowledge	Networks	CBO Membership
Abdool Karim et al., 2008	The influence of AIDS stigma and discrimination and social cohesion on HIV testing and willingness to disclose HIV in rural KwaZulu-Natal, South Africa	South Africa	Compositional	HCT	x																x
Airhihenbuwa et. al., 2009	Stigma, Culture, and HIV and AIDS in the Western Cape, South Africa: An Pplication of the PEN-3 cultural Model for Community-Based Research	South Africa	Compositional	Stigma	x		x														
Auvinen, Kylma, & Suominen, 2013	Male involvement and prevention of mother-to-child transmission of HIV in Sub-Saharan Africa: an integrative review	Multiple - Sub Saharan Africa	Compositional	PMTCT	X		X			x	x										
Baral et al., 2013	Modified social ecological model: a tool to guide the assessment of the risks and risk contexts of HIV epidemics		Compositional	Condom use	x		x	x				x					x				
Benefo, 2010	Determinants of condom use in Zambia: A multilevel analysis	Zambia	Both	Condom use	x		x				x							x			
Blanchard et al., 2013	Community mobilization, empowerment and HIV prevention among female sex workers in south India	India	Compositional	Condom use					x				x		x						
Bloom et al., 2002	Community effects of the risk of HIV infection in rural Tanzania	Tanzania	Contextual	Transmission						x				x			x				
Byamugisha et al., 2010	Determinants of male involvement in the prevention of mother-to-child-transmission of HIV programme in Eastern Uganda, a cross-sectional survey	Uganda	Compositional	PMTCT	x		x				x						x				
Cáceres, Aggleton & Galea, 2008	Sexual diversity, social inclusion and HIV/AIDS		Contextual	Care & Support	x	x						x									
Cain et al., 2013	Collective efficacy and HIV Prevention in South African Townships	South Africa	Compositional	Condom use	x		x								x						
Campbell, Williams, & Gilgen, 2002	Is social capital a useful conceptual tool for exploring community level influences on HIV infection? An exploratory case study from South Africa	South Africa	Compositional	Condom use, casual partners		x															
Campbell et al., 2012	Building adherence-competent communities: factors promoting children's adherence to anti-retroviral HIV/AIDS treatment in rural Zimbabwe	Zimbabwe	Contextual	Adherence	x	x	x	x			x										
Campbell et al., 2013	Social capital and HIV Competent Communities: The role of community groups in managingHIV/AIDS in rural Zimbabwe	Zimbabwe	Compositional	Adherence; Access	x	x					x							x		x	
Chakrapani et al., 2012	Willingness to Participate in HIV Vaccine Trials among Men Who Have Sex with Men in Chennai and Mumbai, India: A Social Ecological Approach	India	Contextual	HTC, Vaccine trials	x			x										x			x

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Chiao, Mishra, & Sambisa, 2009	Individual- and community-level determinants of social acceptance of people living with HIV in Kenya: Results from a national population-based survey	Kenya	Compositional	Care & Support	x			x									x		x		
Dickson-Gomez et al., 2012	The Relationship Between Community Structural characteristics, the Context of Crack Use, and HIV Risk Behaviors in San Salvador, El Salvador	El Salvador	Compositional	Risk Behavior			x											x			
Feldacker, Ennett, & Speizer, 2011	It's not just who you are but where you live: An exploration of community influences on individual HIV status in rural Malawi	Malawi	Contextual	Condom use, partner reduction, sexual behaviors			x							x				x			
Foster, 2007	Under the radar: community safety nets for AIDS-affected households in sub-Saharan Africa	Multiple - sub saharan africa	Compositional	Care & Support	x											x		x			
Frumence et al., 2010	Social capital and the decline in HIV transmission – A case study in three villages in the Kagera region of Tanzania	Tanzania	Contextual	Care & Support		x	x														
Frumence et al., 2011	Exploring the role of cognitive and structural forms of social capital in HIV/AIDS trends in the Kagera region of Tanzania - A grounded theory study	Tanzania	Contextual	Multiple partners		x	x								x					x	x
Gabrysch, Edwards, & Glynn, 2008	The role of context: Neighbourhood characteristics strongly influence HIV risk in young women in Ndola, Zambia	Zambia	Compositional	Transmission										x							
Gourlay et al., 2013	Barriers and facilitating factors to the uptake of antiretroviral drugs for prevention of mother-to-child transmission of HIV in sub-Saharan Africa: a systematic review.	Multiple - Sub Saharan Africa	Compositional	PMTCT, Access to ART,	x		x	x			x										
Gregson et al., 2001	School Education & Avoidance of Early HIV Infection: The Mediating Roles of Social Capital & Psychosocial Factors among Young Women in Rural Zimbabwe	Zimbabwe	Compositional	Knowldege; Risk perception; HIV transmission		x															
Gregson et al., 2011	Social Capital and Women's Reduced Vulnerability to HIV Infection in Rural Zimbabwe	Zimbabwe	Compositional	Sexual behavior, incidence		x															
Gregson et al., 2004	Community group participation: Can it help young women to avoid HIV? An exploratory study of social capital and school education in rural Zimbabwe	Zimbabwe	Contextual	Safer sex, HIV transmission		x		x													
Gregson et al., 2013	Grassroots community organizations' contribution to the scale-up of HIV testing and counselling services in Zimbabwe	Zimbabwe	Compositional	HTC, PMTCT				x									x			x	x

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Grimwood et al., 2012	Community adherence support improves programme retention in children on antiretroviral treatment: a multicentre cohort study in South Africa	South Africa	Compositional	Adherence				x			x							x			
Guha et al., 2012	Risk reduction and perceived collective efficacy and community support among female sex workers in Tamil Nadu and Maharashtra, India: the importance of context	India	Contextual	Condom use				x							x						
Hodgson, et al., 2012	Only connect – the role of PLHIV group networks in increasing the effectiveness of Ugandan HIV services	Uganda	Compositional	Adherence		x		x			x									x	
Jewkes, 2006	Beyond stigma: social responses to HIV in South Africa	South Africa	Contextual	Care & Support	x																
Jones et al., 2013	Determinants of Engagement in HIV Treatment and Care Among Zambians New to Antiretroviral Therapy	Zambia	Compositional	Access to ART	x			x			x										
Kakietek et al., 2013	It takes a village: community-based organizations and the availability and utilization of HIV/AIDS-related services in Nigeria	Nigeria	Contextual	Access to ART, adherence, Care & support	x	x		x			x		x	x				x			x
Kayeyi et al., 2013	Decline in Sexual Risk Behaviours among Young People in Zambia (2000-2009): Do Neighbourhood Contextual Effects Play a Role?	Zambia	Compositional	Condom use, multiple partners		x				x							x		x		
Kayeyi, Sandoy, & Fylkesnes, 2009	Effects of neighbourhood-level educational attainment on HIV prevalence among young women in Zambia	Zambia	Compositional	Sexual Debut, number of partners										x			x		x		
Kippax et al., 2013	Between individual agency and structure in HIV prevention: Understanding the middle ground of social practice	NA	Compositional	Condom use									x		x						
Krüsi et al., 2010	Social and Structural determinants of HAART access and adherence among drug users		Contextual	Access to ART; adherence	x						x	x						x			
Lifson et al., 2013	Barriers to Retention in Care as Perceived by Persons Living with HIV in Rural Ethiopia: Focus Group Results and Recommended Strategies	Ethiopia	Contextual	Care & Support	x			x										x			
Lyimo et al., 2012	Determinants of antiretroviral therapy adherence in northern Tanzania: a comprehensive picture from the patient perspective	Tanzania	Contextual	Adherence	x			x			x							x	x		
Mburu, Iorpenda, & Muwanga, 2012	Expanding the role of community mobilization to accelerate progress towards ending vertical transmission of the Networks model HIV in Uganda:	Uganda	Contextual	Prevention (PMTCT?)																x	

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McCoy et al., 2007	A Strategy for Improving Community Effectiveness of HIV/AIDS Intervention Design: The community Readiness Model in the Caribbean	Caribbean	Both	Prevention interventions									x	x					x		
Musheke, Bond, & Merten, 2012	Individual and contextual factors influencing patient attrition from antiretroviral therapy care in an urban community of Lusaka, Zambia	Zambia	Compositional	Adherence	x			x			x							x	x		
Mwanga et al., 2011	Half plate of rice to a male casual sexual partner, full plate belongs to the husband: findings from a qualitative study on sexual behaviour in relation to HIV and AIDS in northern Tanzania	Tanzania	Contextual	Condom use, multiple partners			x			x	x										
Newman et al., 2012	A social vaccine? Social and structural contexts of HIV vaccine acceptability among most-at-risk populations in Thailand	Thailand	Compositional	HIV Vaccines, HCT, Treatment	x						x										
Nhamo-Murire, Campbell & Gregson, 2013	Community Group Membership and Stigmatising Attitudes Towards People Living with HIV in Eastern Zimbabwe	Zimbabwe	Contextual	Stigma	x	x															
Parimi et al., 2012	Mobilising community collectivisation among female sex workers to promote STI service utilisation from the government healthcare system in Andhra Pradesh, India	India	Contextual	HCT, Access to ART, Adherence				x					x		x						
Paz-Soldan et al., 2012	Community, social group, and individual level correlates of rural Malawian men's and women's reproductive health intentions and practices	Malawi	Contextual	HCT										x			x	x			x
Peltzer, Sikwane, & Majaja, 2011	Factors associated with short-course antiretroviral prophylaxis (dual therapy) adherence for PMTCT in Nkangala district, South Africa	South Africa	Compositional	PMTCT, adherence	x																
Posse, & Baltussen, 2009	Barriers to Access to Antiretroviral Treatment in Mozambique, as Perceived by Patients and Health Workers in Urban and Rural Settings	Mozambique	Both	Access to ART				x			x							x			
Roura et al., 2009	Barriers to Sustaining Antiretroviral Treatment in Kisesa, Tanzania: A Follow-Up Study to Understand Attrition fromt he Antiretroviral Program	Tanzania	Contextual	Access to ART, adherence	x		x	x			x							x		x	
Saggurti et al., 2013	Community collectivization and its association with consistent condom use and STI treatment-seeking behaviors among female sex workers and high-risk men who have sex with men/transgenders in Andhra Pradesh, India	India	Compositional	Condom use											x						

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Sen, Aguilar, & Goldbach, 2010	Does Social Capital Act as a Buffer Against HIV Risk Among Migrant Men in Sub-Saharan Africa?	Angola	Compositional	Condom use		x		x													
Shuster et al., 2009	The cultural and community-level acceptance of antiretroviral therapy (ART) among traditional healers in Eastern Cape, South Africa	South Africa	Compositional	Adherence			x	x											x		
Sivaram et al., 2009	Associations between social capital and HIV stigma in Chennai, India: considerations for prevention intervention design	India (Chennai)	Compositional	Stigma	x	x														x	
Skovdal, et al., 2013	Community groups as 'critical enablers' of the HIV response in Zimbabwe	Zimbabwe	Compositional	Adherence, Care & Support	x	x		x			x		x				x	x	x		x
Skovdal et al., 2011	Contextual and psychosocial influences on antiretroviral therapy adherence in rural Zimbabwe:towards a systematic framework for programme planners	Zimbabwe	Both	Adherence	x		x														
Smith, Fererra, & White, 2007	Social Sides of Health Risks: Stigma and Collective Efficacy	Namibia	Compositional	Care & Support	x	x	x								x						
Smith, & Rimal, 2009	The Impact of Social Capital on HIV-related Actions as Mediated by Personal and Proxy Efficacies in Namibia	Namibia	Compositional	Condom use		x															
Smolak & El-Bassel, 2013	Multilevel Stigma as a Barrier to HIV Testing in Central Asia: A Context Quantified	Central Asia: Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan and Turkmenistan	Compositional	HCT	x																x
Speizer et al., 2011	Community-level HIV risk behaviors and HIV prevalence among women and men in Zimbabwe	Zimbabwe	Compositional	Multiple partners			x			x											
Stephenson, Elfstrom & Winter, 2013	Community Influences on Married Men's Uptake of HIV Testing in Eight African Countries	Chad, Ghana, Malawi, Nigeria, Tanzania, Uganda, Zambia, Zimbabwe	Compositional	HCT										x			x		x		
Stephenson, 2009	Community factors shaping HIV-related stigma among young people in three African countries	Burkino Faso, Ghana, Zambia	Compositional	Care & Support	x		x							x			x				
Stephenson, Winter, & Elfstrom, 2013	Community environments shaping transactional sex among sexually active men in Malawi, Nigeria, and Tanzania	Malawi, Nigeria and Tanzania	Compositional	Risky transactional sex, Condom use	x					x				x			x		x		
Suzan-Monti et al., 2011	Individual and Structural Factors Associated with HIV Status Disclosure to Main Partner in Cameroon: ANRS 12-116 EVAL Survey, 2006-2007	Cameroon	Compositional	HTC, Disclosure				x			x										
Thomas-Slayter, & Fisher, 2011	Social capital and AIDS-resilient communities: Strengthening the AIDS response	NA	Contextual	Care & Support	x	x										x				x	

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Author/Year	Title	Country	CLFs: Compositional or Contextual	HIV Focus Area	Stigma	Social Capital	Social Norms/ beliefs	Support	Empowerment	Gender norms	Health System	Social exclusion	Community Mobilization	Social and Economic Activity	Collective Efficacy	Resiliance	Demographics	Structural	Knowledge	Networks	CBO Membership
Uchudi, Magadi, & Mostazir, 2012	"A Multilevel Analysis of the determinants of high-risk sexual behaviour in sub-saharan Africa"	20 Sub-Saharan countries	Compositional	Multiple partners			x			x				x			x	x			
Urada et al., 2012	Condom negotiations among FSW in Philippines: environmental influences	Philippines	Both	Condom use										x	x						
Uthman, & Kongnyuy, 2008	"A multilevel analysis of effect of neighbourhood and individual wealth status on sexual behaviour among women: evidence from Nigeria 2003 Demographic and Health Survey"	Nigeria	Both	Sexual behavior										x				x			
Vreeman et al., 2009	Factors sustaining pediatric adherence to ART in Western Kenya	Kenya	Compositional	Adherence			x				x										
Ware et al., 2009	Explaining Adherence Success in Sub-Saharan Africa: An Ethnographic Study	Nigeria, Tanzania, Uganda	Compositional	Adherence	x	x		x													
Wouters et al., 2009	Public-sector ART in the Free State Province, South Africa: community support as an important determinant of outcome	South Africa	Compositional	Treatment				x													
Wouters et al., 2012	Impact of community-based support services on antiretroviral treatment programme delivery and outcomes in resource-limited countries: a synthetic review	Resource limited countries	Contextual	Adherence; treatment enrollement				x													
Yang, 2005	Does where we live matter? Community characteristics and HIV and sexually transmitted disease prevalence in southwestern China	China	Compositional	Risk Behavior			x							x							
Ye et al., 2012	"Social, psychological, and environmental-structural factors determine consistent condom use among rural-to-urban migrant female sex workers in Shanghai China"	China	Compositional	Condom use				x			x										
Zachariah et al., 2007	Community support is associated with better antiretroviral treatment outcomes in a resource-limited rural district in Malawi	Malawi	Compositional	Treatment				x													

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HIV INTERVENTIONS

Authors/ Year	Title	Country	HIV Focus Area	Stigma	Social Cohesion	Social Capital	Social Norms/ beliefs	Support	Empowerment	Gender norms	Health System	Social exclusion	Community Mobilization	Social and Economic Activity	Collective Efficacy	Resiliance	Safety Nets	Demographics	Structural	Knowledge	Networks	CBO Membership
Blankenship, et al., 2008	Collective Power, community mobilization, and condom use practices among female sex workers in Andhra Pradesh, India	India	Condom Use												x							
Carlson, Brennan & Earls, 2012	Enhancing adolescent self-efficacy and colelctive efficacy through public engagement around HIV/AIDS competence: A multilevel, cluster randomized-controlled trial	Tanzania	Care & Support	x											x							
Cornish, & Campbell, 2009	"The social conditions for successful peer education: a comparison of two HIV prevention programs run by sex workers in India and South Africa"	India; South Africa	Condom Use				x	x							x							
Evans, Jana, & Lambert, 2010	What makes a structural intervention? Reducing vulnerability to HIV in community settings, with particular reference to sex work	India	Condom Use												x							
Ghose et al., 2008	Mobilizing collective identity to reduce HIV risk among sex workers in Sonagachi, India: The boundaries, consciousness, negotiation gramework	India	Condom Use												x							
Lippman, et al., 2012	Findings From Encontros: A Multilevel STI/HIV Intervention to Increase Condom Use, Reduce STI, and Change the Social Environment Workers in BrazilAmong Sex	Brazil	Condom Use		x			x														
Okello, et al., 2012	Saving the sick and improving the socio-economic conditions of people living with HIV in Ethiopia through traditional burial groups	Ethiopia	Adherence					x														
Omorodion et al., 2012	The Use of National Youth Service Corp Members to Build AIDS Competent Communities in Rural Edo State Nigeria	Nigeria	HCT, Care & Support				x						x						x			x
Paruk, Petersen, & Bhana, 2009	Facilitating health-enabling social contexts for youth: qualitative evaluation of a family-based HIV-pilot programme prevention	South Africa	Condom Use					x		x					x						x	
Underwood et al., 2013	Community capacity as means to improved health practices and an end in itself: evidence from a multi-stage study	Zambia	HCT					x							x							
Wight, Plummer, & Ross, 2012	The need to promote behaviour change at the cultural level: one factor explaining the limited impact of the MEMA kwa Vijana adolescent sexual health intervention in rural Tanzania. A process evaluation	Tanzania	Condom use				x															