

---

# Towards a Critical Biocultural Approach: Understanding HIV/AIDS Transmission Among Women in the United States and Implications for Prevention Programmes

Jillie Retson

*Department of Anthropology  
McMaster University*

## **Abstract:**

Recent trends in AIDS research suggest anthropologists must modify traditional conceptions to include political economics and multiple levels of analysis. A critical biocultural approach would integrate the political economy of risk behaviour; the ethnographic examination of insider understandings, meaning systems, and behaviours; and the biological analysis of health-related issues. This paper employs critical bioculturalism to investigate the factors contributing to the increased susceptibility of women in the United States to HIV/AIDS. Arguably, to develop appropriate prevention strategies, collaboration between anthropologists and community-based organizations is needed. Such strategies would help address the immediate needs of women, while advancing an agenda aimed at ameliorating oppressive conditions.

## Introduction

The AIDS epidemic has now become a worldwide global health crisis. In the United States alone, thousands of people have become infected with HIV and developed AIDS. In recent years, women in the U.S. have begun to account for a steadily increasing proportion of AIDS cases, with the dominant modes of infection being heterosexual transmission and transmission through injection drug use (Centre for Disease Control, 2001). The social nature of transmission of the disease has prompted many anthropologists to engage in ethnographic studies investigating the social networks and risk networks that cause individuals to become infected with HIV (i.e. Singer 1994 and 2001, Kielmann 1997, Friedman et al. 1999). Although anthropological research has been helpful, there has been a general failure to address the broader political economic situations, which may pressure people to engage in behaviours that increase their risk of HIV (Inhorn and Brown 1997:22). As a result, anthropologists have been urged to develop new models that provide a political economic context (Inhorn and Brown 1997:22, Goodman and Leatherman 1998:3-42). Singer (2001) has proposed a model termed "critical bioculturalism" which in the context of AIDS, seeks to integrate the political economy of risk behaviour, the ethnographic examination of insider understandings, meaning systems and behaviours,

---

and the biological analysis of health-related issues. In this respect, the critical biocultural approach explores both the biology and the socio-cultural issues surrounding HIV, within a political economic framework. In this paper I apply the critical biocultural approach in order to explore reasons for the increased susceptibility of women in the U.S. to HIV infection. Applying the critical biocultural approach involves an exploration of how political-economic factors can shape socio-cultural and biological phenomena among and within populations. I give special consideration to political economic factors such as poverty, racial discrimination, and gender inequalities. The anthropologist's role in HIV/AIDS research and the implications for the development of AIDS prevention programs are subsequently discussed.

### Background

From a historical perspective, the Acquired Immune-Deficiency Syndrome (AIDS) epidemic is still young. In spite of its youth, the epidemic has already become a worldwide health crisis affecting individuals, families and communities. In the United States, AIDS was originally identified as a disease of homosexual men (Stevens et al. 1998:25). However, recent trends suggest that women account for a steadily increasing proportion of AIDS cases and now represent one of the fastest growing populations becoming infected with HIV (Centres for Disease Control [CDC] 2001). In just over a decade, the proportion of all AIDS cases reported among adult and adolescent women in the United States more than tripled, from 7% in 1985 to 26% in the first half of 2000 (CDC 2001). The epidemic has increased most dramatically among African American and Hispanic women. Although African American and Hispanic women together represent less than one-fourth of all women in the U.S., they account for more than three-fourths (77%) of AIDS cases reported to date among women in the country (CDC 2000).

The two most common modes of HIV transmission among women in the United States are heterosexual transmission and injection drug use. Between July 1999 and June 2000, heterosexual transmission was responsible for 64% of AIDS cases and injection drug use was responsible for 35% of women diagnosed with AIDS (CDC 2001). The number of sex partners, unprotected sex, trading sex for money or drugs and sex with an injection drug user account for sexual risk behaviours that place women at risk of HIV infection (Stevens et al. 1998:26-27). Drug related HIV risk behaviours include the frequency of injection, the sharing of contaminated needles and other equipment used for the preparation and injection of drugs (Stevens et al. 1998:27). Therefore, risk behaviours not only involve the individual, but also comprise complex interpersonal interactions (Friedman et al. 1998:ix). Due to the social and cultural nature of AIDS transmission, there has been a proliferation of research conducted by anthropologists investigating the social networks, risk networks, and risk behaviours that cause individuals to become infected with HIV (e.g., Singer 1994 and 2001, Kielmann 1997, Friedman, et al. 1999). Social networks can be understood as the pattern of social linkages among people, such as friendships, acquaintance-ships, and kinship relations (Friedman et al. 1998:ix). Risk networks are relationships that can spread HIV (Friedman et al. 1998:x).

As anthropologists move into the study of new social fields characterized by patterns of social relationships unseen in previous research such as those presented

---

with the AIDS crisis, current conceptual tools are stretched beyond utility and a reconceptualization of basic frames of explanation are often required (Singer 1994:931-932). Anthropologists conducting infectious disease research have been criticised for their failure to address the broader political economic situations in which people find themselves. Political economic factors are important because they provide little alternative for those who feel pressured to engage in behaviours that increase their risk of contracting HIV. In the United States, there is a long history of social division, stratification based on class, race/ethnicity, and on sex (Friedman et al. 1998:225). The HIV/AIDS epidemic has shown the importance of these factors in promoting HIV/AIDS transmission.

### Toward a Critical Biocultural Approach

Numerous anthropologists including Baer (1996), Inhorn and Brown (1997) and Goodman and Leatherman (1998), have suggested that anthropologists need to take a leading role in adding a political economic dimension to research that will seek to broaden the scope of analysis beyond a narrow biomedical frame. Because the role of political economic factors in infectious disease transmission are often insufficiently recognized, they believe that the arguments for political economic contextualization will become much more persuasive once anthropologists begin to demonstrate the linkages between macrosociological pressures and microsociological processes. Further, they urge anthropologists to develop more sophisticated models of infectious disease transmission, which link three levels of analysis. These levels of analysis include: 1) biological outcomes experienced on the individual level, 2) cultural and social processes affecting social groups, and 3) political economic conditions affecting regions or nations (Inhorn and Brown 1997:22).

Singer (2001) has taken the initiative to conduct research within a framework that links political economy to culture and biology. He terms the approach "Critical Bioculturalism" and presents the model in terms of drug studies and risk of HIV infection. The model integrates a number of components, however the overarching framework for the model is a political economy of AIDS (Singer 2001:206). Singer (2001) explains that medicine has narrowed its focus to the microscopic level and to encapsulated understandings of the immediate effects of pathogens. At the same time, Singer (2001) believes that anthropology has retreated to fine-grained cultural studies of seemingly isolated human communities in one respect and highly specialized biological and biobehavioural analyses of little consequent to cultural concerns in the other respect. As anthropologists are faced with new problems such as the AIDS crisis, Singer (2001) suggests a need for an interdisciplinary and intradisciplinary reintegration in the hopes of developing a more integrated understanding of the human condition (Singer 2001:199). In response, the critical biocultural model in the context of AIDS seeks to integrate the political economy of risk behaviour, the ethnographic examination of insider understandings, meaning systems and behaviours, and the biological analysis of health-related issues (Singer 2001:204). Singer (2001) applies the critical biocultural approach primarily to drug studies, which is illustrated in the example of the Hartford Syringe Exchange Program, discussed in the final section of this paper. However, he explains that similar analyses could be carried out for other behaviours that promote the spread of HIV among various populations.

---

Therefore, it should be possible to apply the critical biocultural approach to an investigation of the political economic context of behaviours that cause HIV transmission among women in the U.S.

### Economic Inequalities and HIV risk among Women

Several studies conducted in the U.S have noted conditions of poverty and the accompanying economic challenges in the lives of women with, or at risk of, HIV infection. One ongoing five-year study to reduce HIV occurrence among women drug abusers conducted interviews among 887 women from low-income, inner city neighbourhoods in Los Angeles (Zierler and Krieger 1997:413). These women experienced social and material deprivation and either depended on income from male partners or from public assistance programs. Almost all of the women reported a monthly income of less than \$1000 (Zierler and Krieger 1997). Similarly, data from the National AIDS Demonstration Research Program enrolled 6609 women injection drug users. Through the interview-based study, researchers discovered that 42% of the women felt as though they had no choice but to rely on illegal means of income, mostly involving sex work, in order to support themselves (Zierler and Krieger 1997:413). In addition to the costs of their drug addiction, many of these women also had children living with them and therefore they had to stretch their already low incomes even further (Zierler and Krieger 1997:413).

Under conditions of economic disparity, women are pressured to engage in commercial sex exchange as a means of obtaining income (Kielmann 1997:399). As a result, women generally have sexual relations with multiple sex partners increasing their risk of HIV infection. Additionally, when women are desperate for income, they are not always able to insist that men use condoms (Kielmann 1997:399). Therefore, despite women's knowledge about the risks of HIV infection, engaging in risky behaviours might provide more immediate benefits to women than avoiding the risks (Kielmann 1997:399).

Women who engage in commercial sexual relationships in order to obtain income are not only susceptible to direct infection of HIV, but are also at high risk of contracting other STDs (Singer 2001:206). Once STDs have been transmitted to an individual, they can act as cofactors in HIV infection. For instance, the development of lesions on the mucous membranes of the vagina facilitates the transmission of HIV through the direct exposure to bodily fluids (Singer 2001:206). Women's lack of financial resources can also lead to poor nutrition and to various other diseases such as diabetes, hypertension, cirrhosis, and tuberculosis (Singer 1994:936). Poor nutrition, chronic stress, and prior disease often compromise the immune system leading once again to increased susceptibility to infections and HIV (Singer 1994:936).

Wallace (1988) and Wallace and Wallace (1995) conducted studies that built upon a political economy of health framework. They discovered relationships between urban crises in housing, depleting city budgets, poor school, and unemployment and how these economic conditions caused dislocations of residents and the destruction of families and other social networks leading to the spread of HIV (Zierler and Krieger 1997:412). Zierler and Krieger (1997) describe how Wallace (1988) was able to discover a link between reduction in public services to poor neighbourhoods in New York and subsequent high levels of drug abuse and subsequent

---

increased rates of HIV infection among women and men in the community. For example during severe economic crises in the 1970s, the New York fire department was forced to reduce staff by 30% within geographic regions with the highest population densities and the highest fire rates. Since the neighbourhoods were among the poorest in the city they lacked a political voice in order fight to retain the services (Zierler and Krieger 1997:412). By the 1980s, fires had destroyed 50 to 80% of housing. Over the next few years, increasing numbers of people within the community were devastated and homeless (Zierler and Krieger 1997:412). As a result, the communities experienced rising homicide rates, suicide rates, and individuals often turned to drug and alcohol abuse. These behaviours led to an increase in the rate of HIV among women and people in the community in general (Zierler and Krieger 1997:412).

### Racial Discrimination and HIV in Women

As mentioned earlier, AIDS affects African American and Hispanic women in numbers far greater than their relative percentage in the population. Although disparities in socio-economic conditions may partially explain racial/ethnic inequalities in health, these inequalities have been observed to persist even within higher classes (Simon et al. 1995:283). Therefore, both economic and non-economic forms of racism may create conditions affecting women's risk of HIV infection. In terms of economic factors, African American and Hispanic women experience underlying forces of discrimination in employment, housing, earning power, and educational opportunity (Quinn 1993:310). Under such circumstances of discrimination, economic strategies for employment, love, and entertainment may involve greater risk for drug use, relationships with drug users, and income earning strategies that include sex and drugs than among people living free of such constraints (Zierler and Krieger 1997:417).

In response to daily assaults of racial prejudice and denial of dignity, ethnic minority women may turn to readily available mind-altering drugs for relief as well as to self-medicate for depression (Zierler and Krieger 1997:417). In this context, drug use in an action-orientated culture that emphasizes instant gratification, pain tolerance, and chemical intervention, is a commonly selected solution (Singer 2001:205). Although poor minority women might not be able to achieve the "American Dream", drugs and the dreams they provide are highly accessible and alluring, and contribute to increased HIV infection (Singer 2001:205). Instead of turning to mind-altering drugs as a means of relief, women may also seek sanctuary in sexual relationships as a way to enhance self-esteem, gain social status, and feel emotional comfort (Quinn 1995:311). The reward of comfort might be so compelling that condom use becomes less of a priority increasing a woman's susceptibility to STDs as well as to HIV infection (Zierler and Krieger 1997:417).

Racism can also be construed as psychosocial stress. Stressors cause individuals to feel a loss of control which leads to increased anxiety, depression, loneliness, and isolation (Ickovics and Rodin 1992:8). Scientific studies have demonstrated that in turn, specific autonomic nervous system, neuroendocrine, and neuropeptide changes occur that result in immune suppression (Ickovics and Rodin 1992:8). Consequently, stress may influence immunity in three ways. First, stress

---

can alter biological susceptibility, thereby predisposing individuals to HIV infection. Second, stress can contribute to the maintenance of ongoing pathogenic processes. Finally, stress can initiate a process within the immune system that allows a pathogen like HIV to reproduce in the body (Ickovics and Rodin 1992:9). Stressful life circumstances among women who experience racial discrimination can therefore lead to increased vulnerability to HIV infection, or to accelerated disease progression in individuals already infected.

#### Gender Inequalities and HIV Among Women

Economic and non-economic forms of gender-based inequality can increase women's risk of HIV infection, especially when these pertain to sex, violence, and illegal drug use. Socially structured dependence on men for income and resources is an example of the economic factors that increase risk of HIV among women (Zierler and Krieger 1997:418). Women might depend on men to provide them with resources, housing, child support, entertainment and so on. In this context women who insist that their male partners use condoms, risk losing these needed resources (Zierler and Krieger 1997:418).

Non-economic forms of inequalities that might increase women's susceptibility to HIV infection include cultural and religious beliefs surrounding appropriate sexual behaviour and gender role definitions. Among the Hispanic population, the predominant religion is Catholicism, which traditionally forbids the use of condoms (Ickovics and Rodin 1992:4). This religious value along with traditionally defined sex roles, may cause women to feel uncomfortable in suggesting that their partners use condoms, as it might reflect a lack of virtue or appropriate sexual behaviour, or dominance (Ickovics and Rodin 1992:4). Similarly, gender role definitions including women's prescribed roles as mothers, lovers, and wives may influence women's choices and control over HIV risks (Weeks et al. 1998:209). For example, women may feel pressure to fulfil their reproductive and mothering roles dictated by society by supporting their children adequately, and by maintaining a sense of intimate and emotional security with a primary male partner. These pressures can orient women's choices to engage in prostitution as a source of needed income and to limit or reject condom use with their main partners despite potential for HIV risks (Wells et al. 1998:210).

Women who experience violence by men are often incapable of protecting themselves sexually against the risks of HIV (Zierler and Krieger 1997:420). Studies conducted of over 2000 women enrolled in drug treatment programs or who were sexual partners of male injection drug users found that 42% of women were involved in sexual relations with men who were physically violent or who threatened women with violence (Zierler and Krieger 1997:421). Under these circumstances women did not insist that men use condoms because they feared violent reprisal (Zierler and Krieger 1997:421). Rape and sexual abuse also occur, thereby increasing women's potential exposure to HIV without their control. For example Friedman et al. (1998) reported that between 25% and 50% of women in their study had undergone sexual abuse or rape. In another study, 30% of women reported being coerced the first time they had sex (Friedman et al., 1998:114). Similarly, studies on homeless women have found that 86% of the women cited domestic abuse as their reason for

---

being homeless (Zierler and Krieger 1997:421). Further, homeless women do not have a safe place to live and often become exposed to HIV by rape, sex for economic survival, and drugs (Zierler and Krieger 1997:421).

Gender inequalities can also affect illegal drug use behaviour, which can place women at increased risk of HIV infection. Zierler and Krieger (1997) explain that preliminary findings from ethnographic research indicate that women's networks are more likely to depend on men for locating, purchasing, and bringing home drugs once a regular pattern of drug use has begun. Women's ability to reduce HIV infection through programs such as a needle exchange might be met by resistance from men. Women are often less represented at needle exchange programs because in a heterosexual construct, social norms indicate that men handle the tasks of obtaining drugs and syringes for their female sexual partners (Zierler and Krieger 1997:423). Even if women attempt to access drug treatment programs, many barriers exist through factors beyond the women's control. For example, treatment programs frequently refuse service to women who are pregnant, they do not offer prenatal care, they fail to provide child care, and do not offer the array of support services that are required by drug-dependent women (Quinn 1995:311). Additionally, repressive social policies such as the criminal prosecution of pregnant drug abusers presents yet another barrier to women attempting to reduce risk of HIV infection (Quinn 1995:311). Women may hesitate to participate in needle exchange programs because they fear that identification as a drug user might result in criminalization and the subsequent loss of their children to child protective services (Quinn 1995:311). In this respect, women are forced to hide their drug use, limiting their access to programs, which could help them to reduce their risk of HIV infection.

From a critical biocultural approach, the above analysis demonstrates that the AIDS crises among women in the United States involves complex relationships between the biology of the disease and cultural and social behaviours associated with risk. These can in turn be understood in the context of political economic factors that shape women's abilities to make choices regarding risk behaviours. The question remains of how to operationalize political economic models into programs and services that that will be useful to the urgent needs of women.

### Implications for HIV Prevention Programs

In the past, most AIDS prevention programs focused on education and behaviour change in order to help reduce the spread of HIV among women. The assumption was that if women were provided with education about risk behaviours and were provided condoms, women would change their behaviours and practice safe sex, reducing HIV infection (Waterson 1997:1383). Educational and behavioural change programs have had some impact on reducing the transmission of HIV. However, the focus of these programs on the individual as the sole locus for change obscured broader political, economic, and social factors that limit women in their ability to change behaviours and reduce risk (Waterson 1997:1383).

Programs and services need to be developed that address the disease from the three levels of analysis in the critical biocultural approach in order to provide the most effective and appropriate services to women. On a biological level, access to health care, proper medication, and nutritional resources need to be provided to

---

women. On a cultural level, education should be provided about risk behaviours and methods of risk prevention that are culturally appropriate to women. Finally, the broader political-economic situations in which women find themselves must be addressed through broad social change, but also in a way that acknowledges women's immediate housing, childcare, food and healthcare needs (Waterson 1997:1383).

In order to work towards this goal, it is suggested that a two-pronged effort to HIV prevention be adopted, which addresses both the "macro" and "micro" arenas separately and simultaneously (Singer 1994, Waterson 1997). Multiple strategies need to be developed that will respond to women's immediate needs, while an agenda is also set for anthropologists to engage "scholarly activism" (Waterson 1997:1388). In this respect, anthropologists are encouraged to conduct community-based research and praxis. This approach argues for comprehensive programs addressing the complex needs of individuals as understood in a politicised social world on one hand, and a social movement incorporating research, advocacy, communication and political action on the other (Warry 1992, Waterson 1997).

Waterson (1997) conducted ethnographic HIV prevention research at a community-based residence for women in New York City. The women who reside at the Woodhouse community-based residence have a history of homelessness, diagnoses of mental illness, and have been subject to unemployment, lack of housing, planned shrinkage within the city and cutbacks in government assistance programs (Waterson 1997:1387). Consequently, some of the broad issues and concerns raised by women in the residence have to do with economic necessity, the lack of affordable and adequate housing, limited access to preventative health and mental health care, and the consequences of institutionalised care (Waterson 1997:1387). Therefore, Waterson (1997) believes that behavioural interventions will ultimately fail if there is no broad social change.

Waterson (1997) urges anthropologists to form alliances with community-based organizations (CBOs), that provide an array of services to poor people, including housing, health care, child care, job training and placement, and psychological counselling as well as AIDS prevention services (Waterson 1997:1388). These CBOs have the best infrastructure in place for providing AIDS prevention services since many of them are already located in the poorest parts of cities (Waterson 1997:1388). For example Woodhouse provides women with a range of services from food and housing to child care and job training. By providing women with needed resources, services, and "room of their own", Waterson (1997) explains that Woodhouse is preventing HIV infection by freeing some women from engaging in unsafe sexual activity that they might otherwise need to exchange for money to buy basic necessities.

One problem faced by community-based organizations, however, is financial constraints. Many funding agencies require that CBOs demonstrate the efficacy of their programs in order to receive funding, but do not give funds for conducting evaluations (Waterson 1997, CDC 2000). Additionally, many CBOs find it difficult to measure the effectiveness of their programs due to factors such as the lack of meaningful integration of evaluation data (CDC 2000). Therefore, anthropologists can help to develop and implement strategic research in order to shape a successful



---

future for community-based projects. Alliances between academic researchers such as anthropologists and community-based organizations have great political potential in advancing a progressive social agenda addressing the social inequalities, while at the same time addressing the immediate needs of women (Waterson 1997:1388). In this way, the usefulness of ethnography can be realized in the context of critical biocultural theory and advocacy since political-economic, socio-cultural, and biological variables are addressed.

### An Example of Collaboration: The Needle Exchange Programme

Syringe exchange is an example of a service provided to women and other injection drug users through CBOs with the collaboration of anthropologists in order to reduce the spread of HIV. These programs have generated great political controversy as compared to other AIDS prevention programs. This controversy stems from the entrenched belief that drug users are socially deviant and are largely responsible for their own problems (Singer 2001:201). Consequently, the large amount of scientific studies that support the efficacy of syringe exchange in preventing the spread of HIV has been largely ignored at the federal level (Singer 2001:201). Despite the resistance, anthropologists have helped to initiate and evaluate the effectiveness of syringe exchange programs that have significantly reduced the spread of HIV among women and other drug users.

Anthropologists were involved in the initiation and evaluation of a syringe exchange program in Hartford Connecticut. They presented research findings to the legislative committees and testified in court in order to help generate political support for the program (Singer 2001:203). Anthropologists also advocated for locating the program in a coalition of community-based organizations. Since its initial conception, anthropologists have conducted studies of the Hartford syringe exchange program, evaluating the nature and impact of syringe exchange across a variety of dimensions (Singer 2001:203-204).

The design for these anthropological research efforts were all driven by a critical biocultural model of the AIDS epidemic and required the skills of ethnography, physical anthropology, archaeology, epidemiology, and biology (Singer 2001:207). The research involved structured and open-ended interviews with program users and the community. Syringes given out were banded with a bar code to allow computer scanning and recording of bar code numbers, in order to track the in flow and out flow of syringes and to analyse the average time before the syringe returns to the program (Singer 2001:207). Laboratory tests and procedures, including polymerase chain reaction, were performed on syringes returned to the syringe exchange program in order to assess the drop in HIV seroprevalence among drug users (Singer 2001:208). Systematic surface collection of discarded syringes and related drug injection paraphernalia was conducted using archaeological survey techniques in ethnographically identified street injection scenes in order to assess the frequency, distribution, type, condition, infectivity, and source of street discarded syringes and other paraphernalia (Singer 2001:208). Finally, surveys were conducted among pharmacies to determine the accessibility of syringes over the counter, since access to pharmacy syringes could affect use of the syringe exchange program (Singer 2001:209).

The findings of the evaluation indicated that the syringe exchange program

---

was responsible for a significant drop in the spread of HIV among injection drug users and that support for the program among the community remains strong (Singer 2001:209). Anthropologists continue to conduct studies in order to evaluate and improve these programs. For example, one ethnographic study discovered that women were not making use of the needle exchange program because they feared criminalization and the subsequent loss of their children if they were identified as injection drug users. Consequently, the syringe exchange service was offered within the confidential atmosphere of a woman's health clinic so that women could remain anonymous when they exchanged syringes (Zierler and Krieger 1997:423). In addition, other programs are attempting to address biological, social and political economic barriers by providing food vouchers to prevent malnutrition, bus vouchers to alleviate transportation barriers and clothing to address basic human needs (Waterson 1997).

### Conclusion

The nature of the AIDS crisis has required anthropologists to reconceptualize traditional frames of explanations and to modify conceptual tools in order to adequately address the issues surrounding the epidemic. In light of this conceptual shift, there has been a call for anthropologists to include a political economic context in AIDS research. Singer's (2001) proposed critical biocultural approach integrates the political economy of risk behaviour, the ethnographic examination of insider understandings, meaning systems, and behaviours, and the biological analysis of health related issues. It is useful in that it demonstrates the linkages between biology and culture within a political economic framework. This approach provides a useful model in which to investigate the factors contributing to the increased susceptibility of women in United States to HIV and AIDS over the past several years. In terms of implications for prevention programs, it has been suggested that anthropologists form collaborations with community-based organizations and engage in community-centred research and praxis. In this way, anthropologists will be able to help address the immediate needs of women, while advancing a more political and socially progressive agenda, which will seek to ameliorate oppressive conditions. The Hartford Syringe Exchange Program is a successful example of how anthropologists are collaborating with community-based organizations in order to initiate, develop, and evaluate programs which help to reduce the spread of HIV among women and other populations increasingly affected by HIV.

\* \* \* \* \*

### References

- Baer, H.  
1996 Toward a Political Ecology of Health in Medical Anthropology. *Medical Anthropology Quarterly* 10(4):451-454.

---

Centers for Disease Control

2000 HIV/AIDS Among U.S. Women: Minority and Young

Women at Continuing Risk. <http://www.cdc.gov>. Accessed November 19, 2001.

Centers for Disease Control

2000 Learning From the Community: What Community-Based Organizations Say About Factors that Affect HIV Prevention Programs. <http://www.cdc.gov>. Accessed November 19, 2001.

Centers for Disease Control

2001 AIDS Incidence for Women and Percentage of AIDS Cases, January 1986 to June 2000, United States. <http://www.cdc.gov>. Accessed November 19, 2001.

Friedman, S. R., Curtis, R. Neaigus, A. Jose, B. Des Jarlais, D.C.

1999 Social Networks, Drug Injections' Lives, and HIV/AIDS. New York: Kluwer Academic Publishers.

Goodman, A.H. and Leatherman, T.L.

1998 Traversing the Chasm Between Biology and Culture: An Introduction. In Building a New Biocultural Synthesis: Political-Economic Perspectives on Human Biology, edited by Goodman, A.H. and Leatherman, T.L. Michigan: The University of Michigan Press.

Ickovics, J. and Rodin, J.

1992 Women and AIDS in the United States: Epidemiology, Natural History, and Mediating Mechanisms. *Health Psychology* 11(1): 1-16.

Inhorn, M.C. and Brown, P.J.

1997 Introduction. In *The Anthropology of Infectious Disease*. Pp. 3-30. Gordon and Breach Publisher.

Kielmann, K.

1997 "Prostitution", "Risk", and "Responsibility": Paradigms of AIDS Prevention and Women's Identity. In *The Anthropology of Infectious Disease*, Inhorn, M.C. and Brown, P.J., eds., pp. 375-412. Canada: Gordon and Breach Publisher.

Quinn, S.

1993 AIDS and the African American Woman: The Triple Burden of Race, Class, and Gender. *Health Education Quarterly* 20(3): 305-320.

Simon, P.A. Hu, D.J. Diaz, T. Kerndt, PR.

1995 Income and AIDS Rates in Los Angeles County. *AIDS* 9:281-84.

Singer M.

1994 AIDS and the Health Crisis of the U.S. Urban Poor; The Perspective of Critical Medical Anthropology. *Social Science and Medicine* 39(7): 931-948.

---

Singer M

1994 Community-Centered Praxis: Toward an Alternative Non-dominative Applied Anthropology. *Human Organization* 53(4):336-344.

Singer, M. Hanteng, D. and Weeks, M.R.

1998 "AIDS Risk Perception Among Women Drug Users in Hartford, CT". In *Women, Drug Use, and HIV Infection*. Ed. Stevens et al., pp. 67-86. New York: Howarth Medical Press.

Singer M.

2001 Toward a Bio-cultural and Political Economic Integration of Alcohol, Tobacco and Drug Studies in the Coming Century. *Social Science and Medicine* 53:199-213.

Stevens, S. Estrada, A.L. Estrada B.D.

1998 HIV Sex and Drug Risk Behaviour and Behaviour Change in a National Sample of Injection Drug and Crack Cocaine Using Women. In *Women, Drug Use, and HIV Infection*. Ed. Stevens et al., pp. 25-48. New York: Howarth Medical Press.

Wallace, R.

1988 A Synergism of Plagues: 'Planned Shrinkage', Contagious Housing Destruction, and AIDS in the Bronx. *Environmental Research* 47:1-33.

Wallace, R. and Wallace, D.

1995 U.S. Apartheid and the Spread of AIDS to the Suburbs: A Multi-City Analysis of the Political Economy of Spatial Epidemic Threshold. *Social Science and Medicine* 41(3): 333-345.

Warry, W.

1992 The Eleventh Thesis: Applied Anthropology as Praxis. *Human Organization* 51(2):155-163.

Waterson A.

1997 Anthropological Research and the Politics of HIV Prevention: Towards a Critique of Policy and Priorities in the Age of AIDS. *Social Science and Medicine* 44(9): 1381-1391.

Wells et al.

1998 Streets, Drugs, and the Economy of Sex in the Age of AIDS. In *Women, Drug Use, and HIV Infection*. Ed. Stevens et al., pp. 205-230. New York: Howarth Medical Press.

Zierler, S. and Krieger, N.

1997 Reframing Women's Risk: Social Inequalities and HIV Infection. *Annual Review of Public Health* 18:401-36.