Rethinking Gender, Heterosexual Men, and Women's Vulnerability to HIV/AIDS

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Most HIV prevention literature portrays women as especially vulnerable to HIV infection because of biological susceptibility and men's sexual power and privilege. Conversely, heterosexual men are perceived as active transmitters of HIV but not active agents in prevention. Although the women's vulnerability paradigm was a radical revision of earlier views of women in the epidemic, mounting challenges undermine its current usefulness. We review the etiology and successes of the paradigm as well as its accruing limitations. We also call for an expanded model that acknowledges biology, gender inequality, and gendered power relations but also directly examines social structure, gender, and HIV risk for heterosexual women and men. (*Am J Public Health.* 2010;100:435–445. doi:10.2105/AJPH.2009.159723)

Since the first cases of AIDS were diagnosed more than 25 years ago, the depiction of women in the scientific and political discourse of HIV/AIDS has dramatically transformed. Virtually invisible in the earliest phases of the US epidemic, then treated as stigmatized vectors of the virus, women were expected to protect themselves by insisting on male condom use—despite feminist recognition of the reasons this expectation would fail.[1,2] More recently and remarkably, the primary face of AIDS is a woman from the global south—a face deserving both sympathy and support, if not rescue.[3] Meanwhile, men who have sex with women remain a forgotten group in the epidemic,[4] almost entirely unaddressed in HIV prevention programs.

How, why, and for whom did women become the primary vulnerable victims of the HIV epidemic? More important, does this transformation serve the current needs of those at risk for HIV? Here we consider the etiology and evolution of what we have termed the vulnerability paradigm, a model that has been latent within the research literature and policy lexicon, but a ubiquitous model[5–9] that we wish to name explicitly. According to this paradigm, women are susceptible to HIV because of biological differences in susceptibility, reduced sexual autonomy, and men's sexual power and privilege. Conversely, heterosexual men are active transmitters of HIV but not active agents of prevention. The paradigm assumes not only that women (but not men) want to prevent HIV but lack the power to do so, but also that men are more likely than women to bring HIV into the partnership. The model tends to ignore how heterosexual men contracted HIV themselves and how variability in biosocial and cultural contexts influences women's and men's probability of infection if exposed.

To be sure, both biological susceptibility and gendered power dynamics drastically disadvantage women worldwide. However, the vulnerability paradigm can also mask women's power and agency. Moreover, the model assumes that women want to protect themselves, but men do not. Similarly, men, but not women, are presumed to engage deliberately in risky practices. Finally, the paradigm applies gendered, structural understandings and interventions to women's behaviors[9] but not to men's, especially heterosexual men's. Upwards of 70% of transmissions worldwide are now between a man and a woman,[10] but programs and policies largely fail to include the prevention needs of men who have sex with women.

ETIOLOGY, EVOLUTION, AND ADVANTAGES OF THE VULNERABILITY PARADIGM

Women were nearly invisible at the beginning of the HIV/AIDS epidemic in the United States.[11–13] Close identification of the virus with gay men, and later injection drug users, meant that researchers failed to recognize or focus on heterosexual transmission for many years after the first cases were diagnosed in the United States. Even by the 1990s, when it was recognized that women were acquiring HIV heterosexually,[14,15] and when almost 20 000 women had officially died of AIDS,[16] women were absent from clinical trials,[17] and the Centers for Disease Control and Prevention's AIDS case definition failed to include certain common disease manifestations unique to women.

Over time, greater clinical understanding of HIV in women (e.g., recognition that cervical abnormalities and recurrent vaginal yeast infections were, in fact, opportunistic[18,19]) helped make HIV-positive women visible. But it was not until 1992, after vociferous legal and advocacy battles mounted by women's groups,[20] that the Centers for Disease Control and Prevention finally expanded its AIDS case definition,[21] leading to a dramatic escalation in the number of women officially recognized as having AIDS.[22]

But visibility did not automatically lead to increased public health aid to HIV-positive women. Two kinds of heterosexually infected women appeared in the discourse: pregnant women who could pass on HIV to their infants, and prostitutes who could pass on HIV to their clients and, through these clients, to the general population.[12,23,24] Women were viewed as vectors, with their needs ranked secondary to those of their fetuses or their male clients and those clients' other partners. (This phenomenon would be seen with prostitutes in several other parts of the world, among whom AIDS was considered to be a largely feminized disease from which men needed to be protected.[25–27]) Poor pregnant women, especially women of color, faced coercive HIV-testing practices.[12,28] Sex workers became targets of testing and attendant criminalization while their male clients slipped under the radar. Furthermore, even among feminist advocates, efforts to feminize the

discourse were slow after the disease had been identified with gay men for so long. Treichler in particular has documented the lackluster feminist response to AIDS when it was primarily a gay epidemic.[13]

Epidemiological developments throughout the 1990s continued to highlight heterosexual transmission as a major route of infection for US women. In 1994, heterosexual contact surpassed injection drug use as women's predominant route of infection.[22] Accordingly, feminist researchers constructed a critique to explain women's heightened risk through heterosexual intercourse. They argued that women were more vulnerable to HIV than men, both because of their greater biological susceptibility if exposed to HIV and their greater social vulnerability to being exposed to an HIV-positive partner.

Women's Biological Susceptibility to Infection

Although women's greater biological susceptibility is now well accepted, this was not assumed early in the epidemic, when the vagina, as opposed to the anus, was thought by scientists to be a rugged tissue that protected women from infection.[13] Surveillance statistics, however, showed that heterosexual transmission accounted for more infections among women than men, suggesting that women might be at greater risk of infection if exposed through heterosexual intercourse. Plausibility was strengthened by analogy with other (albeit bacterial) sexually transmitted infections, such as chlamydia and gonorrhea, which exhibit different transmission probabilities from men to women than from women to men.[29]

Prospective studies of serodiscordant couples[30,31] and of men's contacts with female sex workers[32,33] then showed that women have upward of twice the probability of infection if exposed to HIV. Thus, the growing epidemiological understanding of gender differences in transmission probabilities through vaginal intercourse came to serve as the lynchpin of the vulnerability paradigm. The model rested even more compellingly, however, on arguments concerning women's social vulnerability.

Women's Greater Social Vulnerability to Exposure

At first, epidemiological profiles strongly contributed to the recognition of women's greater social vulnerability stemming from gender inequalities that increase their likelihood of being exposed to HIV (i.e., of encountering an HIV-infected partner). Surveillance statistics showed that the women most likely to contract HIV heterosexually were predominantly Black and Latina and were living in the poorest sections of US cities that were hardest hit by the deindustrialization of the 1970s.[34,35] The men who infected them had been infected through injection drug use or (to a lesser extent) through intercourse with men or other women, including sex workers.[36–38] This epidemiological profile resonates strongly with the vulnerability paradigm: a socially disadvantaged, monogamous, and unsuspecting woman is infected not through her own behaviors but as a consequence of her partner's wrongdoing.

The epidemiological and social profile of women in many international pandemics also supported the notion of the vulnerable woman. In several parts of the world, a woman's greatest risk factor for HIV could be her marriage, although married women were hardly the only women susceptible to HIV in the earlier years of the pandemic. As in the United States, certain groups of women were targeted as vectors of the disease, especially commercial sex workers,[39] pregnant women, and migrant women.[40]

Even when women worldwide followed the ABC commandments of remaining abstinent until marriage, being faithful to a single partner, and using condoms, they could be susceptible to HIV from their husbands because of a nearly universal sexual double standard and men's greater access to extramarital sex.[41] As early as 1988, international scholars used the term vulnerability to highlight women's disadvantage in their interpersonal relationships; they also argued that additional structural factors such as poverty, migration, and war could increase susceptibility among both married and unmarried women.[42–45] For example, Ulin reviewed how African women's struggles for economic survival and personal autonomy led to relationships with new sexual partners, with a consequent increase in HIV seroprevalence among women once considered at low risk of infection.[46] Policy institutions such as the Panos Institute and the World Health Organization took up the mantel of women's vulnerability as early as 1990,[43-45] which both reflected and encouraged research and advocacy about women's disadvantages in the epidemic.

Indeed, feminist research and advocacy both in the United States and internationally bolstered the vulnerability model by describing the myriad ways in which gender inequality could put women at risk for HIV in their primary relationships with men. Gender-based violence,[47,48] nonvolitional sex,[49,50] and relationship power imbalances[51,52] all have been associated with reduced sexual autonomy and thus greater vulnerability to HIV, as well as to other sexually transmitted infections and unintended pregnancy. Feminist researchers also argued repeatedly and convincingly that gender inequality places women in unequal power positions that make pressing for condom use difficult, if not impossible,[2,11,23,52–59] with these gendered power dynamics also increasing vulnerability to HIV exposure. Gendered socialization can also increase women's susceptibility to HIV by leading them to place a premium on love and romantic relationships.[60–62] Even if they possess the agency to do so, women may not want to negotiate for condom use because condoms seem antithetical to trust, love, closeness, and fidelity.[1,58,59,61,63,64] This cumulative research added a thick layer of social vulnerability to the biological sex differences that seem to account for women's greater risk of infection if exposed to the virus.[65,66]

Advantages of the Vulnerability Paradigm

The vulnerability model helped mobilize a prevention discourse that reframed women's risk in terms of the gender inequalities embedded in everyday heterosexual relationships. Paiva argued that the use of the term "vulnerability" marks a transition from an individual approach to HIV risk practices to an emphasis on the structural HIV influences beyond an individual's control, such as poverty and gender inequality.[67] This recognition of women's structural disadvantage has been one of the vulnerability paradigm's most powerful and lasting contributions.[54,68]

Over time, the vulnerability model has been adopted by global health policy leaders, contributing to increased concern for women in the worldwide pandemic. The timing of the adoption of gender inequality into policy discourse was partially driven by the changing epidemiology of the disease. However, it also

went hand-in-hand with other US policy commitments intended to save women, such as policies on sex trafficking, child marriage, and violence against women (as opposed to, for example, promoting pleasure as a way to increase condom use).[69] In January 2002, United Nations secretary general Kofi Annan announced that for the first time, women represented half of HIV-positive individuals worldwide and more than half in sub-Saharan Africa. Since then, the proportion has increased. Today, there are 14 HIV-positive women for every 10 HIV-infected men.[70] Just as the growing number of heterosexually infected women in the United States served as a centerpiece for the development of the vulnerability paradigm, so has the explosion of heterosexual epidemics in eastern and southern Africa focused attention on women in the global epidemic and given the vulnerability paradigm a firm hold in the global HIV landscape.

At the program and policy level, increased international concern for women's vulnerability has ushered in more attention to and funding for issues that were previously disregarded, underfunded, or relegated to a kind of gender ghetto, including gender-based violence, nonvolitional sex, and intergenerational and transactional sex, in which older men give gifts and money in exchange for intercourse with younger women and girls. Policymakers increasingly demonstrate gender savvy, including widespread recognition of married women's elevated risk for HIV in many parts of the world.

Programmers and interventionists have also responded to the international attention to women's vulnerability, encouraging women to reduce their HIV risk by learning how to suggest condom use and how to use condoms with their male partners, rather than deferring condom decisions to men. Gender-sensitive interventions attempt to help women develop self-efficacy, negotiate safer sex, know their bodies, and recognize and challenge gender inequalities in their own lives and relationships.[24,62,71–73] At the structural level, newer HIV prevention efforts include the promotion of girls' education, microfinance programs and other income-generating activities for women, women's property ownership legislation and enforcement, antiviolence legislation, and the gendering of international prevention funds (e.g., implementing policies that ensure that Global Fund programs are gender sensitive).[74–78]

Another major benefit of the vulnerability paradigm has been its ability to galvanize research and development for women-controlled prevention technologies, such as microbicides, female condoms, and diaphragms. Advocates for such methods often emphasize that gendered interrelational dynamics hinder women from persuading men to use condoms; therefore, women should have access to methods that they can control and perhaps even use covertly. For example, at the World AIDS Conference in Toronto in 2006, women's vulnerability was a major theme at an event in which Melinda Gates explained the Gates Foundation's major financial backing of microbicide trials.[79]

Growing Challenges to the Paradigm

Although we laud the benefits of the vulnerability model, especially because we recognize the violent reality of gender inequality in women's lives and relationships, we also discern some problems with this paradigm. Most centrally, we challenge the paradigm's main premise that heterosexual women, but not heterosexual men, are susceptible to and disadvantaged by HIV. We also question whether a model of women as especially vulnerable to HIV is the most useful way to conceptualize how gender inequalities and relations fuel the spread of HIV. Despite the fact that heterosexual men, too, are infected with HIV (and cannot infect a woman without being infected themselves), HIV risk translates into vulnerability only for women, who unlike men are considered deserving of protection from AIDS.

One rarely encounters "vulnerability" as an operative word in the literature regarding US Black or Latino men, let alone African men, men who have sex with men, or male injection drug users, even though these groups are also hindered by power differentials involving race, ethnicity, social class, sexuality, and global structures of inequality. Even though uncircumcised men in sub-Saharan Africa are biologically more susceptible to HIV infection than are circumcised men, they are rarely described as vulnerable. Much of the discourse about the preventive effect of scaling up circumcision has focused on 2 factors: the possibility that men's voracious sexuality could undermine the protective effect of circumcision and the likely effects of male circumcision on women.

The "Fixed Fact" of Women's Biologic Vulnerability

Susser wrote that "heterosexual transmission," the term most often used in public health literature to "index the problem of women contracting HIV through sex with men," can render invisible the differences in risk of infection between men and women.[80(p35)] Epidemiological data, however, led scientists to recognize women's greater susceptibility to HIV infection through vaginal intercourse, and several plausible biological explanations have been proposed to account for this disparity.[81] Women are exposed to infectious fluids for longer periods during sexual intercourse than men are; they also face increased risk of tissue injury during intercourse.[82] The cells lining the surface of the cervix may also be especially susceptible to HIV infection,[29] and recent data suggest that vaginal cells are more susceptible than previously thought.[83] Young women may be at particular risk because of ectopy, a condition in which the columnar epithelium (cells lining the transition zone of the cervical os) extends onto the face of the cervix. Cervical ectopy has been associated with increased risk of HIV infection, possibly because it facilitates greater exposure of these target cells to trauma and pathogens in the vagina.[29,32] Women also may have bacterial vaginosis and are more likely than men to harbor untreated sexually transmitted infections, both of which increase the probability of HIV acquisition.[84,85] Bacterial vaginosis may also mediate an association between intravaginal practices (e.g., putting herbs or other substances into or onto the vagina) and increased susceptibility to HIV.[86] Two other possible but unconfirmed contributing factors are intercourse during menstruation[87] and hormonal contraceptives.[88,89]

Despite these biological realities, the degree of gender differences in transmission and acquisition probabilities seems to vary according to particular biosocial contexts far more than previously acknowledged in the biomedical and epidemiological literature. Although studies of serodiscordant couples conducted in Western populations have consistently found the risk of infection from a man to a woman to be greater than visa versa (it is generally

accepted that women's probability of infection is twice that of men's), studies in non-Western settings have shown much greater variability.[90] Serodiscordant couple studies from the Rakai district of Uganda have reported no significant difference in the per-act probability of HIV transmission from men to women and women to men[91] (although a study of discordant couples in a nearby Ugandan district found twice the probability of transmission from men to women as visa versa[92]), and a study of Thai men visiting sex workers estimated the female-to-male per-act probability of infection to be substantially greater than estimates of such exposures derived from studies in the West.[93]

This contextual variability in HIV transmission rates is not surprising. Individual probabilities of HIV transmission and acquisition are influenced by a range of factors, including early versus late stage of disease, viral load of the positive partner, presence of genital ulcers in the positive or negative partner, and circumcision status of the negative (male) partner.[32,81] At the population level, several factors influence the degree and rate of epidemic spread, such as epidemic stage, overall prevalence of HIV, prevalence of other reproductive tract infections, sexual practices, marriage systems,[94] sociocultural constructions of sexuality and relationships, and proportion of men circumcised. It is reasonable to assume that these factors influence gender differences in transmission and acquisition probabilities as well. In settings in which men are not circumcised or sexually transmitted infection prevalence is high, for example, gender differences are diminished,[90] and men and women have far more similar probabilities of infecting or being infected than in other settings.

This contextual variability in male-to-female versus female-to-male transmission probabilities challenges the notion that these disparities are attributable to fixed and immutable anatomical or physiologic differences rather than to biological factors that vary biosocially and culturally. More thorough discussions of sociocultural differences in sexual behavior and transmission patterns appear in reviews by anthropologists Parker[95] and Schoepf.[43] In developing an expanded model of gender inequalities and relations, we need to understand how variability in biosocial and cultural contexts influences women's and men's probability of infection if exposed.

GENDERED ASSUMPTIONS ABOUT WOMEN'S RISKS

The other major pillar of the vulnerability model ascribes women's greater likelihood of encountering an HIV-positive partner to gender-based social inequalities. The paradigm rests upon the following assumptions about gender inequality: (1) women want to prevent HIV when having sexual intercourse with a potentially infected man, but lack the power to do so, and (2) men are more likely than women to bring HIV into the partnership because they engage in more sexual and drug use risk behavior.

Obstacles to Condom Use

Copious feminist research describes how gendered power imbalances can render women unable or unwilling to persuade their male partners to wear male condoms. Yet this research also perpetuates the notion that women's reluctance to press for condom use is never motivated by physical pleasure, as well as the notion that men's lack of use is never motivated by effect or emotion. This framework suggests that gendered power dynamics, and not sexual pleasure and preferences, are what prevent women from successfully avoiding HIV.

These assumptions are challenged by the fact that many women display considerable sexual agency and strength in their interpersonal relationships with men, as literature from the African continent has demonstrated.[40] Furthermore, in all locations, including Africa, women's sexual resistance to condoms has been relatively unexplored.[96–98] Theorists within the HIV field have developed behavioral models that directly or indirectly acknowledge the role of pleasure for both partners in shaping uptake and use of male condoms.[99] But the empirical research on this topic has focused on men, demonstrating that many men do not like using condoms because they curtail sexual sensation.[100–102] In sharp contrast, researchers rarely consider the possibility that condoms' effects on pleasure may alter women's preferences or use patterns.

Preliminary qualitative investigations in the United States and the United Kingdom have found that a significant proportion of women dislike the feeling of male condoms.[103,104] Two quantitative studies from the United States found that a similar proportion of women and men said that their arousal was undermined by condoms.[98,105] In assuming that women want to use condoms but cannot, the women's vulnerability paradigm ignores pleasure and agency in the discussion of women in the epidemic. As Jolly and Cornwall wrote, "When it comes to sex, the victim narrative combined with scare tactics and stigma makes for a potent cocktail. It produces disempowerment."[106]

We do not wish to understate the force of the social, cultural, and structural constraints on women's sexual agency. The sexual empowerment of women is a lofty if not inconceivable goal in the face of gender inequality, poverty, war, and structural violence. A review by Schoepf[43] reminds us that although some women can avoid sexual risk taking through various strategies, many are hindered by the life-and-death conditions of resource-deprived, conflict-torn settings.[40,107–109] The magnitude of sexual assault worldwide is overwhelming,[110] and both sexual and physical violence against women have been shown repeatedly to increase women's likelihood of acquiring HIV.[104,111–113] Women's pleasure is likely to be dwarfed by such constraints. We nonetheless maintain that women's sexual agency and preferences should be considered as potential influences on condom use, especially in less embattled settings.

More important, we seek to debunk the assumption that women are the only ones who want to prevent HIV through condom use. Heterosexual men are perceived as active transmitters of HIV but not as active agents in prevention. These notions not only disempower women but also discourage men from actively participating in HIV prevention efforts.

Multiple Sexual Partners

The vulnerability paradigm also rests on the assumption that men are more likely than women to bring HIV into the partnership. However, in the generalized epidemics of eastern and southern Africa, women have always constituted between 40% and 50% of the AIDS cases.[18,114] Heterosexual transmission predominates in these epidemics, infection is not confined to specific high-risk subgroups, and overall prevalence rises above approximately 5%.[115] This explosive spread of HIV was initially thought to be driven by an epidemiological

pattern similar to that in the West: men brought HIV into their primary relationships by engaging in outside partnerships with a core group of very high-risk women.[116] Migratory work probably played a large role in the early stages of these epidemics: truck drivers and male migrant workers served as a bridge between high-risk and low-risk groups of women by partnering with sex workers when away from home and returning to infect their primary partners.[117,118] Migratory work continues to confer an increased risk for men.[119] Moreover, current demographic and health surveys and other population-based surveys support the notion that men are much more likely than women to be unfaithful to a cohabiting partner.[120–122]

But mounting evidence also points to high rates of long-term, concurrent sexual partnerships among both women and men,[123,124] accompanied by low rates of male circumcision, suggesting a greater contribution from women's partnership behaviors to the high HIV prevalence in these generalized epidemics. Ethnographic work across the African continent has long acknowledged the reality of women's multiple partnerships. Here we focus on the more recent integration of this idea into the epidemiological literature. Moreover, even if women's multiple partnerships have been acknowledged, HIV prevention efforts have almost entirely focused on women (e.g., helping women protect themselves by negotiating for condom use), rather than on integrating heterosexual men as well as women into prevention programs. Statistical modeling has shown that, compared with a pattern of serial long-term partnerships, a pattern of concurrent long-term partnerships is a far more potent transmitter of HIV at the population level.[125–127] Large networks of sexually linked individuals permit rapid dissemination of HIV if 1 person in the network becomes infected. Moreover, in the context of extremely high infectivity of individuals with early, acute infection, the network can become a conduit for very rapid and widespread HIV transmission.

Large-scale heterosexual concurrent partnership networks cannot emerge or persist unless some women, in addition to men, have concurrent partners. Emerging data show that in many settings women are almost as likely as men to bring HIV into the partnership. An analysis of the nationally representative demographic and health survey samples for Burkina Faso, Cameroon, Ghana, Kenya, and Tanzania found that in 30% to 40% of couples with 1 or both partners infected with HIV, the woman was positive and the man negative, even though relatively few women reported having outside partners.[121] In the Rakai district of Uganda, HIV-positive women constituted a substantial proportion of serodiscordant couples,[128] and in a study of migrant and nonmigrant couples in rural South Africa, the woman was the infected partner in nearly one third of the discordant couples.[129]

Innovative work has begun to tease apart inconsistent reports of partner numbers by women and men in population-based surveys.[122,123,130,131] These studies, carried out in Africa, indicate that women's and men's inconsistencies in reported partners are most often attributable to women's underreporting, and they have begun to pinpoint both the types of women most likely to underreport and the types of partnerships most likely to be underreported. Thus, mounting evidence demonstrates that just as men bring HIV into their partnerships from their previous relationships or by having concurrent partners, women can bring HIV into their partnerships for the same reasons.

We do not discount the powerful evidence that young women in particular are both biologically and socially more vulnerable to infection by HIV. Among young people aged 15 to 24 years in sub-Saharan Africa, for example, women commonly have 3 to 4 times the HIV prevalence of men.[70,132] Young women are more likely to be exposed to an HIV-positive partner because of age gaps between partners, especially at sexual initiation but also at the time of marriage.[133,134] Young women are biologically more vulnerable because of their greater likelihood to have cervical ectopy. Women of all ages are biologically and socially more vulnerable to HIV because of rape and forced sex.[105–107] Forced sex is strongly linked with vaginal or anal tears that can expedite disease transmission, and abused women are less able to negotiate condom use and more likely to engage in risky behaviors. Moreover, even young women with sufficient agency to capture the attention and financial support of older men are unlikely to be able to negotiate for condom use in these relationships. Adult women using sexual intercourse for transactional purposes may also face additional pressure from partners to dispense with condom use, thereby heightening their susceptibility. Sexual violence against women worldwide is extraordinarily common.[110]

Thus, in moving forward, we must attend to women's inequality and HIV susceptibility, from both a social and a biological perspective. However, in the largest epidemics in the world, the dominant HIV epidemiology does not take the form of a few men infecting a large pool of women. Data suggest instead that heterosexual women and men are infecting each other at far more similar rates than the paradigm has suggested. We are even more dismayed, then, that the vulnerability model considers only heterosexual women to be vulnerable to and socially disadvantaged by the disease.

MISREPRESENTATION OF MEN AS UNAFFECTED BY HIV

The vulnerability model recognizes the ways women's HIV risk—but not men's—is shaped by gender norms. Whereas women should be sexually saved and protected, according to the vulnerability paradigm, men's bad behavior is the unalterable source of the problem. Unlike women's, men's gender socialization is either ignored or perceived as immutable.

Globally, sociocultural constructions of masculinity are strongly associated with, if not dependent on, men's risk-taking behaviors, including alcohol and drug use, pleasure seeking, and an alleged lack of interest in their own health.[135–138] Cultural definitions of masculinity can normalize sexual adventure or multiple partners in a sexual double standard, foster a sense of invulnerability, shape negative attitudes about women (e.g., regarding violence and sexual coercion), or lead to a denial of health information, services, or self-care (e.g., lack of HIV testing[139]).

Denial of or discomfort with homosexuality is another central aspect of masculinity that can increase HIV risk for men. Several HIV researchers have found that traditional male gender roles can influence risky heterosexual behavior[4,140–144] and perpetuate violence against women, another strong HIV risk factor for women.[112,145,146] However, few scholars frame men's adherence to narrow definitions of masculinity as men's vulnerability. Rather, these factors are framed either as male perpetration of gender inequality toward women or as a cost

of masculinity that men experience but that harms women.[147]

To what, then, is men's HIV infection attributed by the vulnerability model? The behaviors that lead to HIV transmission for men tend to be chalked up to, at best, adherence to traditional masculine norms or, at worst, moral failings of individual men, essentialist assumptions of the male sex drive as unstoppable,[148] or the premise that "boys will be boys." Men's behavior is often portrayed as unchangeable and even uncontrollable. In an example of the latter, during the XVI International AIDS Conference in Toronto, columnist Margaret Wente wrote in the *Globe and Mail* that "changing the behavior of African men is probably hopeless," and added that "giving women a basic education and a reliable microbicide might be something we can do" to curb the spread of HIV in Africa.[149]

In these scenarios, men are viewed as the problem, or at least as a lost cause, and women as in need of help and protection (a major transition from the days when men were perceived as needing protection from AIDS-infected prostitutes[25–27]). Public health programs admirably attempt to amend gender inequality for women through relationship empowerment workshops or by providing access to female-initiated prevention methods, and structural policy efforts aim to increase women's access to educational and microfinance opportunities. By contrast, public health programs and policy efforts do not offer men many tools to help curb their own HIV risks. In the vulnerability model of recent years, it seems that men are chastised for their behaviors, but are not often given skills, tools, or incentives to protect themselves and their partners. Tellingly, even when such programs are proposed they are viewed as vital to protect women.[142]

Some innovative international programs, however, are breaking new ground, suggesting the benefits of examining masculinity's relationships to HIV prevention for both women's and men's health.[150,151] For example, Men as Partners, a program in South Africa, works directly with men to create more equitable gender norms by reducing violence against women and helping both men and women attend to their health needs.[151] Also in South Africa, the One Man Can campaign, created by Sonke Gender Justice, seeks to provide a critical space for men to reflect on the practice of masculinities, reshape men's understanding of their own and others' HIV/AIDS vulnerabilities and risks, and encourage men to change their views and practices of sexual and domestic violence.[152,153] Finally, South Africa's Medical Research Council refined, implemented, and evaluated Stepping Stones, an HIV prevention effort involving women and men, which focused on gender equity, HIV prevention, and antiviolence work.[154] At the 2-year follow-up, men who participated in the intervention reported fewer partners, more frequent condom use, less transactional sex, less substance abuse, and less perpetration of intimate partner violence.[155]

Underscoring the importance of gender specificity in programming for men, approaches such as these have been termed gender empowering and transformative.[156] A global meta-analysis of programs for men on health issues shows that gender-specific, gender-empowering, or gender-transformative programs for men related to HIV and reproductive health are even more effective than gender-neutral ones,[157] confirming the need to move beyond a vulnerability paradigm.

In recent years, proponents of the vulnerability paradigm have applied both intersectional and structural approaches to women in the epidemic far more than they have to men. It is well-known that poor women of color are disproportionately affected in the United States.[24,158] In most parts of the world, the most socially disenfranchised women are the most likely to be infected. Similarly, not all heterosexually active men are equally likely to contract HIV. For example, in the United States, the HIV prevalence rates for Black and Hispanic men are, respectively, 6 and 2 times the rate for White men.[159] Despite some innovative explorations of the intersection of gender, poverty, wealth, and other structural factors among men and women in several global epidemics,[42,26] few recent policy efforts have embraced intersectional approaches in work with heterosexual men.

A host of contextual and structural factors amalgamate to heighten socially disenfranchised men's risk of HIV, including residential segregation, unstable housing and homelessness, unemployment, migratory work, and—in the United States in particular—high rates of incarceration among men of color.[160] In the United States, 93% of prisoners are men, and Black men are 7 times as likely as White men to be incarcerated.[161,162] Among the incarcerated, the AIDS rate is up to 3 times as high as it is in the general population.[162] Massive shifts toward deindustrialization have economically destabilized millions of inner-city men of color, dramatically increasing the size of the urban underclass and, because so few jobs are available, the prison population.[160] These demographic shifts contribute to more labor migration or circular migration through the prison system.[160] The vulnerability paradigm has failed to fully consider the ways deindustrialization, joblessness, racism, and the prison–industrial complex increase the vulnerability of men of color to HIV in the United States.

The HIV susceptibility of men outside the United States is also severely affected by the disparities of globalization and structural inequality. Earlier scholarship called attention to the structural vulnerabilities of poor women and men.[45] Although women are clearly disadvantaged by the effects of structural adjustment, structural adjustment has also meant that historically unprecedented numbers of men have been forced to move to look for work.[163] Socioeconomic and political shifts have contributed to large increases in male migration over the past several decades, particularly in developing country contexts that have documented patterns of circular migration, which involve movement from rural to urban (and back to rural) areas, a pattern that can exacerbate HIV/AIDS risks.[138] Larger structural shifts have also increased unemployment for some groups of men worldwide.

Most coverage of these factors in the recent literature emphasizes how these factors (migration, economics, etc.) shape the feminization of HIV. For example, with few exceptions,[138] researchers and policymakers alike tend to emphasize how male migrant workers return home and infect their wives, not how these factors increase men's vulnerability to HIV. The latest income-generation programs, which aim to reduce poverty and, by extension, HIV risk, are directed overwhelmingly to women alone. Of course, this focus on women is in many ways justified by women's historic disadvantage with schooling, paid employment, property rights, and other structural and cultural opportunities.

Moreover, despite the overwhelming emphasis in the literature on poverty as a risk factor for HIV/AIDS, men's wealth and income in some contexts have been found to increase

men's leisure time, spending on alcohol, and acquisition of additional sexual partners, all of which can increase men's vulnerability to HIV. For example, in a recent analysis of data from 8 national surveys in sub-Saharan African countries, adults in the wealthiest quintiles had the highest prevalence of HIV.[164] Thus, wealth and income—and their absence—have been shown to shape HIV/AIDS risks, albeit differently in different contexts and differently for women and men.

FUTURE DIRECTIONS

The women's vulnerability model took root from extremely convincing reasons—biological, epidemiological, sociocultural, and structural—indicating that heterosexual women are more susceptible than are heterosexual men to HIV infection. Significant feminist scholarship on gender inequality and gendered power dynamics has been essential in documenting that women are embedded in contexts and relationships in which their HIV risk is heightened. Furthermore, as Paiva argued, the concept of vulnerability transcends an individual approach to emphasize the structural HIV influences beyond an individual's control.[67] This recognition of the structural pathways to women's infection accurately reflects the realities faced by millions of women regarding gender-based power disparities.[9]

However, especially in more generalized epidemics, women and men may be infecting each other in far more balanced numbers than the vulnerability paradigm suggests. Despite its focus on how gender socialization and gendered structures shape women's susceptibility to HIV, the vulnerability paradigm fails to address how masculinity and the intersection of various structural forces (e.g., class, race, and global inequalities) shape heterosexual men's HIV risk. The paradigm has also perpetuated unfortunate gendered tropes, such as sexual protectionism of women, a discounting of women's pleasure and agency, and the belief that women are motivated to prevent HIV through condoms but men are not and (with a few exceptions) that men have multiple partners but women do not. Heterosexual men are disadvantaged by a model that negates men's health risks and fails to address how masculinity can be harmful to their own—and women's—health.

The victim narrative also disadvantages both men and women by assuming that HIV prevention is women's domain only. This assumption is reminiscent of another area of public health—family planning—in which men are portrayed as inherently uninterested in or incapable of participating.[165] Within the family planning field, it is widely believed that, because of their greater sexual control and personal responsibility, women must assume responsibility for both HIV prevention and pregnancy prevention. That is, masculinity dictates that men cannot or will not take responsibility for these pursuits in the same way women can.

In moving forward, we should retain an understanding of gendered power dynamics but continue to develop a replacement model of biology, social structure, and gender relations that addresses how structural factors and social vulnerability lead to gendered expressions of HIV vulnerability for both women and men—but for different reasons and via different mechanisms. This emerging paradigm transcends the notion that men are the monolithic powerful group and that women are universally oppressed. It retains a focus on men as participants in a system of gender inequality but also acknowledges how men's HIV risk, like women's, can be heightened through gender and structural inequality.

We hope this emerging paradigm will support research that helps explain not only how men infect women but also how those men contracted HIV themselves—through sexual intercourse with small networks of very high-risk women; through multiple, long-term partnerships; through patterns of work migration; or through some other pattern of sexual behavior—and that situates these sexual behaviors within specific gendered sociocultural and structural contexts. For example, Hunter's ethnographic work in South Africa[166] challenges monolithic notions of an unchanging masculinity and men's supposed need to have multiple sexual partners. He examines the historical record and the attendant cultural and structural antecedents that have to take place to change norms of multiple partners over time. Far from being natural, these changing norms of masculinity emerged out of a system of apartheid, increased migratory needs, and long separations from partners. His work suggests that any work on HIV and men need not judge men only as recipients of gender privileges but also as people who experience risks that arise out of race, gender, and class marginalization and that shift over time—with some men more affected than others.

We also encourage practitioners to continue working from the assumption that women may have goals that compete with HIV prevention. Lack of condom use does not always indicate a lack of agency. Moreover, heterosexual men, like women, prefer to avoid HIV infection, and men can and should play an active role in HIV prevention. HIV programs and policies should include men as well as women in structural interventions, such as job training, debt relief, income generation, and trade and migration policies, while also attending to gender-based power in relationships.

Fortunately, some innovative programs are blazing the trail toward more inclusive HIV prevention efforts.[151–153,155,167] These promising newer programs are beginning to change the assumption that gender refers only to women, instead recognizing the importance of gender relations or the simultaneous examination of masculinity and femininity. Such an emphasis is necessary because masculinity, as a set of beliefs and social practices and as an institutionally supported set of structures, has an impact on both men's and women's health outcomes.[137,138]

We would be unwise to suggest these new directions in gender, structure, and HIV prevention without highlighting some of their inherent tensions. It can be difficult to recognize women as sexual agents and simultaneously decry the ways gender inequality threatens their sexual autonomy and their access to healthy, pleasurable sexual intercourse. Women's agency can be severely constrained in a world in which sexual coercion and violence are ubiquitous. Likewise, we need to think further about how to embrace men's susceptibility to HIV while simultaneously addressing their gender privileges. Successfully engaging men in our prevention efforts will necessitate creativity and diligence. At least some previous gender-sensitive prevention efforts for women have shown that as women gain social or economic ground, men can perceive social or economic loss, which can have attendant consequences for women.[168–170] Despite these challenges, the time is ripe for an

evolution from the women's vulnerability paradigm. ■

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