

## **Structural Interventions**

### **HIV Prevention and Public Health:**

#### **Descriptive summary of selected literature**

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## Introduction

This selected annotated bibliography on structural interventions for HIV prevention and other public health areas is a component of a larger project to identify and examine the feasibility, evaluability, and sustainability of structural interventions, and to consider their further development and dissemination. Structural factors associated with HIV risk and prevention may include physical, social, cultural, organizational, community, economic, legal or policy aspects of the environment that impede or facilitate HIV transmission. (Sumartojo, *AIDS* 2000, 14, suppl 1)

This bibliography was undertaken to update two earlier reviews on structural initiatives in both HIV prevention and in non-HIV public health areas:

Parker R, Easton D, Klein C, Stevens J. Structural Barriers and Facilitators in HIV Prevention: A Review of International Research, Annotated Bibliography. 1999. (Unpublished)

Bray SJ, Blankenship KM, Merson MH. Annotated Bibliography of Structural Initiatives in Non-HIV Public Health Areas. 1999. (Unpublished)

Generally, the bibliography is limited to material published since these reviews and the February 1999 interdisciplinary meeting sponsored by the Division of HIV/AIDS Prevention at the National Center for HIV, STD, and TB Prevention, Centers for Disease Control and Prevention. A special issue of *AIDS* (2000, v. 14, Suppl 1) includes papers from the 1999 meeting and provides a comprehensive discussion of structural barriers and facilitators related to HIV prevention.

This bibliography is not designed to be comprehensive. Rather, the 175 articles were chosen for their currency and contribution to the body of literature on structural/ecological/environmental barriers and facilitators in HIV prevention. To create an organizational framework for the bibliography, the articles are divided among six major categories each for HIV prevention and for non-HIV public health, with each category defined in the body of this document.

Articles were selected from literature searches conducted in the MEDLINE, AIDSLINE, HealthStar, AIDS Meetings, CRISP and HsrPROJ databases and the Cochrane public website. In most citations, original annotations were written by project staff. Author abstracts are reproduced for some citations.

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For additional copies of this document, please contact:

Sharon R. Novey, MSPH  
AED Center on AIDS and Community Health  
E-mail: [snovey@aed.org](mailto:snovey@aed.org)  
Or download from [www.effectiveinterventions.org](http://www.effectiveinterventions.org)

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# STRUCTURAL INTERVENTIONS FOR HIV PREVENTION

## Definitional Discussions

*Articles define structural interventions or include useful definitional language on structural factors and related topics, such as ecology.*

**Blankenship, K. M., S. J. Bray and M. H. Merson (2000). Structural interventions in public health. AIDS (London, England) 14(Suppl 1): S11-S21.**

**Type:** Literature review

**Background:** The authors review structural interventions in public health, identify distinct approaches to structural interventions, and assess their implications for HIV-prevention interventions. The term 'structural' is used to refer to interventions that work by altering the context within which health is produced or reproduced. Structural interventions locate the source of public-health problems in factors in the social, economic and political environments that shape and constrain individual, community, and societal health outcomes. US public health interventions based on specific health issues, types of interventions, and conceptual topics (e.g. empowerment, social structure, and inequality) were identified through literature searches.

**Methods:** The MEDLINE, HealthStar, PsychInfo and Sociofile databases were searched on specific health issues, types of public health interventions, and conceptual topics (e.g. empowerment, social structure, and inequality) to compile a list of public health interventions in the United States. Interventions focused on testing and surveillance were excluded unless they specifically facilitated prevention, and educational or media campaigns focused on increasing individuals' level of knowledge about a particular health problem. Using articles selected from the literature search, the authors review the range of structural interventions that have been adopted to address public health problems. They note that their analysis of the range of approaches focuses on existing interventions, not what "might be."

**Findings/Discussion:** The authors identified two dimensions along which structural interventions can vary. The framework locates the source of health problems in factors relating to Availability (e.g. seat belt laws, helmet regulations, tobacco taxes), Acceptability (e.g. shaming initiatives, PSAs, using media to manipulate norms) or Accessibility (e.g. programs that provide free prevention materials like helmets or car seats, public funding, zoning to reduce accessibility of harmful products) on one axis. Targets at the Individual, Organizational, or Environmental levels are on the second axis.

The authors note the positive impact of structural interventions in several public health areas including tobacco-related illness, skin cancer and motor-vehicle-related injuries. They conclude that structural interventions are a promising strategy for HV prevention, but note that direct regulation of HIV-risk behavior is less likely to be effective than efforts to expand the availability of tools and settings necessary for prevention (e.g. condoms, syringes, drug treatment) and to reduce the availability of those related to risk (e.g. used syringes). They caution that structural interventions can involve major policy or programmatic changes and may challenge firmly rooted interests and beliefs. For these reasons, political viability and community acceptance is crucial in developing structural interventions.

**Hobfoll, S. E. (1998). Ecology, community, and AIDS prevention. Am J Community Psychol 26(1): 133-44.**

**Type:** Review

**Background:** The author explores the role that may be played by an ecological view of AIDS prevention and AIDS-related social concerns and introduces several themes relevant to the prevention of AIDS which are found in the special issue of AJCP. While Community Psychology has historical expertise in the areas of empowerment, psychological sense of community, interpersonal ties, resources, and culture, the field has only recently become involved in AIDS prevention efforts.

**Methods:** Introduction to a special issue on AIDS prevention. The author reviews the relevance of the issue's articles for community psychology as a field, addresses their contribution to theory and practice, and considers future directions for research and interventions.

**Findings/Discussion:** The author posits that resource-based, ecological theories may prove more helpful in addressing the AIDS pandemic than the individual, cognitive theories that have typically been adopted. Sexual behavior and associated risk are tied not simply to people's personal behavior and thoughts but to the likelihood of disease exposure in their ethnic group, the power and choices associated with power in that group, and the alternative means available of meeting their overall sexual, romantic, economic, and social goals. He opines that AIDS research and intervention must simultaneously address the individual, social, and cultural spheres for meaningful change. He urges researchers to be more cognizant of the place of history and geography in their research, even as they are becoming more sensitive to culture. He lists Magic Johnson's public announcement of his HIV infection as an example of history's effect. Differences in geography also need to be acknowledged to create a psychosocial map for an understanding of AIDS risk and response. Researchers must acknowledge the central place of shared social perceptions within the population of interest. He quotes earlier authors who point out that these shared values and perceptions may define what we mean by culture and subculture and lead us to the solutions that work for different target groups. Ecology tends to be used to explain findings but not to create methodologies. He states that Community Psychology's sensitivity to complex issues of ecology that address the individual in context is the special contribution it can make to ecologically focused research and intervention.

**Klein, C. et al. (2002). Structural barriers and facilitators in HIV prevention: a review of international research. in *Beyond Condoms Alternative Approaches to HIV Prevention*. A. O'Leary, Kluwer Academic/Plenum Publishers.**

#### **Author abstract**

The HIV epidemic, now entering its third decade, has become the greatest threat to human health in history. Since the advent of this virus, male latex condoms have been the mainstay of prevention efforts. However, few find the prospect of a lifetime of condom use to be practical, appealing, or, in some instances, possible.

**Parker, R. G., D. Easton and C. H. Klein (2000). Structural barriers and facilitators in HIV prevention: a review of international research. AIDS (London, England) 14(Suppl 1): S22-S32.**

**Type:** Literature review

**Background:** A growing body of international research focuses on the structural and environmental factors, rather than the individual behaviors or even cultural contexts that shape the spread of the HIV/AIDS epidemic. Whether framed in terms of "political economy" or "structural" or "environmental," these factors create barriers and facilitators to HIV-prevention programs.

Most of the research on structural factors that facilitate HIV transmission and its concentration within particular geographic areas and populations can be grouped into a small number of analytically distinct but interconnected categories: economic (under)development and poverty; mobility, including migration, seasonal work, and social disruption due to war and political instability; and gender inequalities.

An additional research focus is the effects of governmental and intergovernmental policies in increasing or diminishing HIV vulnerability and transmission. This research falls into four categories: 1) the link between policy, including structural adjustment programs, and the socioeconomic instabilities that foster HIV transmission, 2) national HIV/AIDS policies, 3) international drug-injecting-related policies and programs, and 4) ethics and human rights issues related to AIDS-related policies.

The smallest subset of the research on structural or environmental factors describes and/or evaluates specific interventions in detail. Much of this evaluative work is presented at international AIDS conferences but unfortunately, these presentations are seldom developed into

published papers. For interventions that are implemented, the lack of financial and technical resources may hamper systematic evaluation. The paucity of evaluative literature may also be due to the difficulties of developing public health interventions capable of significantly altering the political economic conditions identified as shaping both collective and individual vulnerability to infection. Some of the targeted interventions that have received significant attention include interventions developed for heterosexual women, female commercial sex workers, male truck drivers, and men who have sex with men.

**Methods:** Overview of structural-factors literature. The authors review the international research literature, with special emphasis on the "developing world," and attempt to map out the main research themes to date. They conclude by identifying some of the challenges confronting research on structural issues and AIDS interventions.

**Findings/Discussion:** While a growing body of international AIDS research is moving beyond behavioral science to examine structural, environmental and sociocultural contexts which shape HIV vulnerability, this work is general in its analysis. Yet, contextual variables and AIDS-related policies must be addressed to bring about effective HIV-risk reduction. New methodologies are required to design, implement, document, measure, compare, adapt and evaluate the effects of the structural interventions. One challenge is that structural interventions, by their nature, involve large-scale elements that cannot be easily controlled by experimental or quasi-experimental research designs. Innovative, interdisciplinary approaches that move beyond the limited successes of traditional behavioral interventions and explicitly attempt to achieve broader social and structural change are needed.

**Peterman, T., K. M. Blankenship, D. Cohen, et al. (2000). Developing social and environmental prevention interventions. [MoPeE2979]. Int Conf AIDS 13.**

#### **Author abstract**

**Background:** Prevention research has identified effective behavioral interventions for individuals. However, new infections continue to occur, and are increasingly concentrated in areas with high incidence of many other diseases. We are seeking novel prevention interventions at the social and environmental level that are feasible, acceptable, and likely to be effective in reducing HIV incidence.

**Methods:** Potential investigators were asked to propose study populations and methods to be used to identify interventions and assess the feasibility, acceptability, and potential impact on HIV in the community. A panel of experts with diverse backgrounds reviewed applications and chose the best.

**Results:** Study teams from the 3 selected sites are multi-disciplinary, including sociologists, epidemiologists, lawyers, public health practitioners, and/or human rights experts. Investigators at Yale University are using multiple methods to examine the impetus for, and acceptance and potential impact of structural interventions (e.g. law, policy, administrative structure) on HIV incidence among drug users. Louisiana State University is analyzing national and local databases on housing, educational quality recreational facilities, alcohol outlets, and the availability of low-skilled jobs to determine if any are associated with HIV. Potential interventions will be evaluated for acceptability by a local community group. The University of Texas, Houston, will interview young gay men using focus groups, key informant interviews, and computer generated vignettes. Potential interventions will be discussed with key members of the Dallas community. Preliminary findings will be available in June.

**Discussion:** Our studies will identify innovative interventions. Much more work is needed to implement and evaluate the efficacy of the interventions we will identify, and develop and evaluate social and environmental interventions in other settings.

**Shriver, M. D., C. Everett and S. F. Morin (2000). Structural interventions to encourage primary HIV prevention among people living with HIV. AIDS (London, England) 14(Suppl 1): S57-S62.**

**Type:** Analysis/policy discussion

**Background:** The authors explore a number of potential policy-level structural interventions at the federal, state and local government level that may serve either as barriers to or facilitators of primary HIV prevention from the perspective of the people living with HIV. Structural factors are defined as forms of social construction, e.g., legal, political, environmental, which serve either as barriers to or facilitators for individual and group activities.

**Methods:** The authors assess structural factors that serve as barriers or facilitators of primary HIV prevention for people living with HIV and discuss structural interventions that either facilitate or impede and individual's ability to initiate, modify or maintain safe behavior. They note that empirical research and qualitative data is difficult to find or has not been gathered but they summarize the research that is available.

**Findings/Discussion:** The potential structural barriers to prevention discussed include criminalization of nondisclosure in specific sexual situations, laws limiting travel and immigration, name-based HIV reporting and mandatory partner notification. The authors also list stigma as a community or social structural factor that can present a barrier to HIV prevention goals. Potential structural level facilitators for prevention discussed include confidentiality laws, antidiscrimination protections, expansion of HIV primary care and access to care and primary prevention programs designed to actively involve infected people.

Whether policies hinder or facilitate primary HIV prevention is ultimately dependent on the acceptability of an intervention to those already infected and those at risk. The authors encourage policy research evaluating the impact of structural factors on people living with HIV and stress the importance of actively involving people living with HIV in public health and policy leadership roles.

**Sumartojo, E., L. Doll, D. Holtgrave, et al. (2000). Introduction - Enriching the mix: incorporating structural factors into HIV prevention. AIDS (London, England) 14(Suppl 1): S1-S2.**

**Type:** Review

**Background:** Public health interventions have traditionally emphasized individual-level behavioral and biomedical prevention approaches. Because structural barriers create vulnerable populations and sustain high-risk behaviors, structural approaches in HIV prevention can be useful. Structural factors can be broadly defined to include "physical, social, cultural, organizational, community, economic, legal or policy aspects of the environment that impede or facilitate an individual's efforts to avoid HIV infection." In February 1999, the Division of HIV/AIDS Prevention at the National Center for HIV, STD, and TB Prevention, Centers for Disease Control and Prevention sponsored an interdisciplinary meeting to identify structural factors associated with HIV and to identify priority areas for research and implementation. (see AIDS 2000, Suppl 1) At a broad level, economics, race, gender, or societal attitudes confound HIV risk and prevention. On another level, structural factors impact prevention more directly, for example, making prevention services more accessible and acceptable.

**Methods:** The authors introduce the special journal issue devoted to papers from a 1999 interdisciplinary meeting and summarize the broad conclusions of the papers. The papers provide definitions and frameworks for structural factors in HIV with examples showing how the factors operate in high-risk populations.

**Findings/Discussion:** Proposed interventions to reduce structural barriers included changes in laws and policies, increased services for populations at risk, changes in provider practices, changes in funding priorities and increased participation by the private sector and by communities.

Several broad conclusions emerge from the papers presented in the special issue of AIDS: 1. structural barriers or facilitators may be put in place by groups ranging from government to faith or business groups. They are expressed through economics, policies, social norms and values, and organizational structures and functions; 2. prevention initiatives in areas outside HIV have focused on structural supports or constraints that influence the availability, acceptability and accessibility of the materials or environments needed to maintain safe behaviors; 3. the political factors that foster HIV in developing countries are pertinent among disadvantaged populations in developed countries; 4. the populations at highest risk for HIV, including women and youth,

MSMs, IV drug users and communities of color, are particularly affected by structural barriers to prevention. Maximizing the public health response to HIV means enriching the mix of strategies so that the structural and social environment can support rather than impede new and existing prevention approaches.

**Sumartojo, E. (2000). Structural factors in HIV prevention: concepts, examples, and implications for research. AIDS (London, England) 14(Suppl 1): S3-S10.**

**Type:** Review

**Background:** HIV prevention behavior is affected by the environment as well as by characteristics of individuals at risk. HIV-related structural factors are defined as barriers to, or facilitators of, an individual's HIV prevention behaviors which relate to economic, social, policy, organizational or other aspects of the environment. Only a small number of intervention studies have demonstrated the potential of structural interventions to increase HIV prevention efforts. Structural interventions have also been used to prevent disease or promote public health in areas other than HIV.

**Methods:** The authors review and discuss the research on the potential of structural interventions for reducing HIV risk, the research which links structural factors and HIV prevention, and the studies which confirm the importance of structures to HIV risk. They compare the existing frameworks which differentiate and define levels or types of environmental influences on HIV and other health behaviors and present a two-dimensional framework of structural factors developed at the Centers for Disease Control and Prevention in 1998.

**Findings/Discussion:** Frameworks help define and exemplify structural barriers and facilitators for HIV prevention. The author compares several frameworks of factors affecting HIV prevention. These frameworks differentiate individual micro-level factors (individual level knowledge and skills or characteristics) from intermediate-level factors (laws, policies, poverty, deprivation, service accessibility) and macro-level factors (socioeconomics, gender, discrimination, race). The distinction between intermediate or proximal impact on individuals (at the intermediate level) or a more distal impact (at the macro level) is important because of differing views about how structural factors relate to HIV risk and about where interventions should be targeted. Future structural research and prevention programming efforts depend on which level is accepted as causal of HIV outcomes or as the most promising target for interventions.

A two-dimensional framework of structural factors developed at the Centers for Disease Control and Prevention in 1998 defines one dimension as four barriers or facilitators: economic, policy, societal and organizational. The second dimension is the systems that implement and support each type of barrier or facilitator: government, service organizations, private business, workforce organizations, faith communities, justice system, media, educational system and healthcare system. The author emphasizes that despite differences in frameworks, the consensus is that a continuum of approaches targeting the structures and environments that influence individual behavior is needed. There is also a need for research to demonstrate a causal relationship between changes in structural conditions and HIV outcomes.

The issues related to structural approaches to HIV prevention, including the challenge of a new perspective on prevention and the difficulty of evaluating their effects, are real. Any structural perspective must be workable, not idealistic. Research, although potentially difficult and controversial, is crucial. Researchers and public health officials are urged to pursue structural interventions to prevent HIV.

**Sweat, M. D. and J. Denison (1998). Changing public policy to prevent HIV transmission: The role of structural and environmental interventions. in *Handbook of economic evaluation of HIV prevention programs*. D. R. Holtgrave. New York, NY, Plenum Press: 103-117.**

**Type:** Policy discussion

**Background:** The authors examine some of the reasons why individually oriented intervention approaches, such as health education and counseling, dominate the efforts to slow the transmission of HIV and AIDS. Arguing that environmental interventions could result in significant

reductions in new HIV infections beyond those realized by health education alone, they review theories in sociology, epidemiology, anthropology and public health that have incorporated the impact of social structure and environment factors on health outcomes.

**Methods:** In this book chapter, the authors examine the reasons why individually oriented intervention approaches have become dominant and the theories that have incorporated the role of environmental factors in the promotion of disease. They discuss interventions that can effect change at the environmental level and examine the role of public policy and advocacy in shaping environmental outcomes to stem HIV transmission. They conclude with a discussion and recommendations for approaches to prevention.

**Findings/Discussion:** The authors theorize that the causes of most health and social problems occur at multiple levels and that each level has unique change mechanisms. Their typology of four levels of causation includes: 1) superstructural, 2) structural, 3) environmental, and 4) individual. The authors review successful examples of structural and environmental public health interventions (e.g. micronutrient enrichment of food, taxing cigarettes, helmet and seat belt laws, water fluoridation).

The well-documented structural and environmental factors in HIV transmission are economic factors, migration, urbanization and family disruption, war, violence and civil disturbances. They highlight some of the structural and environmental interventions for AIDS prevention including closing gay bathhouses and heterosexual sex clubs in some US cities, the 100% condom program for sex workers and their clients pioneered in northern Thailand and Cuba's AIDS control program which until recently included isolation of HIV-infected individuals in sanatoria. Clearly, structural/environmental HIV intervention programs have the potential to violate individual civil rights. Community acceptance and support for changes in social structure and environment are crucial. Lastly, structural interventions must be evaluated to identify the impact on risk behavior.

The authors examine the role of public policy in shaping environmental outcomes to stem HIV transmission and look at policy advocacy for HIV and AIDS issues which includes constituency-based lobbying, grass-roots activism and scientific research. They acknowledge that one unmeasured influence on policy is the impact of highly committed individuals who work to shape policy.

They urge that control efforts go beyond individualistic approaches and examine the potential for structural and environmental interventions. Further research in this area will help determine how social, cultural, political and economic factors facilitate HIV risk behavior and how to develop creative, culturally appropriate and community-sponsored prevention programs that make substantive changes on multiple levels.

**Tarlov, A. R. (1999). Public policy frameworks for improving population health. *Ann N Y Acad Sci* 896: 281-93.**

**Type:** Policy discussion

**Background:** The author identifies four conceptual frameworks and applies the frameworks to the 39 recommendations of the Independent Inquiry into Inequalities in Health, the 1998 Sir Donald Acheson Report from the United Kingdom, which is an attempt to develop a comprehensive plan to improve population health. The author also hypothetically applies the report's findings to the United States. He suggests that, with modifications, the conceptual frameworks may be salient for health improvement planning at the national, state or smaller geopolitical unit level.

**Methods:** The author identifies four conceptual frameworks which provide a basis for constructing comprehensive public policy strategies for improving population health. Using these frameworks, he examines the recommendations of the Independent Inquiry into Inequalities in Health, the 1998 Sir Donald Acheson Report from the United Kingdom and hypothetically applies the report's findings to the United States.

**Findings/Discussion:** The frameworks provide bases for constructing comprehensive public policy strategies for improving population health in wealthy nations. These bases are: (1) Determinants of population health. There are five broad categories: genes and biology, medical care, health behaviors, the ecology of all living things, and social/societal characteristics.

(2) Complex systems: Linear effects models and multiple independent effects models fail to yield results that explain satisfactorily the dynamics of population health production. A different method (complex systems modeling) is needed to select the most effective interventions to improve population health.

(3) An intervention framework for population health improvement. A two-by-five grid seems useful. Most intervention strategies are either ameliorative or fundamentally corrective. The other dimension of the grid captures five general categories of interventions: child development, community development, adult self-actualization, socioeconomic well-being, and modulated hierarchical structuring.

(4) Public policy development two-phase process. The initial phase, in which public consensus builds and an authorizing environment evolves, progresses from values and culture to identification of the problem, knowledge development from research and experience, the unfolding of public awareness, and the setting of a national agenda. The later phase, taking policy action, begins with political engagement and progresses to interest group activation, public policy deliberation and adoption, and ultimately regulation and revision.

An Intervention Framework for population health improvement identifies five broad objectives: improved child development; strengthened community cohesion; enhanced opportunities for self-fulfillment; increased socio-economic well-being; and modulated hierarchical structuring. In placing the report's recommendations into this Intervention Framework, the author also categorizes the recommendations as Ameliorative or Fundamentally Corrective.

The author suggests that a strategy for the US should begin with continued research to understand what the American public knows about the relationship of social features to population health. Additional research into public values and beliefs could inform a national public information program on population health.

## Intervention Selection

*Articles compare different levels of interventions, assist in priority setting, or advocate for selecting one level of intervention over another. Studies such as meta-analyses, cost-effectiveness analysis, and outcome evaluation are included.*

**Aidala, A. A., J. E. Cross, et al. (2002). Housing as a structural intervention to reduce HIV risk behaviors among HIV positive people. Meeting abstract. Int Conf AIDS.**

### Author abstract

**Background:** The co-occurrence of HIV infection, risk, and homelessness is often observed. In the US at least 40% of persons living with HIV have had or will experience housing problems. This study examines the relationship between homelessness and HIV risk behaviors.

**Methods:** Researchers pooled interview data from 2650 HIV positive clients presenting for services at agencies participating in a US national, multi-site, evaluation study. Current housing status was coded as homeless (sleeping on the street, public place, emergency shelter, n=452), unstable (temporary housing program or doubled up with others, n=906), or stable (regular apartment or house, n=1292).

**Results:** Most clients were homeless or unstably housed at program enrollment. There were consistent and significant differences in reported risk behaviors by housing status. Lower rates of risk behaviors are seen among individuals who report prior history of homelessness but who are now stably housed: only 16% recently exchanged sex, and 30% recently used a needle.

**Conclusion:** These data show lack of housing is linked with HIV risk behaviors among positive people and suggest that homelessness and not simply traits of homeless individuals, influences risk behaviors. Provision of housing is a promising structural intervention to reduce the spread of HIV.

**Barr, B. D. (2003). Social interventions, community, and HIV prevention. Focus 18(3): 4-6.**

No abstract available.

**Cohen, D. A., T. A. Farley, J. R. Bedimo-Etame, et al. (1999). Implementation of condom social marketing in Louisiana, 1993 to 1996. Am J Public Health 89(2): 204-8.**

**Type:** Intervention

**Background:** This article describes the implementation and impact of the first statewide condom social marketing intervention in the United States. Social marketing uses the elements of price, placement, promotion and product to introduce a product or behavior for the public benefit. Social marketing of condoms is used globally for HIV control but it has not been widely adopted in the US.

**Methods:** A statewide social marketing program in Louisiana, started in 1993, made condoms freely available in public sector and private sector sites including 93 public health clinics, 39 community mental health centers, 29 substance abuse treatment sites, and more than 1000 businesses in neighborhoods with high rates of sexually transmitted diseases (STDs) and HIV. Evaluation was done through surveys about condom use which were conducted annually both in clinics (women) and in street-intercept settings (men).

**Findings/Discussion:** Between 1994 and 1996, more than 33 million condoms were distributed without significant opposition. In the first year of the project, complaints from elected officials were countered with facts about the STD and HIV epidemics in Louisiana. There was no opposition to distribution of free condoms from citizens, religious groups or elected officials. Over time, self-reported condom use at the last sexual encounter increased among African American women (from 28% in 1994 to 36% in 1996), particularly African American women with 2 or more sex partners (from 30% to 48%). Condom use at the last sexual encounter increased among African American men (from 40% in 1994 to an average of 54% in 1996). The increase in self-reported condom use was not associated with an increase in the number of sex partners. Compared to the value of preventing a case of HIV infection, the cost of bulk condoms is low. The authors believe that this large scale program is achievable within existing public health budgets. In this trial, the widespread availability of free condoms was associated with increased condom use, particularly among persons at high risk for STDs and HIV.

**Cohen, D. A. and R. Scribner (2000). An STD/HIV Prevention Intervention Framework. AIDS Patient Care and STDs 14(1): 37-45.**

No abstract available.

**Dahl, D. W., G. J. Gorn and C. B. Weinberg (1999). Encouraging use of coupons to stimulate condom purchase. Am J Public Health 89(12): 1866-9.**

**Type:** Intervention

**Background:** This study examined the feasibility of using high-value coupons to induce condom purchase and evaluated execution factors (i.e. distribution methods, coupon characteristics) that can influence the effectiveness of this form of promotion.

**Methods:** Over a period of four months in 1995, two levels of coupon discount value (10% off and 75% off) were used to promote condom purchase among young adults. Coupons were distributed either according to a widespread strategy or a more focused in-store disbursement method which was closer to the purchase environment. For the in-store disbursement, coupons useable only in that particular store on that day were distributed to members of the target population as they entered the drugstore. The primary dependent measure was the redemption rate of the distributed coupons. Observational measures were also collected for the second wave of in-store coupon distribution.

**Findings/Discussion:** Redemption of coupons distributed through the widespread disbursement strategy was negligible. In contrast, coupons from the in-store distribution method, particularly the higher value coupon, resulted in a high redemption rate. Both male and female consumers responded to the coupons but male consumers became more focused, considered fewer brands and increased their purchases much more dramatically than female shoppers. Female shoppers explored alternatives more fully, evaluated more brands and spent more time considering a purchase. The number of both male and female shoppers visiting the section where condoms

were sold increased, which may point to a first step to eventual and regular purchases This research provides strong evidence that discount coupons, particularly high-value ones distributed at the purchase location, can be used successfully as a condom promotional incentive.

**DiClemente, R. J. and G. M. Wingood (2000). Expanding the scope of HIV prevention for adolescents: beyond individual-level interventions. J Adolesc Health 26(6): 377-8.**

**Type:** Editorial

**Background:** While individual-level interventions are effective, sustaining behavior changes over time, especially in the face of pressures that promote or reinforce risk behavior, is difficult. Additionally, addressing behavior change at the individual level simply cannot reach large segments of the at-risk adolescent population. HIV prevention interventions targeting adolescents must be expanded. Multilevel interventions may occur at the level of the family or community or at a policy level to influence laws, policies, or legislative reform.

**Methods:** Editorial discussion of interventions for HIV prevention among adolescents. The authors encourage the development of multi-level interventions impacting the HIV epidemic among adolescents.

**Findings/Discussion:** It is pivotal that HIV interventions occur simultaneously across multiple levels of causality. Prevention researchers must move beyond individual-level interventions to design complementary multi-level interventions. The ideal outcome will be a preventive synergy which can effectively reinforce HIV prevention messages and skills and create an environment supportive of behavior change.

**Fullilove, R. E., L. Green and M. T. Fullilove (2000). The Family to Family program: a structural intervention with implications for the prevention of HIV/AIDS and other community epidemics. AIDS (London, England) 14(Suppl 1): S63-S67.**

**Type:** Intervention

**Background:** To set the stage for their discussion of an intervention which strengthens families and increases "social capital," the authors review earlier work which explored the reasons behind an intense concentration of AIDS cases in the Bronx. The Bronx epidemic may have had its beginnings in a series of catastrophic fires which destroyed housing and displaced poor residents to already crowded neighboring communities. Stable social networks and economic opportunities disappeared and poor families lost connections to mainstream institutions and resources. Displaced needle-sharing injection drug users also migrated and re-established networks, possibly seeding the HIV/AIDS epidemic in an expanding number of communities. Against the backdrop of devastated communities, the authors propose that the prevention of HIV/AIDS in these communities must encompass a broader set of interventions than condom use or clean needles. Social determinants must be influenced; one of the essential building blocks is families. The objective of the intervention they describe is to increase the "social capital" available to families and children. They describe social capital as the sum of personal, interpersonal and community resources that can be used to enhance an individual's social development and functioning. When communities can offer abundant social capital, children have numerous positive adult role models. A strong social network must include strong family and friendship bonds as well as bridges to other social networks that control access to a larger set of meanings and opportunities.

**Methods:** The Family to Family intervention in the Harlem community of New York City used the model of the Church of Jesus Christ of Latter-Day Saints Family Home Evening in which one night a week is entirely devoted to family with children playing a major role in activities. Four Church families were teamed with Harlem families to exchange information and "adapt" the concept to the inner-city life and culture in Harlem. The evenings consisted of a group meal, an opening meditation, a song, a lesson, a game and a closing meditation. Group meetings of several families, held once monthly, connect families to each other and foster "neighborly behaviors." Open discussions with the families at monthly meetings provide an ongoing, process evaluation of the program and provide qualitative data about family progress.

**Findings/Discussion:** The authors describe Family to Family as a structural intervention because it seeks to alter the social milieu, not just individual behaviors. After four years of the volunteer project, the observational findings suggest positive outcomes. The authors are planning a Family to Family intervention with mothers in drug-treatment programs who are returning to their families and they are also planning a more formal, summative evaluation of the Harlem project. The Family to Family project seeks to expand the social networks of families and children in an impoverished community, to create and expand social capital available to participants, and to function through the efforts of volunteers. Finally, it gives research institutions and public health professionals an opportunity to play a role in improving community life.

**Golden, M. R. (2002). Editorial: HIV partner notification: a neglected prevention intervention. *Sex Transm Dis* 29(8): 472-5.**

No abstract available.

**Golden, M. R., W. L. Whittington, H. H. Handsfield, et al. (2001). Partner management for gonococcal and chlamydial infection: expansion of public health services to the private sector and expedited sex partner treatment through a partnership with commercial pharmacies. *Sex Transm Dis* 28(11): 658-65.**

**Type:** Randomized trial

**Background:** Public health partner notification (PN) services have been used since the 1930s but currently affect only a small minority of patients with gonorrhea or chlamydial infection. The prevalence of these infections has decreased but trends in their epidemiology show the need for intensifying partner notification efforts. An IOM report concluded that PN efforts currently utilized are "extremely resource intensive, inefficient, and in need of redesign." The authors present preliminary results from a trial which expanded the provision of public health PN services for gonorrhea and chlamydial infection to private sector patients. Randomly selected patients and partners were offered expedited partner treatment through commercial pharmacies.

**Methods:** Selected patients were offered partner notification assistance and were randomly offered medication to deliver to their partners. The population was composed of non-incarcerated, English-speaking women and heterosexual men 14 years of age or older diagnosed with gonorrhea or genital chlamydial infection. Statistical analysis was conducted for associations between variables and logistic regression was used for multivariate analyses.

**Findings/Discussion:** Providers permitted the health department to contact 3613 (91%) of 3972 potentially eligible patients, and 1693 (67%) of 2531 successfully contacted patients consented to interview. Of these, 1095 (65%) reported at least one untreated partner. Most patients (90%) wished to notify partners themselves. Patients were more likely to have partners who had not yet been treated and to request PN assistance if they had more than one sex partner in the preceding 60 days or a partner they did not anticipate having sex with in the future. These two factors characterized 49% of all patients interviewed, 70% of those with a partner that was untreated 7 or more days after index patient treatment, and 83% of those accepting PN assistance. Among 458 randomly selected patients with untreated partners at time of study interview, 346 (76%) agreed to deliver treatment to a partner. Of these, most (266) chose to obtain medication for a partner at a pharmacy and 223 (84%) successfully did so.

In the context of the randomized trial, patients had the opportunity to receive free medication to give to their sex partner(s). Seventy-six percent of patient accepted that offer. Only a small number of patients asked for assistance notifying a partner. Two specific criteria - having more than one sex partner in the 60 days preceding treatment and having a partner with whom the patient does not expect to have sex in the future - characterized 70% of persons with untreated partners seven or more days after treatment and 83% of persons who accepted assistance with PN. Most persons will agree to deliver medication to partners themselves; future study could identify the feasibility and utility of targeting PN services to high-risk groups.

**Kebaabetswe, P., S. Lockman, et al. (2003). Male circumcision: an acceptable strategy for HIV prevention in Botswana. *Sex Transm Infect* 79(3): 214-9.**

**Type:** Cross-sectional survey

**Background:** Male circumcision is known to be protective against HIV infection. The suggested mechanism is that the inner mucous surface of the foreskin is rich in Langerhans cells and minimally keratinized, making it susceptible to the virus. Circumcision was routinely practiced in Botswana as part of a ceremony marking the transition from boyhood to manhood but it was abandoned in the 19<sup>th</sup> and 20<sup>th</sup> centuries through the influence of western medical missionaries. Circumcision is not routinely offered in district hospitals and few studies have been performed to assess its acceptability among either children or adults in sub-Saharan Africa.

**Methods:** The authors conducted a cross sectional survey in nine geographically representative locations in Botswana to determine the acceptability of male circumcision and the preferred age and setting for male circumcision. Interviews were conducted using standardized questionnaires before and after an informational session outlining the risks and benefits of male circumcision. 605 people, male and female, representing 29 different ethnic groups, were surveyed.

**Findings/Discussion:** The strength of this study was the sampling of many geographic areas in Botswana and the representation of many ethnic groups. Before the informational session, 408 people (68%) responded that they would definitely or probably circumcise a male child if circumcision were offered free of charge in a hospital setting; after the informational session, the number increased to 89% of respondents. The majority cited the prevention of STDs, including HIV, as a reason favoring circumcision. Before the informational session, 61% of uncircumcised men stated that they would definitely or probably get circumcised themselves if it were offered free of charge in a hospital setting; this increased to 192 (81%) after the informational session.

A multivariate analysis of all participants showed that people with children were more likely to favor circumcision than people without children. 55% of participants thought that the ideal age for circumcision is before 6 years, and 90% of participants felt that circumcision should be performed in the hospital setting. The authors suggest that the option for safe circumcision should be made available to parents in Botswana for their male children as an effective, available, permanent and affordable means to reduce HIV incidence in the next generation. If clinical trials prove its efficacy as an HIV prevention strategy among sexually active people, circumcision might also be an acceptable option for adults and adolescents as an important component of Botswana's long term HIV prevention program.

**Kissinger, P. J., L. M. Niccolai, et al. (2003). Partner notification for HIV and syphilis: effects on sexual behaviors and relationship stability. Sex Transm Dis 30(1): 75-82.**

#### **Author abstract**

**Background:** Partner notification (PN), originally designed for syphilis control, has been used to control the spread of HIV since 1985. Because HIV infection is noncurable, the benefit of contact tracing and treatment demonstrated for the control of syphilis may not apply to HIV. For HIV, PN must facilitate behavior change that will reduce the spread of the infection. One concern is that HIV PN can promote the breakup of old partnerships and increase the acquisition of new partners, thereby spreading HIV infections.

**Goal:** The purpose of this study was to determine the effect of partner notification (PN) on sexual behavior and relationship stability among HIV partnerships, with use of syphilis partnerships for comparison.

**Study Design:** Partnerships were eligible if the index case was interviewed by a disease intervention specialist (DIS) for PN and named at least one sex partner. Partnership information was reported by index cases interviewed at baseline and 3 and 6 months post-PN. Trends in partnership dissolution and acquisition, sexual abstinence, condom use, emotional abuse, and physical violence reported by HIV infection and syphilis index cases were compared.

**Results:** A total of 157 index cases (76 HIV infection and 81 syphilis) reported 220 partnerships (94 HIV and 126 syphilis). The PN process was completed for 32.7% of partnerships and it was completed more often for partnerships that were classified as main and cohabiting. After PN, 46.8% of partnerships dissolved, 15.9% of cases acquired a new partner, and emotional abuse and physical violence decreased significantly. HIV index cases were somewhat more likely to report using condoms at last sex act and less likely to acquire a new sex partner after PN

compared to syphilis index cases. There was no difference post-PN between HIV infection and syphilis partnerships for partnership dissolution, physical violence, emotional abuse and abstention from sex.

**Conclusion:** HIV PN did not appear to cause greater partnership dissolution, new partner acquisition, or violence compared with syphilis PN.

**Lashuay, N., T. Tjoa, M. L. Zuniga de Nuncio, et al. (2000). Exposure to immunization media messages among African American parents. *Prev Med* 31(5): 522-8.**

**Author abstract**

**Background:** African Americans have low immunization rates, yet little is known about their immunization knowledge, attitudes, and practices or about the effect of outreach to this audience. In Spring 1997, the California Department of Health Services (CDHS) launched a statewide culturally sensitive and ethnically specific media campaign directed toward African Americans. This campaign was preceded by a major Los Angeles County Department of Health Services media campaign.

**Objectives:** The objectives of this study were to (a) estimate exposure to immunization media messages among African Americans; (b) determine sources of immunization information; and (c) assess various immunization attitudes and beliefs in order to refine future outreach efforts.

**Methods:** Following the CDHS media campaign, a random digit dial survey was conducted with 801 African American families with children under age 10. The sample was drawn from the four California regions with the highest African American birth rates. It included all zip codes in these regions with greater than 150 African American births per year. Lower bound response rates ranged from 62.5 to 76.1%. Higher income and education levels were overrepresented. Results were weighted to adjust for this.

**Results:** Over 88% remembered seeing or hearing some form of immunization information. Exposure to television ads was reported by 63% followed by billboards (51%) and radio (42%). Sixty-two percent thought mild disease was possible after shots; 27% feared HIV from needles and 19% thought pain was a barrier. Respondents who cited money as a barrier (26%) were less likely to believe that shots were available for free ( $P = 0.02$ ).

**Conclusions:** Media advertising is an effective tool for reaching African Americans. Addressing specific concerns (e.g., clarification of the circumstances and likelihood of getting a mild case of the disease following an immunization, availability of free shots, and risk of HIV) may contribute to increased immunization rates for this population.

**Lurie, P., R. Gorsky, T. S. Jones, et al. (1998). An economic analysis of needle exchange and pharmacy-based programs to increase sterile syringe availability for injection drug users. *J Acquir Immune Defic Syndr Hum Retrovirol* 18(Suppl 1): S126-32.**

**Type:** Cost analysis/review

**Background:** The authors estimated the cost per syringe distributed for five syringe distribution strategies (a needle exchange program [NEP], a pharmacy-based NEP, free pharmacy distribution of pharmacy kits, sale of such pharmacy kits to injection drug users [IDUs], and sale of syringes in pharmacies); assessed the total costs of these strategies; and conducted an economic analysis of these strategies in preventing HIV infection in IDUs.

**Methods:** The costs for Needle Exchange Programs were estimated using data from previous research; costs for the four pharmacy-based strategies were resource-based. Using estimates of the number of syringes required to provide a sterile syringe for each IDU injection, the authors estimated the total costs of the strategies in three representative US cities, New York, San Francisco and Dayton, Ohio. The lifetime cost of treating a person for HIV infection, discounted into current value, was used to estimate the number of syringes that could be distributed for that amount by the five strategies and thus the number of IDUs who could be ensured a sterile syringe for each injection. The authors then conducted a threshold analysis for calculating the annual HIV seroincidence for the program to be cost-neutral.

**Findings/Discussion:** The cost per syringe distributed in US dollars was \$0.97 for the NEP, \$0.37 for the pharmacy-based NEP, \$0.64 for pharmacy kit distribution, \$0.43 for pharmacy kit

sale, and \$0.15 for syringe sale. The total annual cost in US dollars of providing 50% of the syringes needed for a single syringe for every injection ranged from \$6 to \$40 million for New York City, from \$1 to \$6 million for San Francisco, and from \$30,000 to \$200,000 for Dayton, Ohio.

All five strategies could distribute sterile syringes to IDUs at relatively low unit cost. NEPs would be the most expensive. All the pharmacy-based options, particularly syringe sales, are less costly than needle exchange programs. Among the advantages of pharmacy-based programs is that pharmacies are open for longer hours, can be better dispersed geographically, and have greater capacity than NEPs. Social stigma is lessened for the IDU and there may be less resident or business opposition to pharmacy-based programs. However, the five distribution strategies should be seen as complementary, not competitive. The annual HIV seroincidence for the program to be cost-neutral compared with the cost of medical treatment for HIV injections was 2.1% for the NEP, 0.8% for the pharmacy NEP, 1.4% for pharmacy kit distribution, 0.9% for pharmacy kit sale, and 0.3% for syringe sale. At annual seroincidence exceeding 2.1%, all strategies are likely to be cost-saving to society. However, the authors note that public policy should not be based on economic analyses alone; noneconomic factors must also be considered.

**Moema, S., Z. Mzaidume, B. Williams, et al. (1998). An intervention trial in South Africa's goldmining industry. (abstract no. 33536). Int Conf AIDS 12: 695.**

#### **Author abstract**

**Introduction:** South Africa's mining industry is central to the country's economy, employing almost a million people and accounting for 60% of export earnings. Carltonville goldmines in Gauteng Province represent South Africa's largest mining area, with over 100,000 miners. The West Rand Region, in which Carltonville is situated, has Gauteng Province's highest HIV prevalence, of 22%. The social context of mining, particularly migrant labour and hazardous physical work, relieved primarily by alcohol and sex, is conducive to rapid HIV transmission.

**Methods and results:** An intervention trial, involving government, corporate, union, community and research partners, to reduce STD/HIV transmission in Carltonville, was developed in 1996. The research trial compares STD and HIV incidence in among 1,000 miners in Carltonville intervention arm and 1,000 miners in the adjacent Westonarias goldmining comparison arm. The intervention has two major components: comprehensive STI care; and peer education to motivate behavioural change and promote condoms. It has sub-components: formative assessment to understand the social context of STD/HIV transmission; mapping to understand the distribution of risk and STIs; training and supervising STI care providers, to provide comprehensive, primary, STI management; recruiting and training community peer educators to promote STI symptom knowledge, recognition, suspicion and prompt, informed, care seeking, to motivate behavioural change and promote condoms; extensive condom distribution, in workplaces and the wider community; and comprehensive evaluation, using an intervention trial design and collecting detailed annual behavioural, STI prevalence and incidence and HIV incidence data.

**Conclusions:** The project has secured the commitment of all key stakeholders, to support a comprehensively implemented, rigorously evaluated intervention trial, in South Africa's most strategic industry. The project's approach, building cross-cutting alliances to implement well evaluated interventions, may have broader relevance, as an approach to the central problem of reducing STI/HIV transmission in situations of migrancy, whose centrality to HIV transmission throughout Africa, is increasingly recognized.

**Morisky, D. E., Sneed C.D., T. V. Tiglao, et al. (1998). Behavioral interventions and their positive effects on STD and HIV prevention. Int Conf Emerg Infect Dis 60.**

#### **Author abstract**

**Objectives:** To assess the independent and combined effects of peer education and manager/supervisor training on STD/HIV among Commercial Sex Workers (CSWs) in the Philippines. Educational interventions targeting cognitive and environmental determinants of STD/HIV prevention are being assessed.

**Methodology:** A quasi-experimental four-group design assessing the independent and combined effects of E1-peer education, self-efficacy and condom negotiation skills; E2-manager/supervisor support; E3-combination of E1 and E2; and C1-a usual care study control group is being tested over a three-year period in four sites in the southern Philippines. Outcome measures include STD infection rates, attendance at Social Hygiene Clinics, and the implementation of educational policy in the various establishments.

**Results:** A multivariate structural equation model has identified significant predictors of condom use and efficacy based on cognitive and environmental determinants. Pre and post-surveys indicate significant changes in knowledge, attitudes and levels of self-efficacy among CSWs and managers. Significant improvements in appointment-keeping behavior and reductions in STDs were observed in the intervention communities. The control site saw a slight increase in the rate of STD over the two-year period. HIV testing results indicated zero infections in the intervention sites and four seropositives in the control site, indicating a risk reduction of 400%. **Conclusions:** These results are being integrated into the Social Hygiene's Clinic process of care, as well as institutional changes in the participating establishments. An expanded community approach is currently being developed which will include client-centered populations involving high risk communities, worksites, military/police and drivers associations.

**Needle, R. H., R. T. Trotter, 2nd, et al. (2003). Rapid assessment of the HIV/AIDS crisis in racial and ethnic minority communities: an approach for timely community interventions. Am J Public Health 93(6): 970-9.**

**Type:** Programmatic review

**Background:** Rapid assessment relies on systematic ethnographic and other qualitative data collection and analysis techniques complemented by survey information and direct observation studies. Rapid assessment is useful for quickly collecting locally relevant data about emerging patterns of risk behaviors; this research can lead to implementation of intervention strategies adapted to local cultures and conditions. The US Department of Health and Human Services in collaboration with the Congressional Black Caucus created an initiative to address the HIV/AIDS crisis in racial/ethnic minority populations. In 1999, crisis response teams were sent to the first three eligible cities, Detroit, Philadelphia, and Miami, to provide technical assistance - training in rapid assessment, response, and evaluation (RARE) methodologies.

**Methods:** RARE follows a triangulation paradigm with core methods of focus group interviews, key-informant interviews, direct observations, mapping and geocoding and rapid "street intercept" interviews. Target areas in each city varied in ethnic and racial composition but included persons engaged in specific risk activities (drug use or high-risk sex), injection drug users, men who have sex with men, crack users or those trading sex for money or drugs.

**Findings/Discussion:** The RARE teams framed the project findings in the intersecting concepts of people, places and times. The data from Detroit, Philadelphia and Miami enables public health officials and the community to define or redefine the local importance of people, place and time configurations. Understanding the interplay of the population with specific sites, times of high-risk activity and perceptions that motivate behavior allows public health departments to strategically align prevention, infrastructure and medical service systems. Efforts that may be stretched too wide can be geographically and programmatically targeted to the smaller locations of greatest need.

**Peersman, G., W. Johnson and M. Neumann (2001). Interventions for preventing HIV infection in heterosexual people. 2001a. Cochrane Database of Systematic Reviews (1).**

No abstract available.

**Peersman, G., E. Sogolow and A. Harden (2001). Interventions for preventing HIV infection in young people. 2001b. Cochrane Database of Systematic Reviews (1).**

No abstract available.

**Peterman, T., K. M. Blankenship, D. Cohen, et al. (2000). Developing social and environmental prevention interventions. [MoPeE2979]. Int Conf AIDS 13.**

**Author abstract**

**Background:** Prevention research has identified effective behavioral interventions for individuals. However, new infections continue to occur, and are increasingly concentrated in areas with high incidence of many other diseases. We are seeking novel prevention interventions at the social and environmental level that are feasible, acceptable, and likely to be effective in reducing HIV incidence.

**Methods:** Potential investigators were asked to propose study populations and methods to be used to identify interventions and assess the feasibility, acceptability, and potential impact on HIV in the community. A panel of experts with diverse backgrounds reviewed applications and chose the best.

**Results:** Study teams from the 3 selected sites are multi-disciplinary, including sociologists, epidemiologists, lawyers, public health practitioners, and/or human rights experts. Investigators at Yale University are using multiple methods to examine the impetus for, and acceptance and potential impact of structural interventions (e.g. law, policy, administrative structure) on HIV incidence among drug users. Louisiana State University is analyzing national and local databases on housing, educational quality recreational facilities, alcohol outlets, and the availability of low-skilled jobs to determine if any are associated with HIV. Potential interventions will be evaluated for acceptability by a local community group. The University of Texas, Houston, will interview young gay men using focus groups, key informant interviews, and computer generated vignettes. Potential interventions will be discussed with key members of the Dallas community. Preliminary findings will be available in June.

**Discussion:** Our studies will identify innovative interventions. Much more work is needed to implement and evaluate the efficacy of the interventions we will identify, and develop and evaluate social and environmental interventions in other settings.

**Pinkerton, S. D., H. W. Chesson, D. R. Holtgrave, et al. (2000). When is an HIV infection prevented and when is it merely delayed? Eval Rev 24(3): 251-71.**

**Type:** Framework and analysis of HIV intervention effectiveness model

**Background:** The authors (a) suggest a simple framework for distinguishing between HIV infections that are truly prevented and those that are merely delayed; (b) illustrate how these outcomes can be estimated; (c) discuss strategies for extrapolating intervention effects beyond the assessment period; and (d) highlight the implications of these findings for HIV prevention decision making.

**Methods:** The authors offer guidance on incorporating issues such as prevented and delayed infections, and persistence and decay of intervention effects into existing prevention effectiveness models. They suggest a framework for distinguishing between prevention and delay of infections and introduce extensions to the basic model of intervention effectiveness to handle persistent intervention effects and the prevention of secondary infections.

**Findings/Discussion:** An ideal intervention effectiveness model would facilitate estimation of the total number of infections averted over the course of the epidemic and would also consider the secondary, tertiary infections averted among the partners of intervention participants and out through partners on the chain of transmission. The authors discuss ways to incorporate the distinction between delayed and prevented infections, the potential persistence and decay of intervention effects and the prevention of infections in the partners of intervention participants into existing prevention effectiveness models. Their framework distinguishes between infections that are truly prevented and those that are delayed into the future and provides an illustration of how those outcomes can be estimated. Extensions to their basic model handle persistent intervention effects and the prevention of secondary infections.

The authors acknowledge that HIV prevention effectiveness modeling is inherently uncertain and that their extensions to the basic model require extrapolation from the intervention data set and introduce further uncertainty into the analysis. They suggest that the simpler

estimate (PP\*) N is probably adequate for most purposes. Sensitivity analyses can be conducted for the impact of lifetime risk, intervention persistence and the prevention of secondary infections.

**Roca, E., K. Ashburn, et al. (2002). Assessing the impact of environmental-structural interventions. Horizons/Population Council. Meeting abstract. Int Conf AIDS.**

**Author abstract**

**Background:** Despite significant interest in environmental-structural interventions to prevent HIV, few evaluation tools have been developed to measure environmental-level, rather than individual-level, data to assess their impact. This paper outlines the development and results of an ecological assessment tool used to monitor compliance with a structural intervention implemented over the course of 1 year in female sex establishments in the Dominican Republic (DR).

**Methods:** Two adapted versions of the Thai 100% condom program were implemented in the DR: a solidarity-based model in Santo Domingo and a solidarity plus government policy and regulation model in Puerto Plata. Monthly ecological assessments were conducted jointly by NGO and government health inspectors in 68 sex establishments. Variables assessed via observation in sex establishment include the availability and visibility of: 100% condom use posters; condom supplies; and sex worker health check cards. Monthly clinic records were also checked for attendance and STI results of sex workers from participating establishments.

**Results:** Compliance with the intervention increased significantly over time in Puerto Plata. At Month 12 of the intervention, 100% of participating establishments had visible condom use posters and stocks of condoms. The percent of establishments complying with STI clinic attendance increased from 9.4% in Month 1 to 77.8% in Month 12. The percent of establishments whose sex workers had no STIs increased from 9.4% in Month 1 to 85.2% in Month 12, as STI prevalence dropped from 11.3% to 0.8%.

**Conclusions:** Monthly ecological assessment tools are effective in collecting observable, rather than reported, environmental-level data needed to complement individual level data. Such data allows for constant feedback loops to improve structural interventions and ensures that they are working to improve the physical, social and policy environment as theoretically conceptualized.

**Rothenberg, R. B., J. N. Wasserheit, M. E. St. Louis, et al. (2000). The effect of treating sexually transmitted diseases on the transmission of HIV in dually infected persons: a clinic-based estimate. Ad Hoc STD/HIV Transmission Group. Sex Transm Dis 27(7): 411-6.**

**Type:** Data analysis

**Background:** The effect of sexually transmitted disease (STD) treatment on HIV transmission is a topic of interest and controversy. The occurrence of STDs in person with HIV infection is evidence of continued risk taking. Many studies have attempted to assess the influence of STDs on HIV transmission and have reported an important role for ulcerative and nonulcerative STDs in facilitating transmission. The authors sought to assess the potential effect of STD treatment on HIV transmission in persons who are dually infected with STD and HIV.

**Methods:** Using data from eight STD clinic sites in the United States, the authors estimated the actual achievable reduction in HIV transmission by multiplying the prevented fraction associated with treatment of STDs (set at an average of 0.8) by the maximum potential reduction in HIV transmission achieved by treating STDs (using an average relative risk of 3.0 for increased HIV transmission in the presence of STDs). Subgroup analysis assessed infection proportions for genital ulcer disease, nonulcerative STDs, and any STD by sex, ethnicity, age, and sexual orientation.

**Findings/Discussion:** The maximum achievable reduction in HIV transmission from dually infected persons to their partners is approximately 33%. The actual achievable reduction is approximately 27% (range, 10.0-38.1%) at the eight clinic sites. If each of the 4,516 dually infected persons in this cohort experienced a single sexual exposure with an uninfected person, 28 HIV infections would occur in the absence of STD treatment whereas 16 infections would occur with STD treatment. The authors estimated that 27% of HIV transmissions from persons who are dually infected with HIV and STD could be averted through adequate treatment of the STD, independent of any other behavioral intervention. Identification of dually infected persons in

STD clinics is an important mechanism for targeting interventions to a social milieu with high risk for HIV infection and other STDs.

The results are encouraging but the authors suggest that a more comprehensive approach would require considering the role of treatment of STDs in the HIV-negative partners of those with HIV infection and the parallel risk of needle sharing in that population. Given the high STD prevalence of HIV-positive persons in the study clinics, the authors' estimate suggests that effective treatment of their STDs and interventions targeted to their milieu should be implemented and evaluated empirically.

**Sangiwa, G., D. Balmer, C. Furlonge, et al. (1998). Voluntary HIV counselling and testing (VCT) reduces risk behavior in developing countries: results from the voluntary counselling and testing study. VCT Study Group. (abstract no. 133/33269). Int Conf AIDS 12: 646.**

**Author abstract**

**Objectives:** To determine the impact of VCT on sexual risk behavior in 3 developing countries.

**Methods:** Multicenter randomized controlled trial in Nairobi, Kenya, Dar es Salaam, Tanzania, and Port of Spain, Trinidad. Participants who enrolled individually (N = 3120) were randomized to receive VCT (pre- and post-test client-centered counseling) or a standardized health information (HI) intervention (culturally appropriate AIDS risk reduction video in local language w/6 month wait for VCT). Standardized behavioral interviews were administered at baseline and 6-month follow-up. Intention-to-treat analyses were conducted.

**Results:** Data are presented collapsed across sites. 81% of those enrolled were retained at the 6-month follow-up. 96% of those assigned to VCT were tested and 79.5% received their test results. The results for three self-reported sexual risk behaviors are summarized below; unprotected intercourse with: any primary partner (UI-PP), any non-primary partner (UI-NP), and any commercial (UI-CP) partner. Reports of each risk behavior decreased over time for both treatment groups,  $p$ 's < .01. However, risk reduction with non-primary partners was significantly greater among those assigned to VCT compared to HI,  $p$  < .01. The VCT group also reported greater risk reduction with commercial partners, but the difference was not statistically significant,  $p$  = .09. Women reported higher levels of risk with primary partners and lower levels of risk with non-primary and commercial partners,  $p$ 's < .01. Participants from the two African sites reported (Tabular Date, See Abstract Volume) lower levels of risk with primary partners and higher levels of risk with non-primary and commercial partners,  $p$ 's < .01. Both VCT and HI reduced sexual risk behaviors among study participants. Compared to HI, VCT produced greater reductions in the prevalence of unprotected intercourse with non-primary partners and was marginally more effective in reducing the prevalence of unprotected intercourse with commercial sex partners. This demonstrates the efficacy of VCT as an intervention that can help reduce HIV transmission.

**Serxner, S. and D. Gold (2001). How health promotion outweighed STD costs. Bus Health 19(6): 25-8.**

No abstract available.

**Susman, E. (2003). US could learn from Cuban AIDS policy. AIDS 17(13): N7-8.**

**Type:** Meeting report

**Findings/Discussion:** Dr. Byron Barksdale, director of the Cuba AIDS project, a US-based non-governmental agency, delivered an address at the 2003 annual meeting of the American Association for the Advancement of Science. He outlined the Cuban experience of minimizing the impact of the AIDS epidemic through authoritarian measures including compulsory testing, mandatory testing of pregnant women, weeks of required in-sanatorium disease education and possible quarantine. He acknowledged that while these authoritarian measures would not play well in western democracies, the key finding is the concept of intensive education. Persons newly-diagnosed with HIV infection must spend six to eight weeks at a sanatorium where they receive intensive education about the antiretroviral drugs, information about the disease and its

effects, and how to prevent transmission. He contrasted this intensive education with the “five minutes worth of education” given to most people in the US who receive the diagnosis. Others commented that prevention tactics can control HIV infection and that prevention is driven by behavior.

**Sweat, M., S. Gregorich, G. Sangiwa, et al. (2000). Cost-effectiveness of voluntary HIV-1 counselling and testing in reducing sexual transmission of HIV-1 in Kenya and Tanzania. Lancet 356(9224): 113-21.**

**Type:** Multisite trial of HIV-1 VCT

**Background:** The authors undertook a trial of HIV-1 VCT in Nairobi, Kenya and Dar es Salaam, Tanzania to assess its impact, cost and cost-effectiveness of HIV-1 voluntary counseling and testing (VCT). The primary research question was: "What are the health benefits of investment in HIV-1 VCT programmes?" The incremental cost effectiveness analysis of HIV-1 VCT compared pre-intervention and post-intervention outcomes. Intervention costs were calculated from estimates of the per-client quantity of goods and services used in delivery of the intervention.

**Methods:** The cost-effectiveness of HIV-1 VCT was estimated for a hypothetical cohort of 10,000 people seeking VCT in urban east Africa. The analysis focused primarily on the benefits of HIV-1 VCT in terms of infections averted and the associated DALYs saved from the intervention. Main outcome measures included programme cost, number of HIV-1 infections averted, cost per HIV-1 infection averted, and cost per disability-adjusted life-year (DALY) saved. The authors also modeled the impact of targeting VCT by HIV-1 prevalence of the client population, and the proportion of clients who receive VCT as a couple compared with as individuals.

**Findings/Discussion:** HIV-1 VCT was estimated to avert 1104 HIV-1 infections in Kenya and 895 in Tanzania during the subsequent year. The cost per HIV-1 infection averted was US\$249 and \$346, respectively, and the cost per DALY saved was \$12.77 and \$17.78. The intervention was most cost-effective for HIV-1-infected people and those who received VCT as a couple. The cost-effectiveness of VCT was robust, with a range for the average cost per DALY saved of \$5.16-27.36 in Kenya, and \$6.58-45.03 in Tanzania.

Several other findings emerged from the analysis: cost effectiveness of HIV-1 VCT can be significantly improved through reasonable targeting approaches and through economies of scale with larger programmes and larger numbers of clients. Cost-sharing with clients may lower the cost of VCT to funding agencies and government health programmes. The cost-effectiveness could also be improved with more intensive counseling efforts for clients who do not respond well to the intervention.

The analysis revealed that HIV-1 VCT is highly cost-effective in urban east African settings, but slightly less so than interventions such as improvement of sexually transmitted disease services and universal provision of nevirapine to pregnant women in high-prevalence settings. With the targeting of VCT to populations with high HIV-1 prevalence and couples the cost-effectiveness of VCT is improved significantly. The positive findings and other tangible benefits of VCT not addressed in this analysis bolster support for this intervention.

**Toomey, K. E., T. A. Peterman, L. W. Dicker, et al. (1998). Human immunodeficiency virus partner notification. Cost and effectiveness data from an attempted randomized controlled trial. Sex Transm Dis 25(6): 310-6.**

**Type:** Multicenter randomized controlled trial

**Background:** Partner notification was considered a cornerstone of care for syphilis and gonorrhea but its effectiveness for HIV infection is less certain because partners are not cured and intervention with high-risk partners may not necessarily prevent further transmission. This study compares four HIV partner notification strategies by measuring the cost and effectiveness of each strategy to locate and test partners. Strategies ranged from instructing patients to notify partners to immediate health department notification. Attempts at a randomized controlled trial were not successful because of a frequent crossover of partners to a different strategy or study arm. The main objective was to compare the costs and the number of patients who came for HIV testing under each strategy; a secondary objective evaluated the cost and effectiveness of

partner notification for index patients with differing demographic characteristics. Costs in three categories were considered: interviewing index patients, interviewing partners, and program overhead.

**Methods:** Persons testing HIV positive in three areas (Broward County, Florida, Tampa, Florida and Paterson, New Jersey) were randomly assigned one of four approaches to partner notification. Analysis plans changed because disease intervention specialists notified many partners from the patient referral group. The patient referral group was dropped and others were combined to assess the cost and effectiveness of provider referral. Costs were considered under three broad categories: interviewing index patients, interviewing partners and program overhead.

**Findings/Discussion:** The 1,070 patients reported 8,633 partners. Of those 1,035 were located via record search or in person. A previous positive test was reported by 248 partners. Of the 787 others, 560 were tested: 438 were HIV negative and 122 were newly identified as HIV positive. The intervention specialist's time totaled 197 minutes per index patient. The cost of the intervention specialist's time, travel, and overhead was \$268,425: \$251 per index patient, \$427 per partner notified, or \$2,200 per new HIV infection identified. There were no major differences found in the costs of partner notification or the likelihood of locating partners based on demographic characteristics (e.g. age, sex, race or reporting source) of the index patient. Comparing the effectiveness of different partner notification approaches was not possible because of frequent crossover between randomized groups. The effectiveness of HIV partner notification can be evaluated by the number of partners notified, tested or infected, among other methods. While the cost of partner notification can be compared with other approaches to acquired immunodeficiency syndrome prevention, the benefits such as behavior change or infections prevented are not easily measured. The authors also note that the value of fulfilling the ethical obligation to warn partners of a potential threat to their health cannot be quantified.

**Turto, S., J. M. McMahon, R. Hamid, et al. (1998). The social ecology of drug using women's sexual risk in east Harlem, NYC: an event analysis. Int Conf AIDS 12: 440.**

#### **Author abstract**

**Background:** The HIV epidemic is a human biological phenomenon fueled by risk behaviors enacted within personal relationships and diverse social settings. This study will 1) describe recent sexual events of drug using women in a NYC community with a high prevalence of drug use, HIV infection, and AIDS; and 2) identify the determinants of event-specific condom use.

"Event analysis" provides unique information not obtained in standard epidemiological surveys.

**Methods:** Data from 112 heterosexual events with and without condom use were obtained in structured interviews with 87 women; all were offered HIV testing/counseling. Women were 52% Latina, 39% Black; 37% drug injectors; 45% crack users. Drug use was verified by urinalysis. The interview measured 1) relationship-specific factors (e.g., partners' demographics and HIV serostatus; nature and duration of relationship); and 2) event-specific factors (e.g., time, location, sexual repertoire, use of injection drugs, crack, and alcohol, perception of intimacy and control, discussion of condom use, perception of risk). Repeated measures analyses (ANOVA or McNemar's) identified differences between sexual events with and without condom use. Multivariate logistic regression analysis identified significant independent determinants of event-specific condom use.

**Results:** 1) Differences ( $p < .05$ ) between events with and without condom use were found on both relationship-specific and event-specific factors. 2) Determinants ( $p < .05$ ) of event-specific condom use were: discussing condom use with partner (OR = 32.0; CI = 18.1-48.7); and women's perceived control of condom use (OR = 2.8; CI = 1.1-7.3). Cunnilingus during event predicted no condom use (OR = 4.7; CI = 0.8-26.6).

**Conclusions:** Interventions to reduce sexual risk among drug using women in high risk communities should address relationship issues relating to sexual communication and control in the relationship. Event analysis is a method which shows promise for identifying contextual factors that may be overlooked when investigating risk on an individual level.

**Valdiserri, R. O., L. L. Ogden, et al. (2003). Accomplishments in HIV prevention science: implications for stemming the epidemic. Nat Med 9(7): 881-6.**

**Type:** Review

**Background:** The advances in HIV prevention have encompassed different scientific disciplines, populations and settings ranging from public health programs for individuals to community-level interventions. The case for HIV prevention is partly economic because HIV can weaken societal institutions from armed forces to healthcare. The authors assert that the biggest challenge in preventing HIV transmission is the full implementation of existing preventive interventions worldwide.

**Methods:** The authors sample and describe effective interventions for preventing sexual, parenteral and perinatal HIV transmission.

**Findings/Discussion:** Substantial advances have been made in the field of HIV prevention, but most cases of HIV transmission globally still result from unprotected intercourse. Two strategies can be used to prevent sexual HIV transmission: intervention to promote the adoption of safer sexual behaviors and timely diagnosis and treatment of other sexually transmitted infections (STIs) among those at risk for acquiring or transmitting HIV. Prevention of parenteral transmission of HIV is generally accomplished by three basic strategies: improving the safety of the blood supply, improving the safety of healthcare settings and preventing the spread of HIV among injecting drug users. Prevention of perinatal transmission of HIV can be accomplished through ART prophylaxis or through infant formula replacement to prevent transmission by breast milk.

Along with the ongoing research into a vaccine, other research priorities are the development of effective vaginal and rectal microbicides, assessment of the role of male circumcision as an HIV prevention strategy and development of new approaches to risk reduction.

However, the biggest challenge remains to implement existing preventive interventions worldwide. It is also crucial to support various prevention approaches, to integrate HIV prevention into treatment and care, to address the social factors such as stigma, poverty and gender inequality that facilitate HIV transmission, and to provide strong leadership at the highest levels of government.

**Varghese, B., T. A. Peterman and D. R. Holtgrave (1999). Cost-effectiveness of counseling and testing and partner notification: a decision analysis. AIDS 13(13): 1745-51.**

**Type:** Decision analysis

**Background:** AIDS and HIV prevention interventions are chosen on the basis of the population at risk, the possible interventions and the cost-effectiveness of the interventions. The strategies of CT and partner notification have not been widely studied regarding their effects on averting future HIV infections. This study evaluates the cost-effectiveness of partner notification and counseling and testing offered in HIV and sexually transmitted disease (STD) clinics in preventing future HIV infections in the United States of America.

**Methods:** Decision tree models using both societal and provider perspectives were developed. The societal perspective includes all costs and benefits incurred by providers and clients and the discounted treatment for HIV. The provider (HIV and STD clinics) perspective includes only explicit economic costs to the provider and excludes the cost of client time and lifetime treatment cost of HIV/AIDS. The counseling and testing and partner notification models incorporate estimates of HIV prevalence, return rates for counseling, risk of HIV transmission within 1 year, and the effectiveness of counseling. Cost estimates for counseling and testing and partner notification programs and lifetime treatment cost of HIV for the US were obtained from published literature. Extensive sensitivity analyses of model parameters were conducted.

**Findings/Discussion:** The model predicted that counseling and testing a cohort of 10,000 individuals at a clinic with an HIV seroprevalence of 1.5% would prevent almost eight HIV infections and save society almost \$1,000,000. Partner notification for the 113 infected persons identified by counseling and testing, prevents another 1.2 HIV infections and saves an additional \$181,000. Providers (HIV and STD clinics) may see a cost of \$32,000 per case prevented by counseling and testing and an additional \$28,000 for partner notification. Model results are most sensitive to assumptions of HIV prevalence, risk of transmission, and treatment cost of HIV.

These estimates of the costs and benefits of counseling and testing suggest that counseling and testing saves societal dollars. Although partner notification has been considered very expensive in the US, the model analysis suggests that it results in a wide range of societal cost savings under a wide range of probability estimates. Counseling and testing and partner notification are cost effective and can prevent HIV transmission in the clinic setting described. This model can be adapted to assess the cost-effectiveness of counseling and testing and partner notification in other settings.

**Waldo, C. R. and T. J. Coates (2000). Multiple levels of analysis and intervention in HIV prevention science: exemplars and directions for new research. AIDS 14(Suppl 2): S18-26.**

**Type:** Theoretical framework for understanding prevention

**Background:** The authors consider the influence of multiple social units on HIV risk behavior. Ecological theory posits that people must be studied in context, rather than as individuals in isolation. The theory suggests that individual attitudes and behavior arise not only from individuals themselves but also from influences of the social contexts in which they are embedded. Earlier authors referred to this as ecological "interdependence." Using ecological theory, the authors outline multiple levels of analysis at which preventive interventions can be conceptualized. The specific levels include the individual, dyadic/small group, organizational, community, and societal/cultural.

**Methods:** The authors present a theoretical framework for understanding prevention that addresses multiple levels of analysis at which HIV risk behavior can be conceptualized. Using ecological theory, they outline multiple levels of analysis (individual, dyadic/small group, organizational, community, and societal/cultural) at which preventive interventions can be conceptualized, discuss advantages and disadvantages of locating HIV risk at each level, and provide examples of HIV prevention for each level.

**Findings/Discussion:** Interventions for a useful HIV prevention-science agenda must take place at a variety of levels. At the individual level, interventions are relatively easy to conceptualize and evaluate; most research to date has been done at this level. The disadvantage is that there are other influences on risk behavior over which the individual has little control (e.g. organizational practices, community norms). Also, these interventions at the individual level may not reach a large number of individuals. The dyadic or small group level interventions recognize the influences that relationships have on risk-taking. As with individual level interventions, they may not reach a large number of people and often do not address broader contextual issues. The focus of organizational interventions tends to try to change organizations rather than relying on individuals to make behavior changes. It has the advantage of reaching large numbers of people and controlling risky behavior through organizational constraints. However, individuals may simply leave the organizations or the organizational restrictions may impinge upon individual freedoms.

An advantage to community level interventions is that they can reach a large number of people and may have a lasting impact on community norms. However, they may not be effective for disaffected persons or persons not responsive to peer pressure. At the societal/cultural level, social structures shape individual access to resources that enable or impede behavior change. At this level, HIV risk behavior is viewed as a product of societal and cultural forces that influence individual's lives. Although they have the advantage of reaching large groups of people, they can be difficult to achieve with distal effects that may not affect the individual.

The authors encourage HIV prevention scientists to consider the level at which they are locating the determinants of HIV risk behavior when conducting research. Although scientists and research funding have favored the individual level of analysis, the field of HIV prevention science should address risk behavior at multiple levels of analysis to address the most important determinants of HIV risk behavior, including those outside the individual.

**Weinhardt, L. S., M. P. Carey, B. T. Johnson, et al. (1999). Effects of HIV counseling and testing on sexual risk behavior: a meta-analytic review of published research, 1985-1997. Am J Public Health 89(9): 1397-405.**

**Type:** Meta-analysis

**Background:** This study examined whether HIV counseling and testing leads to reductions in sexual risk behavior through a comprehensive meta-analysis of 27 published studies that provided sexual behavior outcome data, assessed behavior before and after counseling and testing, and provided details sufficient for the calculation of effect sizes. The 27 studies involved 19,597 participants. The authors sought to test the hypothesis that study participants who received an HIV-positive test result, individually or with a partner, would exhibit greater risk reduction than HIV-negative participants, who, in turn, would exhibit greater risk reduction than untested participants.

**Methods:** The literature meta-analysis included 27 published studies that provided sexual behavior outcome data, assessed behavior before and after counseling and testing, and provided details sufficient for the calculation of effect sizes. The studies involved 19,597 participants. Analyses were conducted on 73 effect sizes in the primary analysis and for each potential moderator of effect size. A parallel set of analyses tested the robustness of the fixed-effect analyses.

**Findings/Discussion:** After counseling and testing, HIV-positive participants and HIV-serodiscordant couples reduced frequency of unprotected intercourse and increased condom use more than HIV-negative and untested participants. HIV-negative participants did not modify their behavior more than untested participants. This suggests that HIV-CT is an effective secondary HIV prevention strategy, meaning participants who learned they were HIV-positive reduced their sexual risk behavior, thereby decreasing their risk of subsequent reinfection and their risk of infecting others. However, the participants who tested negative and did not modify their risk behavior suggest HIV-CT is not an effective primary prevention strategy.

The authors' critique of the literature points to two limitations: first, HIV-CT studies have generally not been informed by theories of behavior change nor have they assessed certain key constructs, second, the literature does not provide details about the counseling provided, limiting the ability to account for variations in counseling. The authors suggest that HIV-CT should be viewed as one part of an HIV-prevention strategy that includes individual-, community- and policy-level interventions. Theory-driven research with attention given to the context of testing is needed to further explicate the determinants of behavior change resulting from HIV counseling and testing, and the effectiveness of specific counseling approaches.

**Wendell, D. A., D. A. Cohen, et al. (2003). Street outreach for HIV prevention: effectiveness of a state-wide programme. *Int J STD AIDS* 14(5): 334-40.**

**Author abstract**

Street outreach is considered a key HIV prevention strategy in the United States. To determine whether street outreach to prevent HIV infection as practised by state-funded community-based organizations (CBOs) is effective in promoting condom use, we conducted an evaluation using a quasi-experimental design. Twenty-one CBOs involved in street outreach conducted cross-sectional surveys assessing risk behaviour and exposure to outreach activities in 66 intervention and 13 comparison areas in Louisiana over a 2-year period. Surveys were collected from 4950 persons at intervention sites and 1597 persons at comparison sites. After controlling for demographic characteristics and sexual risk factors, persons in intervention sites were more likely to use condoms than persons in comparison sites [odds ratio 1.37 (95% confidence interval 1.20, 1.56;  $P < 0.001$ )]. Contact with an outreach worker mediated condom use. The mechanism of effect may be related to direct contact with an outreach worker and condom distribution rather than to broader community mobilization.

## Cultural/Demographic/Socioeconomic Factors

*Articles describe upstream, macro-level factors which affect risk and/or transmission.*

**Choi, K. H. and E. Kumekawa (1998). HIV prevention programs must address environmental influences to reduce risk behavior among young Asian men who have sex with men. (abstract no. 23112). Int Conf AIDS 12: 363.**

### **Author abstract**

**Objectives:** To explore environmental issues affecting HIV risk among young Asian men who have sex with men.

**Methods:** We conducted in-depth interviews with 51 individuals who were knowledgeable about young Asian men who have sex with men (e.g., providers from health departments and community-based organizations, bartenders, shopkeepers, gay Asian community leaders and members) using the Community Identification Process, an ethnographic technique designed to identify hard-to-reach populations and to develop HIV prevention programs for these populations. The interviews were conducted in San Diego, Anaheim-Garden Grove, Oakland-Berkeley, and Seattle during May-September 1997. Study participants were asked about the influence of the family, the general Asian community, and the mainstream gay community on sexual risk among young Asian men.

**Results:** We found 6 environmental factors related to sexual risk among young Asian men who have sex with men: (a) cultural expectations of the parents (parental pressure to get married, have children, carry on the family name and traditions, and not bring shame on the entire family); (b) family silence about sex (little communication about homosexuality because of its personal, private, and sexual nature); (c) stigmatization of homosexuality in the Asian community; (d) the contrast between self-image and the ideal image of male beauty in the gay community (e.g., a "glamour[ous], chiseled, healthy-looking White image"; the "young, [with] blond hair with buff bodies"); (e) negative stereotyping of Asian men in the gay community (e.g., monogamous, subservient, being the receptive partner in anal sex, and at low risk because of the perceived low incidence of HIV in the population); and (f) related emotional difficulties experienced by Asian men including negative identity, low self-esteem, self-image, and self-worth, alienation, and depression.

**Conclusions:** The data suggest that future HIV prevention strategies must consider the strong influence of environmental factors. These strategies should be directed at the family, the Asian community, and the gay community with programs such as family counseling, support groups for families with gay children, mass media campaigns to educate the community about sexual and ethnic diversity, and forums to discuss homophobia and negative stereotyping of Asian men.

**Deaton, A. (2002). Policy implications of the gradient of health and wealth. An economist asks, would redistributing income improve population health? Health Aff (Millwood) 21(2): 13-30.**

**Type:** Literature review and discussion

**Background:** The link between economic deprivation and ill health was explored by the ancient Greek and Chinese and was perhaps first scientifically documented in Paris in the 1820s. In the United States, a gradient of health with social class persists. The use of the term "gradient" emphasizes the gradual relationship between the two. Health improves with income throughout the income distribution and poverty has more than a "threshold" effect on health. Men in the United States with family incomes in the top 5 percent of the distribution in 1980 had about 25 percent longer to live than did those in the bottom 5 percent. Proportional increases in income are associated with equal proportional decreases in mortality throughout the income distribution.

**Methods:** The author reviews the evidence and theoretical interpretations on the gradient of health and wealth, (i.e. that economic deprivation is strongly related to ill health), and asks whether it makes sense to design policy to address health inequalities. He argues that evidence on the gradient strengthens the case for redistribution toward the poor and suggests policy prescriptions.

**Findings/Discussion:** The author asks whether a redistribution of income in the interest of public health is called for. He concludes that the existence of the gradient strengthens the case for income redistribution in favor of the poor but that targeting health inequalities would not be sound policy. The correlation between socioeconomic status and health is not entirely clear. "Socioeconomic status" represents a wide range of possibilities including income, rank, education, and social class. He argues that policy should be framed in light of wealth and health simultaneously and that general health policies that refocus attention away from health care and health-related behavior and toward education and income may be more effective than the same amount of spending of public funds on a weak health care delivery system.

**Fortenberry, J. D., M. McFarlane, A. Bleakley, et al. (2002). Relationships of stigma and shame to gonorrhea and HIV screening. *Am J Public Health* 92(3): 378-81.**

**Type:** Study protocol

**Background:** This study assess the relationships between stigma and shame associated with seeking treatment for sexually transmitted diseases (STDs) and undergoing testing for gonorrhea and HIV. Two types of STD-related care were assessed: receipt of a test for gonorrhea during the past year and receipt of at least one HIV test in the previous year. Screening provides an opportunity for risk-reduction interventions in those who are not infected and effective treatment and control strategies for those who are infected.

**Methods:** Participants were 847 males and 1126 females (mean age: 24.9 years) in 7 cities. Information was obtained through face-to-face interviews which took 20-40 minutes to complete. Two dependent variables were chosen: gonorrhea testing and HIV testing. Two scales assessed STD-related stigma and STD-related shame.

**Findings/Discussion:** Rates of stigma and shame were higher among participants without a gonorrhea or HIV test in the past year. Female sex, younger age, health service use, previous suspicion of gonorrhea, and low levels of stigma were independently associated with gonorrhea testing. Older age, enrollment site, use of health services, gonorrhea testing, and low levels of stigma were independently associated with HIV testing. Shame is part of the experience of seeking STD-related care, but stigma may be a more powerful barrier to obtaining such care. The perception that others confer negative attributes to those with STD is associated with less than optimal STD/HIV-related care. Stigma rather than shame appears to be a barrier to STD-related care. Changing attitudes of lay and health professionals involved in STD-related care, especially attitudes in regard to conditions judged to be associated with irresponsible behavior, are important in dismantling this barrier to care.

**Holmes, K. K. (1994). Human ecology and behavior and sexually transmitted bacterial infections. *Proc Natl Acad Sci U S A* 91(7): 2448-55.**

**Type:** Colloquium address

**Background:** Paper presented at a 1993 colloquium entitled, "Changes in human ecology and behavior: effects on infectious diseases," organized by Bernard Roizman, held at the National Academy of Sciences, Washington, DC. The three direct determinants of the rate of spread of sexually transmitted diseases (STDs) are sexual behaviors, the mean duration of infectiousness, and the mean efficiency of sexual transmission of each STD. Underlying ecological and behavioral factors include the historical stages of economic development; the distribution and changing patterns of climate, hygiene, and population density; the global population explosion and stages of the demographic transition; and ongoing changes in human physiology (e.g., menarche at younger age) and culture (e.g., later marriage). More proximate on the continuum are war, migration, and travel; and current policies for economic development and social welfare. Most recent or modifiable ecological and behavioral factors are technologic and commercial product development (e.g., oral contraceptives); circumcision, condom, spermicide, and contraception practices; patterns of illicit drug use that influence sexual behaviors; and the accessibility, quality, and use of STD health care.

**Methods:** Paper presented at a 1993 colloquium. The author begins with current epidemiologic models of STDs and highlights available data on the three direct determinants of the rate of

spread of STD. He examines the key ecologic and behavioral factors that operate through these direct determinants to explain the emergence of the four major bacterial STDs (gonorrhea, chlamydial infection, syphilis, chancroid) in developing countries and in subpopulations of the US. **Findings/Discussion:** Having outlined these determinants and underlying ecological factors, the author summarizes that the risk of exposure to an STD depends on the ecological (i.e. sociodemographic) setting in which partners are chosen as well as the individual's own sexual behaviors (such as choice of partner within that setting and frequency of partner change and sexual practices). Understanding the population and individual determinants of STD/HIV transmission and complications is required for developing, prioritizing and implementing public health strategies for disease prevention.

The author argues that these underlying factors help explain why the curable bacterial STDs are epidemic in developing countries and why the United States is the only industrialized country that has failed to control bacterial STDs during the AIDS era. Gonorrhea, syphilis, chancroid and chlamydia cause extensive morbidity and all represent risk factors for transmission of heterosexual transmission of HIV. He states emphatically that the US has the technical skills and funds needed for effective control of bacterial STD.

**Lurie, N. (2002). What the federal government can do about the nonmedical determinants of health. Health Aff (Millwood) 21(2): 94-106.**

**Type:** Discussion of nonmedical determinants of health

**Background:** The author reviews the nonmedical determinants of health and notes that the acute health care delivery system contributes proportionally less to health compared with environment and behavioral determinants. Even as the US spends more for health care, the health of some populations has not improved. The author outlines what government, particularly the US federal government, can do to address these nonmedical factors and enumerates some challenges.

**Methods:** In this literature review and discussion, the author considers two interrelated groupings of nonmedical determinants: 1) traditional social determinants such as income and education and their consequences including low-wage jobs, poor-quality housing, environmental exposure to toxins, etc., and 2) the leading health indicators identified in *Healthy People 2010*. These are not "nonmedical" but they group items for communication and they are a point of focus for the public health community. The author outlines steps the US government can take to address these factors and describes the challenges involved.

**Findings/Discussion:** The author outlines these actions for the federal government, particularly the executive branch: 1) provide leadership and education, 2) develop a surgeon general's report on nonmedical determinants of health, 3) develop standing mechanisms for policy development among sectors, 4) promote collaboration among departments, 5) enhance monitoring and reporting, 6) strengthen the science base, 7) leverage government as an employer and expand the scope of health policy. The challenges are not insignificant: federal government role, state and local jurisdictions, the federal budget development process, calculating the savings, accountability for aligning politics and investment, calculating the savings, and maturing the science base.

The author suggests that there are several emerging opportunities to rethink the government's role in nonmedical determinants of health including discussions of government role and intersectoral collaboration following the terrorist attacks of 2001, the recently enacted education bill which emphasized monitoring and reporting educational outcomes and Medicaid assistance to states during the current recession.

**Moss, N. (2000). Socioeconomic disparities in health in the US: an agenda for action. Soc Sci Med 51(11): 1627-38.**

#### **Author abstract**

Inequality of income and wealth in the US has been growing rapidly since 1972. Evidence of socioeconomic effects on health is documented for many endpoints, and there is evidence that socioeconomic disparities in health are increasing. In Europe, equity in health and health care is a target of the World Health Organization, and has led to a variety of activities to reduce

socioeconomic disparities in morbidity and mortality. In the US, activities in the public and private sectors have increased in recent years but attention, especially among the public-at-large in addition to elites, needs to be shifted to socioeconomic disparities. The paper suggests action strategies drawn from the European experience and other US efforts to place public health priorities on the policy agenda. A first step is to create a climate of unacceptability for socioeconomic disparities in health. Recommended activities include improvement and utilization of existing data; dissemination to broad audiences; building on existing initiatives; creating multi-sectoral alliances; formation of state and community task forces; attention to human capital as well as social justice issues; creative use of media; attraction of new funders; and implementation of quantitative targets.

**Muntaner, C., J. Lynch and G. D. Smith (2001). Social capital, disorganized communities, and the third way: understanding the retreat from structural inequalities in epidemiology and public health. *Int J Health Serv* 31(2): 213-37.**

**Type:** Review

**Background:** The construct of social capital has recently captured the interest of researchers in social epidemiology and public health. Its conceptual prominence since the mid-1990s was stimulated by work on civic participation and its effect on local governance. Putnam's powerful metaphor of "bowling alone" popularized his thesis of the decline of social capital in the US. The authors review current hypotheses on the social capital and health link, and examine the empirical evidence and its implications for health policy.

**Methods:** In a discussion and literature review, the authors review the current hypotheses on the social capital and health link and examine the empirical evidence and its implications for health policy.

**Findings/Discussion:** In the public health literature, the construct of social capital has gained prominence but there is no clear shared agreement on its meaning and relevance. The authors express their concern that the multidimensionality of the concept has not been theoretically explored in epidemiology and public health.

They suggest that the construct of social capital adopted by public health researchers is the most psychological, the communitarian view. It is used "as an alternative to materialist structural inequalities (class, gender, and race) and invokes a romanticized view of communities without social conflict that favors an idealist psychology over a psychology connected to material resources and social structure." They discuss two other conceptualizations - network analysis and the role of institutions - and suggest that public health scholars should not limit themselves to the communitarian notion.

The communitarian conceptualization of social capital, which favors self-reliance and minimal government, mirrors the recent "third way" policies in Germany and the United Kingdom. They stress that the discourse around social capital in public health has focused on its "up side" with optimistic appraisals for population health. They argue for a more complete reading of the literature to understand the likely health effects of social capital and suggest that interest in social capital could be long lived or "could drift into academic limbo like other psychosocial constructs once heralded as the next big idea."

**Soskolne, V. and R. A. Shtarkshall (2002). Migration and HIV prevention programmes: linking structural factors, culture, and individual behaviour--an Israeli experience. *Soc Sci Med* 55(8): 1297-1307.**

**Type:** Multi-level framework for analysis

**Background:** Migration is one of the structural factors associated with HIV infections but the dynamic and complex links are not well understood.

**Methods:** The paper presents a framework for analysis of the links between migration and HIV and highlights the principles for development of migration-related HIV prevention programs in two immigrant populations in Israel. The discussion is limited to migration of immigrant populations from the former Soviet Union and from Ethiopia who have migrated voluntarily and permanently with their families to Israel.

**Findings/Discussion:** The authors propose a framework associating migration with HIV infections via linkages from social macro-level factors to individual risk behaviors. The macro-level factors include the embedding of migration in two fundamental structures of society, the distribution of socio-economic status and the distribution of power. Intermediate-level factors include the limited social capital of the migrants and the bi-directional interactions of cultural norms. On an individual level, there may be a loss of individual cultural beliefs, migration stress and depleted psychosocial resources. Elevated levels of sexual risk behaviors may be coupled with low use of HIV prevention and care services.

The framework indicates that the development of multi-level prevention interventions should integrate individual level approaches by addressing resources that are suitable to the psychosocial context of the specific migration, with non-individual "enabling" structural interventions. It is also necessary to use development methods and tools to respond to the specific cultural needs of the migrant population. Using the study of two groups' migration to Israel, the authors propose several principles for development of migration-related HIV prevention programs.

**Syme, S. L., B. Lefkowitz and B. K. Krimgold (2002). Incorporating socioeconomic factors into U.S. health policy: addressing the barriers. Commissions and special reports can get the ball rolling, but success hinges on getting various sectors into the game. Health Aff (Millwood) 21(2): 113-8.**

**Type:** Review

**Background:** The authors examine the political, professional and organizational barriers to intersectoral policy action in the US and suggest ways to address the barriers based on the literature. They argue that the US has stopped short of incorporating action by other sectors into its deliberations on health policy but that action among sectors may be just what is needed for the success of initiatives like *Healthy People 2010*. A policy agenda to address socioeconomic factors that have a link to health may include health, education, housing and other services for the neediest, reduction of poverty and creation of a more equal economic environment, investment in young children, improvements in working conditions and benefits and community support.

**Methods:** In a literature review and discussion, the authors examine and enumerate the political, professional and organizational barriers to intersectoral policy action in the US. They suggest that research on socioeconomic determinants of health offers both policy options and areas for further exploration.

**Findings/Discussion:** To tackle political barriers, the authors recommend "showing that it doesn't take a revolution" (meaning that action does not require a massive redistribution of resources), including intermediate actions, demonstrating cost-effectiveness and focusing on population segment where the economic impact or political interest is greatest. To tackle professional barriers, they urge involvement from a larger proportion of the public health constituency. To engage a larger constituency, they suggest finding common ground with advocates of universal access; making peace with behaviorists; building on efforts that start with health (e.g., community health centers or CDC's community-based pilot programs). Lastly, action on organizational barriers can include various mechanisms, e.g., conducting health impact assessments, considering block grant funding for health and other services, appointing a special commission, establishing a permanent locus of collaborations, e.g., a White House Council or congressional committee and involving states and communities, not just the federal level of government.

**Wallace, R. (1990). Urban desertification, public health and public order: 'planned shrinkage', violent death, substance abuse and AIDS in the Bronx. Soc Sci Med 31(7): 801-13.**

**Type:** Policy discussion/review

**Background:** This work complements a 1990 study by McCord and Freeman (New England Journal of Medicine, 1990) on Harlem. This study examines patterns of rising homicide and

suicide, intensified substance abuse, low birth weight and AIDS deaths in the Bronx section of New York City. The authors examine underlying structures determining patterns of homicide, cirrhosis and AIDS deaths and use theoretical viewpoints from criminology and the "social support hypothesis" of public health to show the importance of the loss of population and housing as noted by McCord and Freeman.

**Methods:** To complement a study by McCord and Freeman on excess mortality in Harlem, the authors examine similar findings in the Bronx. They adapt contemporary theoretical viewpoints from criminology and the "social support hypothesis" of public health to demonstrate the importance of loss of population and housing. They present evidence that depopulation and disruption of social networks and structures is, in itself, a serious ongoing disaster.

**Findings/Discussion:** Using techniques and approaches from population and community ecology, the authors examined patterns of rising homicide and suicide in the Bronx. Empirical and theoretical analyses strongly imply that the sharply rising levels of violent death, intensification of deviant behaviors implicated in the spread of AIDS, and the pattern of the AIDS outbreak itself, have been gravely affected, and even strongly determined, by the outcomes of a program of 'planned shrinkage' directed against African-American and Hispanic communities. The authors state that this contagious urban decay devastated several areas between 1970 and 1980, not just in New York but in Philadelphia and Indianapolis. In New York, they suggest that the 'planned shrinkage' was implemented through systematic and continuing denial of municipal services--particularly fire extinguishment resources--essential for maintaining urban levels of population density and ensuring community stability. The authors suggest that AIDS in the Bronx, and in many high population density urban areas of the US, is part of an overall pattern of pathology and deviant behavior strongly affected by social disintegration associated with contagious urban decay, in turn related to government policies. They suggest that urban desertification is a strong cofactor to the epidemiologic factors of sexual activity and intravenous drug abuse in modeling the spread of AIDS in the Bronx. More broadly, disruption of personal, domestic and community social networks will express themselves in exacerbation of a nexus of behavior which in turn has severe implications for conditions ranging from continuing urban desertification to overwhelming the criminal justice and health care delivery systems to evolution and spread of AIDS. They argue that "the critical role played by improper government policy in triggering the syndrome suggests ecologically informed interventions, particularly essential service restoration, may hold the potential for great positive impact."

## Legal/Ethical/Policy Issues

*Articles describe the use of litigation and/or legislation to promote public health in and outside HIV prevention and address ethical concerns that emerge from structural interventions. For example, these annotations may describe conflicts between individual rights and public health.*

**(2000). Name brands: the effects of intrusive HIV legislation on high-risk demographic groups. Harv Law Rev 113(8): 2098-115.**

No abstract available.

**Ainsworth, M., C. Beyrer, et al. (2003). AIDS and public policy: the lessons and challenges of "success" in Thailand. Health Policy 64(1): 13-37.**

**Type:** Review of national public policy and strategic priorities

**Background:** Thailand is one of a few countries in which there is strong evidence that public policy has had an impact on the spread of AIDS on a national scale. The authors explored two key questions: 1) what are the main lessons learned and key strategic elements of Thailand's public policy on AIDS for other countries and 2) what are the highest priority actions for public policy to improve the effectiveness of the response?

**Methods:** The authors consulted extensively with key informants from government and international agencies, NGOs and universities and research institutes in Thailand. Policymakers,

AIDS program managers, technical specialists, donors, and NGOs were interviewed. They also reviewed published and unpublished analyses of AIDS and STD policy in Thailand, epidemiological data, data from the Thai Working Group on HIV/AIDS Projection, and trends in public spending from the Ministry of Public Health and the National Economic and Social Development Board.

**Findings/Discussion:** The first case of HIV/AIDS was detected in Thailand in September 1984 but the first evidence of the rapid spread of HIV did not occur until 1988 when HIV testing was introduced into government methadone treatment center for heroin addicts. In 1991-1992, AIDS prevention and control became a national priority with a four-part policy. Although the response was delayed, it was effective. First, a governmental reorganization brought coordination under the Prime Minister with a Multi-Sectoral National AIDS Prevention and Control Committee. Second, a massive public information campaign emphasizing prevention, behavior change, condom use and AIDS as a social problem was launched. Third, a "100% Condom Program" was adopted in Thailand's legal, commercial sex trade. Finally, repressive policies were repealed, mandatory name reporting was abolished and immigration prohibitions for HIV-positive people were overturned. The principle of voluntary, anonymous and confidential counseling and testing was established.

The lessons from public policy on AIDS in Thailand for other developing countries include the importance of national leadership and political commitment with mobilization at the national level and a multi-sectoral implementation at the local level. Changing the highest risk sex behavior (commercial sex in Thailand's case) is crucial. In Thailand, established STD treatment services were important for outreach, for monitoring compliance with the 100% Condom program and for measuring the impact. Three strategic priorities for the next phase of the response were identified consistently by the interviewees: sustaining and expanding condom use beyond commercial sex, reducing transmission by injecting drug use, and ensuring access to cost-effective prevention and treatment for opportunistic infections.

**Akukwe, C. (2001). The need for an urban HIV/AIDS policy in the United States. J Health Soc Policy 12(3): 1-15.**

**Type:** Policy discussion

**Background:** The author discusses the importance of a national urban policy on HIV/AIDS by reviewing the major challenges to the provision of HIV/AIDS services to urban populations in the US. The author also discusses the intersection between the special needs of urban populations and the spread of HIV. Urban centers in the US are hard hit by the HIV/AIDS epidemic and may not benefit from health promotion and risk reduction activities. The incidence of HIV/AIDS is higher in urban areas because of high levels of poverty, sexually transmitted diseases, injection drug use, and the limited participation of urban residents in the design and delivery of health services. Social and environmental consequences must be reconciled with the well-known medical effects of the epidemic.

**Methods:** In a literature and policy review, the author reviews the major challenges to the provision of HIV/AIDS services to urban populations in the US and discusses why a national urban policy on HIV/AIDS is important. He discusses the intersection between special needs of urban populations and the spread of HIV. He concludes with recommendations on an effective HIV/AIDS urban policy that revolves around a partnership between the public sector, the private sector and target communities in the urban United States.

**Findings/Discussion:** The author argues that a new urban HIV/AIDS policy is needed to focus on the vigorous implementation of risk reduction activities, linking HIV reduction with poverty alleviation programs, and the implementation of neighborhood health services. He proposes a policy framework to address the "deadly triangle" in urban cities: individual and community poverty, limited public sector resources, and insignificant private sector presence. He further suggests that the framework, a strategic, non-categorical approach to an urban policy on HIV/AIDS, should be multisectoral and build on the capacities of urban centers to develop and sustain genuine public/private community partnerships at neighborhood levels. Proposed major strategies include: implementing neighborhood-based health promotion and risk reduction initiatives; ensuring the participation of high-risk populations in all phases of programs and

services; providing neighborhood one-stop HIV/AIDS services; making cities "business-friendly"; implementing a research and evaluation policy for all HIV/AIDS services and mobilizing high-risk populations to participate in the political and policy-making arena.

**Benjamin, G., W. Lopez, et al. (2002). Partners in public health law: elected officials, health directors, and attorneys. J Law Med Ethics 30(3 Suppl): 17-21.**

**Type:** Discussion

**Background:** The authors examine the partnership between elected officials, health directors, and attorneys along with some of the problems of overlap of authority between public health departments and elected officials. They emphasize that existing laws and regulations often provide sufficiently flexible authority which can be used in new ways to address current public health problems.

**Findings/Discussion:** Using New York City as an example, the authors illustrate the overlap of authority between the City Council, the Health Department, the Board of Health, legislators, chairpersons of health committees and the counsel for the legislature. They discuss a scenario from September 12, 2001 in which the old health code provided enough flexibility to allow surveillance in emergency rooms by epidemiologists. Overlapping jurisdictions need not be a deterrent to partnerships and in many cases, existing laws can provide adequate flexibility for today's issues. They conclude with a discussion of the challenges faced by public health officials and legislators in forming a partnership to secure necessary financial support and legal authority for public health activities.

**Benjamin, G., D. J. O'Brien, et al. (2002). Do we need a new law or regulation? The public health decision process. J Law Med Ethics 30(3 Suppl): 45-7.**

**Type:** Discussion

**Background:** While new laws and regulations are one response to public health threats, the authors provide an overview of alternatives available to public health officials in a discussion of a "legal toolbox."

**Findings/Discussion:** The public health "legal toolbox" includes options for addressing public health threats such as Adoption of Regulations, Judicial Enforcement, "cease and desist" nuisance orders, declaratory decisions, health advisories and marketplace regulation. The authors present two scenarios as illustrations of the range of legally permissible intervention strategies to public health threats. The two scenarios are based on the sale of cosmetic contact lenses in Maryland and the debate over needle exchange programs in the Illinois Senate. One advantage of these options is their relative speed of implementation compared to a legislative initiative.

**Burris, S., P. Lurie, D. Abrahamson, et al. (2000). Physician prescribing of sterile injection equipment to prevent HIV infection: time for action. Ann Intern Med 133(3): 218-26.**

**Type:** Policy analysis

**Background:** Injection drug users, their sex partners, and their children are at high risk for acquiring HIV infection and other bloodborne diseases. In the US, state rules on syringe prescription, drug paraphernalia and pharmacy practice restrict the sale and possession of injection equipment, making physicians and pharmacists the gatekeepers to syringe access. The authors argue that physicians treating patients who use injection drugs and cannot or will not enter drug treatment should prescribe and dispense syringes. They further argue that prescribing and dispensing injection equipment is ethical, clinically appropriate, and fully consistent with current public health guidelines on disease prevention.

**Methods:** The authors analyzed legality of prescribing and dispensing syringes in the 50 US states, the District of Columbia, and Puerto Rico on the basis of three approaches: 1) is it authorized under laws governing professional practice; 2) does prescribing or dispensing violate laws controlling access to syringes; and 3) malpractice and regulatory concerns. They found that physicians in nearly all these jurisdictions may legally prescribe sterile injection equipment to

prevent disease transmission among drug-using patients and that pharmacists in most states have a clear or reasonable legal basis for filling the prescriptions.

**Findings/Discussion:** On the clinical front, the authors argue that HHS and professional guidelines demonstrate that prescribing or dispensing a syringe is medically legitimate. The US Dept of Health and Human Services has recognized and endorsed single-use, sterile syringes as a standard of care for patients who use injection drugs. This approach has been endorsed by medical and public health organizations. Similarly in 1998, HHS certified to the US Congress that needle exchange programs are effective in reducing HIV transmission and do not encourage drug use. However, the network of approximately 134 needle exchange programs cannot supply the estimated 1 billion syringes needed annually for the single-use standard.

The authors also list ways to minimize the legal risk of prescribing injection equipment. These include choosing the appropriate patient, conducting an appropriate evaluation, documentation and education of patients, other physicians, law enforcement officials and community members.

On the basis of their medical and legal findings, the authors suggest that physicians may wish to take a larger role in improving access to sterile injection equipment by prescribing this equipment for their patients where this practice is legal. Where legality is in doubt, the authors urge physicians and pharmacists to join efforts and advocate the elimination of the legal barriers.

**Cason, C., N. Orrock, et al. (2002). The impact of laws on HIV and STD prevention. J Law Med Ethics 30(3 Suppl): 139-45.**

**Type:** Review

**Background:** HIV and sexually transmitted diseases (STDs) are major public health problems in the United States with direct and indirect costs for both the individual and the community. Most efforts to curb HIV and STD incidence occur at the state level. The authors provide descriptions of state-level laws on STD screening (chlamydia screening in Georgia), name-based reporting of HIV in Florida, name-based reporting of HIV and HIV partner notification implementation in New York and the impact of laws on STD and HIV risk behaviors and prevention services.

**Findings/Discussion:** The authors underscore the importance of law and other structural factors in the prevention and treatment of HIV and STDs. They detail ways in which laws may have a negative or a positive effect on the vulnerability or resilience of persons at risk of STDs, HIV infection, or AIDS. As examples of negative impact, they cite laws establishing eligibility requirements for Medicaid or State AIDS Drug Assistance Programs which may lead to poor clinical care with delayed or intermittent access to retroviral therapy or laws stigmatizing clients of federally licensed methadone clinics as IDUs. Criminal law and policing, especially drug control laws, have racially disparate impacts on minority arrests and incarcerations.

Laws can also shape underlying social determinants of health including socio-economic status and income inequality, attitudes towards race and racism, community and social organization and social capital and cohesion. Important resources such as housing and education are linked to social determinants in ways that can increase the risk of ill health and HIV risk. It is difficult to assess whether public health laws cause the desired or even the observed changes but laws remain a structural factor which can influence social determinants and affect health in a broad sense.

**Drucker, E., P. Lurie, A. Wodak, et al. (1998). Measuring harm reduction: the effects of needle and syringe exchange programs and methadone maintenance on the ecology of HIV. AIDS 12(Suppl A): S217-30.**

**Type:** Review

**Background:** The authors conducted a public-health analysis of the circumstances of IDU and HIV transmission. Public health practice demands giving the highest priority to factors that account for the greatest proportion of incident infections and are most amenable to changes that reduce transmission. Illicit drug use, particularly injecting drug use, qualifies on both counts. It is a potent risk for transmission of HIV and other infectious diseases and it is accessible to risk reduction by currently available social and behavioral interventions. The authors suggest that

stigmatizing and marginalizing the drug user by drug control policies acts as a barrier to access to medical and social services and fosters patterns of behavior such as sharing equipment and sex work which increase HIV transmission. From a communicable disease model, they suggest that supplying forms of drugs that do not require injection (e.g. oral methadone) or sterile injectable drugs and equipment (e.g. heroin maintenance). Following this analysis, the authors compile and review evidence on the public-health impact of two interventions: needle and syringe exchange programs (NSEP) and methadone maintenance treatment.

**Methods:** The authors used computerized literature reviews, expert opinion and suggestions and bibliographies of published work to locate reports on the efficacy of NSEP published since the authors' earlier review was published. The authors analyzed 24 articles on "needle exchange" and methadone treatment relative to effectiveness, prevention against AIDS, reduced sharing of injecting equipment, reduced IV drug use, reduced sex work and reduced arrest or incarceration. The data since their 1993 report confirms and extends the evidence of NSEP efficacy and the lack of associated adverse effects.

**Findings/Discussion:** Data from the review confirms and extends the evidence of NSEP efficacy and the lack of associated adverse effects. Combining NSEP with efforts to increase syringe availability by modifying restrictive laws and regulations and outreach to increase pharmacist involvement in syringe sales holds promise for reducing HIV infections. Methadone too proves to be an option for reducing HIV transmission.

The authors argue that instead of instituting more harm reduction services and working for social improvement that might prevent drug abuse (e.g. job, housing, healthcare and schools), the US has relied on criminalization of drug use and has instead built more prisons than treatment options. They argue that this strategy of prosecution and incarceration further destabilizes vulnerable communities, destroys social capital and damages social and civic institutions. While admitting that sterile needles and methadone will not stop the AIDS epidemic related to drug use, they argue that we are obliged to employ the best public-health tools currently available.

**Erickson, D. L., L. O. Gostin, et al. (2002). The power to act: two model state statutes. J Law Med Ethics 30(3 Suppl): 57-62.**

**Type:** Discussion

**Background:** Two legal tools are available for reforming and strengthening public health practice: the Model State Emergency Health Powers Act (MSEHPA), developed in 2001 by the Center for Law and the Public's Health (<http://www.publichealthlaw.net>) and the Model State Public Health Act by the Turning Point Public Health Statute Modernization National Collaborative, an initiative of the Robert Wood Johnson Foundation in partnership with the WK Kellogg Foundation (<http://www.turningpointprogram.org>).

**Findings/Discussion:** Public health laws which are obsolete, inconsistent or inadequate may be ineffective or even counterproductive. State public health statutes have been built up in layers over the 20<sup>th</sup> century in response to new threats. They may pre-date the vast changes in constitutional and statutory laws that have transformed conceptions of individual rights. State health codes have wide variation in detecting, controlling and preventing disease. In a multi-state public health emergency, these variations may prevent or delay an efficient response. Many of the state statutes do not facilitate surveillance and monitoring or timely reporting of Category A agents of bioterrorism such as smallpox, anthrax, plague, botulism or others.

The MSEHPA provides a useful checklist of key issues that state statutes should address: availability of information; reporting; quarantine; takings; treatment; quarantine; isolation and civil rights. A strong state public health law provides support for the foundation of the local public health infrastructure. It can define what needs to be done, how it is to be done and whether the capacity is present. It can define roles and responsibilities, regardless of the state/local structure. It can promote awareness and consensus on potential legal issues among policy makers, public health officials and the local legal community.

**Etzioni, A. (2002). Public health law: a communitarian perspective. Health Aff (Millwood) 21(6): 102-4.**

**Type:** Discussion

**Findings/Discussion:** American society has often favored individual rights disproportionately over the common good. However, the strengthening of security, public safety, and public health policies is crucial following the attacks of September 11, 2001. The author discusses a communitarian perspective of public health, specifically the views of a group formed in 1990 which adopted a position that individual rights and social responsibilities, liberty and the common good have equal standing; that neither should be assumed a priori to trump the other; and that we need to seek a carefully crafted balance between these two core values. Etzioni also discusses the work of Lawrence Gostin and his views of appropriate public health policies. Lastly, the author states that we must acknowledge the tension between communitarian balance and fairness in that no public policy will lay the same demands on all groups.

**Friedman, S. R., T. Perlis and D. C. Des Jarlais (2001). Laws prohibiting over-the-counter syringe sales to injection drug users: relations to population density, HIV prevalence, and HIV incidence. Am J Public Health 91(5): 791-3.**

**Type:** Review of literature and secondary ecologic analysis of data presented by Holmberg (Holmberg S. The estimated prevalence and incidence of HIV in 96 large US metropolitan areas. *Am J Public Health*. 1996; 86:642-654.)

**Background:** This study sought to assess relations of laws prohibiting over-the-counter syringe sales (anti-OTC laws) to population prevalence of injection drug users and HIV prevalence or incidence among 96 US metropolitan areas. The authors sought to determine whether anti-OTC laws are associated with reduced rates of drug use and with higher rates of HIV prevalence or transmission in metropolitan areas.

**Methods:** A cross-sectional analysis was used to compare metropolitan areas with and without anti-OTC laws in terms of their population densities of IDUs, HIV prevalence among MSM and distance from New York City, considered to be the epicenter for the HIV/intravenous drug use epidemic in the US.

**Findings/Discussion:** Metropolitan areas with anti-OTC laws had a higher mean HIV prevalence (13.8% vs. 6.7%) than other metropolitan areas (pseudo-P < .001). In 83 metropolitan areas with HIV prevalence of less than 20%, anti-OTC laws were associated with HIV incidence rates of 1% or greater (pseudo-P < .001). Population proportions of injection drug users did not vary by presence of anti-OTC laws.

The data offered no support for the idea that anti-OTC laws prevent illicit drug injection or lower population proportions of injection drug users. However, there was a positive association between anti-OTC laws and higher HIV prevalence and incidence. The authors suggest that prudent public health policy suggests removing prescription requirements for syringes rather than waiting for definitive proof of causation. They conclude that laws restricting syringe access are statistically associated with HIV transmission and should be repealed.

**Geronimus, A. T. (2000). To mitigate, resist, or undo: addressing structural influences on the health of urban populations. Am J Public Health 90(6): 867-72.**

**Type:** Literature review

**Background:** Young to middle-aged residents of impoverished urban areas suffer extraordinary rates of excess mortality, to which deaths from chronic disease contribute heavily. An understanding of urban health disadvantages and attempts to reverse them will be incomplete if the structural factors that produced modern minority ghettos in central cities are not taken into account. The author reviews earlier literature which distinguishes between ameliorative and fundamental approaches. Ameliorative approaches target the risk factors that link socioeconomic position to health in a particular context but they do not fundamentally alter the context or the underlying inequalities. The only way to eliminate socioeconomic disparities in health, as called for by *Healthy People 2010*, is to address the underlying social inequalities.

**Methods:** The author analyzes and reports on previous research on the structural factors that produced modern minority ghettos in central cities. The author discusses the role of race and

ethnicity in understanding poverty and urban health and calls for continued research to evaluate the impact of social and economic policies on the health of urban residents.

**Findings/Discussion:** Conceptions of the role of race/ethnicity in producing health inequalities must encompass (1) social relationship between majority and minority populations that privilege the majority population, and (2) the autonomous institutions within minority populations that members develop and sustain to mitigate, resist, or undo the adverse effects of discrimination.

A structural analysis suggests some activities and principles for action and continued research. The first is recognizing that in a structural framework there are policies that affect the context of urban poverty, e.g. segregation, access to technologies, influence fundamental causes of health inequality. Likewise, policies that affect the integrity of autonomous institutions that members of oppressed groups develop and maintain also influence the fundamental causes of health inequality. Working to alter public perception on race is crucial. While maintaining realistic expectations of what community-based public health approaches can achieve, the set of community-based networks and organizations that can be enlisted to address structural barriers should be broadened to include organizations with substantial economic leverage (e.g. minority-run public sector labor unions). Increasing attention to the needs of adults can reap advantages for residents of all ages because adults play critical social roles as economic providers and caretakers.

Continued research should evaluate the impact of social and economic policies on the health of urban residents. If poverty and race/ethnicity are not considered, public health campaigns overlook important approaches for mounting successful interventions.

**Gostin, L. O. (2002). Law and ethics in a public health emergency. Hastings Cent Rep 32(2): 9-11.**

**Type:** Discussion

**Findings/Discussion:** The author states that the US public health system is ill-prepared to face challenges such as those of September 11, 2001 and the anthrax outbreak of October 2001. He maintains that the lack of preparedness for bioterrorism and infectious disease is due to insufficient funding and antiquated public health laws. The Robert Wood Johnson "Turning Point" program was funded to develop a model public health law in collaboration with a consortium of users. The events of 2001 made the process more urgent and intensive. At this writing, in 2002, the model public health law, Model State Emergency Health Powers Act (MSEHPA) (<http://www.publichealthlaw.net>) had been introduced in nearly half the states. MSEHPA is intended to balance the support of vital public health functions while safeguarding personal and proprietary interests by addressing planning, surveillance, management of property and protection of persons. The author also notes an Institute of Medicine report on public health preparedness as an intellectual critique of the US public health system. He concludes by acknowledging the overwhelming importance of changing the nation's values, priorities and funding related to the public health system.

**Gostin, L. O. (2000). Public health law in a new century: part I: law as a tool to advance the community's health. JAMA 283(21): 2837-41.**

**Type:** Policy discussion

**Background:** Arguing that a sound public health law infrastructure establishes the powers and duties of government to prevent injury and disease and promote the population's health, the author proposes that statutes, regulations and litigation can be pivotal tools for creating the conditions for people to lead healthier and safer lives. The author defines public health law borrowing ideas from constitutional law and theories of democracy. He defines public health law as "the power and duty of the state to ensure conditions for people to be healthy and limitations on the state's power to constrain autonomy, privacy, liberty, and proprietary interests of individuals and businesses."

**Methods:** The author constructs a definition of public health law and justifies it in this discussion. This article is the first in a series of three in which the author proposes that statutes, regulations

and litigation can be pivotal tools for creating the conditions for people to lead healthier and safer lives.

**Findings/Discussion:** Five essential characteristics of public health law discussed are (1) the government's responsibility to defend against health risks and promote the public's health; (2) the population-based perspective of public health, emphasizing prevention; (3) the relationship between government and the populace; (4) the mission, core functions, and services of the public health system; and (5) the power to coerce individuals, professionals, and businesses for the community's protection. The author justifies the definition of public health law and notes that it should be seen broadly as the authority and responsibility of the government to ensure the conditions for the public's health. He lists questions that are important in public health law: "What is the health status of the population (gathered through surveillance)? What broad societal measures can prevent injury and disease and promote the public's health? And what detrimental effects will government action have on personal and proprietary interests?"

**Hecht, F. M., M. A. Chesney, J. S. Lehman, et al. (2000). Does HIV reporting by name deter testing? MESH Study Group. AIDS 14(12): 1801-8.**

**Type:** Cross-sectional anonymous survey, convenience sample

**Background:** AIDS has been a reportable condition in the US since it was recognized in 1981. However, name-based HIV reporting is controversial because of concerns that it may compromise privacy, deter high-risk persons from being tested or become the basis of discrimination. The authors conducted the HIV Testing Survey (HITS) to assess knowledge of state HIV reporting policies and to determine whether persons at risk of HIV infection had delayed or avoided testing because of it.

**Methods:** HITS was an anonymous cross-sectional survey conducted in the US. Interviews were conducted with 2404 participants in one of three high-risk groups: men who have sex with men (MSM), heterosexuals attending a sexually transmitted disease (STD) clinic, and street-recruited injection drug users (IDU) were conducted. Participants were asked standardized questions about their knowledge of reporting policies and reasons for having delayed or avoided testing. Recruitment was done in eight US states, four with name-based reporting and four without; all offered anonymous testing at certain sites.

**Findings/Discussion:** The results of the cross-sectional survey showed that fewer than 25% of persons correctly identified their state's HIV reporting policy. Over 50% stated they did not know whether their state used name-based reporting. Of the total, 480 participants (20%) had never been tested. Of these, 17% from states with name-based reporting selected concern about reporting as a reason for not testing compared with 14% from states without name-based reporting ( $P = 0.5$ ). Comparing previously tested participants from states with name-based reporting to those from states without, concern about HIV reporting was given as a reason for delaying testing by 26% compared with 13% of IDU ( $P < 0.001$ ), and for 26% compared with 19% of MSM ( $P = 0.06$ ).

Knowledge of state HIV reporting policies was low among survey participants. Despite the controversy about reporting policies, this finding suggests that reporting policies are not a central factor in HIV testing decisions among most at-risk persons. Although MSM were more likely than other participants to know the state policy, only one-fourth knew the policy. Even in states with name-based reporting, anonymous testing is offered at specific sites. Home HIV test collection kits also offer the option of anonymous testing. Name-based reporting policies do not appear to be a major deterrent to HIV testing among the populations studied.

**Langner, B. E. (2001). Public policy: unintended consequences: an inherent risk in health policy development. J Prof Nurs 17(2): 69-70.**

**Type:** Editorial

**Background:** The author comments on the federal regulations governing patient privacy, Standards for Privacy of Individually Identifiable Health Information, which were released in December 2000.

**Methods:** In this editorial discussion, the author urges nurses to be attentive to federal initiatives and their consequences.

**Findings/Discussion:** The author reviews the contentious provisions of the privacy regulations. These include state law preemption and civil and criminal penalties for misuse of personal health information by covered entities. She also urges nurses to be more involved in policy advocacy because decisions may have a pervasive impacting nurses' ability to deliver care and professional satisfaction.

**Lazzarini, Z. and R. Klitzman (2002). HIV and the law: integrating law, policy, and social epidemiology. J Law Med Ethics 30(4): 533-47.**

**Type:** Discussion and case study

**Background:** Using a case study of HIV infection, the authors illustrate the ways in which laws and legal institutions affect the course of the pandemic as well as the course of an individual's vulnerability or resilience to the disease. They examine the epidemiology of HIV infection from the perspective of the law, including common analyses of risk behavior, age, gender, incidence and prevalence as well as social determinants such as socioeconomic status, education, race, and social cohesion and capital. The authors consider how laws in the US could act as pathways or mechanisms by which social determinants affect HIV risk and resilience. They then address the role of the law in shaping the determinants themselves. Lastly, they explore policy options and research questions that will enhance the use of law/policy as a structural intervention.

**Findings/Discussion:** Through observation of existing laws, the authors enumerate the ways in which laws affect behavior. Laws affect accessibility of health care services, create duties for health care providers, direct the use of information to target services or interventions, punish prohibited acts, interpret community norms, establish criteria for health education, or control access to means of prevention. These laws may affect an individual's behavior through deterrence, norm setting or incapacitation. Law and policy shape resources linked to social determinants of housing and education as well as income inequality, race/racism and social cohesion/human capital.

In examining the use of laws as structural interventions, the authors cite several examples of positive and negative impacts on HIV risk and resilience including improving access to care and therapy, eliminating mandatory sentencing to avoid incarceration, promoting mixed housing with access to public transportation, and changes in drug control laws and law enforcement practices to decrease stigmatization. They also note that the ultimate efficacy of laws relies on their implementation and enforcement and suggest the need for research and joint efforts of scientists and law and policy makers. We must be able to know that the laws which affect health agencies and individuals produce desired outcomes and minimize unintended negative consequences.

**Lazzarini, Z. and L. Rosales (2002). Legal issues concerning public health efforts to reduce perinatal HIV transmission. Yale J Health Policy Law Ethics 3(1): 67-98.**

**Type:** Policy analysis with recommendations

**Background:** Perinatal transmission of HIV/AIDS may affect as many as eight hundred thousand children a year in the absence of effective maternal treatment. However, effective therapy exists. Antiretroviral therapy taken by the mother during pregnancy and delivery, and by the child after birth, can greatly reduce the risk of HIV transmission. The authors examine the legal issues related to the reduction of perinatal HIV transmission in the United States including recommendations, policies, and laws regarding the testing, counseling and treatment of HIV-positive pregnant women and the legal challenges to these laws. The authors conclude with recommendations concerning state legal interventions to reduce perinatal HIV transmission. They suggest that a carefully crafted policy of routine testing that incorporates informed consent is key.

**Methods:** Review and discussion

**Findings/Discussion:** The authors review US policy development by governmental agencies (especially CDC), Congress (notably the Ryan White CARE Act), and the Institute of Medicine (*Reducing the Odds: Preventing Perinatal Transmission of HIV in the United States*, 1999) and

state statutes regarding HIV testing. They also review the statements from several professional associations regarding HIV testing.

At a state level, much attention has been focused on laws related to testing and on the manner of testing (e.g., voluntary, mandatory, or routine). Ethical questions of balancing the benefits of HIV testing during pregnancy without reducing women's autonomy have been debated. Concerns over fetal welfare and advances in antiretroviral treatment and success have shifted the autonomy/beneficence debate in favor of increased HIV testing. The authors review state statutes and suggest that the problems arising from routine testing with an opportunity to "opt out" might be solved by a more effective "opt-in" method. This express-permission requirement has an advantage of engaging the woman in her health care and assures an educational opportunity.

They suggest that a comprehensive perinatal HIV transmission policy should strive to change the behavior of health care professionals, incorporating mechanisms for training health care workers to provide effective HIV education and counseling to pregnant patients, incorporating education, counseling, and testing of pregnant women as performance measures and reimbursing physicians, nurses, and midwives who spend time educating and counseling pregnant women. Public education campaigns for pregnant women should raise awareness of the benefits prenatal care including HIV testing as early as possible in the pregnancy. They recommend making HIV testing "routine", by assuring that the test is available to all women at every stage of pregnancy, ensuring that all pregnant women know they should be tested, and providing adequate prenatal care for all women before changing or eliminating the requirement of informed consent.

**Lee, P. R. (1999). Socioeconomic status and health. Policy implications in research, public health, and medical care. *Ann N Y Acad Sci* 896: 294-301.**

**Type:** Discussion of public policy role in research, public health, and medical care

**Background:** The author explores the role of public policy in research, public health, and medical care and discusses the extent to which public policy has been informed by increased knowledge about the relationship between socioeconomic status (SES) and health and to what extent policy has affected SES-related health disparities.

**Methods:** In this review of policy and literature, the author discusses the relationship between policies and improvements in health and concludes with observations related to research policies, public health investments, and medical care expenditures.

**Findings/Discussion:** The author begins with a list of the "major convulsions" in the US since 1900, a list which includes wars, urbanization, immigration, tax cuts and economic expansion. He notes that it is difficult to sort out which policies, especially at the federal level, have had an impact on population health, particularly in narrowing the disparities of health status related to socioeconomic status. He parallels a list of the great public health achievements of the 20th century (e.g. vaccination, healthier mother and babies, fluoridation, safer workplaces) with a list of problems including infectious diseases, antibiotic resistance, chronic illness and problems with a strong social component like family violence and substance abuse.

While relating policies related to medical care over the past 50 plus years, he notes that medical care "is where the money is" but that while benefiting some individuals in survival and quality of life, it has contributed relatively little to overall improvement in population health status. He concludes by observing that public health investment, both regulatory policies and infrastructure support to deal with determinants of health, are of critical importance. He also observes that medical care expenditures will likely increase, thereby limiting funds for investment in other areas such as early childhood development that may deliver more benefit in population health.

**Lurie, P., S. Miller, F. Hecht, et al. (1998). Postexposure prophylaxis after nonoccupational HIV exposure: clinical, ethical, and policy considerations. *JAMA* 280(20): 1769-73.**

**Type:** Recommendations for clinical practice

**Background:** Following breakthroughs in antiviral therapies and Centers for Disease Control and Prevention (CDC) recommendations advocating occupational postexposure prophylaxis (PEP), the issue of PEP following exposure to the human immunodeficiency virus (HIV) through sex and injection drug use is under debate. There are no guidelines for PEP after this type of nonoccupational exposure although this mode of HIV transmission is far more frequent than occupational exposure.

**Methods:** In this literature and policy review, the authors present a framework for assessing the risk of transmission and develop criteria for recommending PEP for nonoccupational exposures. The article focuses on deciding in which situations and setting to recommend PEP. (Note: Since the article was accepted for publication, the CDC has published two documents relevant to both occupational and nonoccupational PEP)

**Findings/Discussion:** Their risk assessment for transmission after nonoccupational exposure incorporates frequency of exposure, probability that the source is HIV positive and probability of transmission if the source is HIV positive. This forms a conceptual framework for considering PEP for a patient who reports sexual or needle-sharing exposure to HIV. They also enumerate concerns about PEP including potential conflicts with behavioral HIV risk reduction strategies, a clinician's ethical responsibilities when faced with behaviors considered unacceptable, lack of timely access to PAP, and adherence, resistance and economic considerations. The authors suggest that clinicians, using local HIV seroprevalence data and their knowledge of transmission probabilities, can help exposed patients make an informed decision regarding PEP. They note that a large number of risky encounters will not be treated prophylactically, even after significant outreach efforts, so public health interventions that emphasize PEP as part of a comprehensive HIV prevention program should be confined to cities with highest HIV prevalence.

**Lurie, P. and S. M. Wolfe (1999). Science, ethics, and future of research into maternal-infant transmission of HIV-1. Lancet 353(9167): 1878-9; discussion 1880.**

**Type:** Letter to the editor

**Background:** Lurie and Wolfe comment on the consensus statement on perinatal HIV prevention trials published in Lancet, March 6, 1999.

**Methods:** In a letter to the editor, the authors respond to the "so-called consensus statement" on perinatal HIV prevention trials from a consensus development conference titled Perinatal HIV Intervention Research in Developing Countries Workshop.

**Findings/Discussion:** The authors argue that the consensus statement attempts to undermine existing protections for human trial participants, especially the rights of participants from developing countries. They further argue that the statement ignores evidence showing the effectiveness of zidovudine in reducing perinatal HIV transmission. In other documents (UNAIDS vaccine trial draft and a draft Helsinki revision) the authors argue that trial participants in poor countries could be consigned to second-class treatment on the basis of their poverty. They conclude that protection for human beings must be strengthened as research is increasingly globalized.

**McGinnis, M. J., P. Williams-Russo and J. R. Knickman (2002). The case for more active policy attention to health promotion. To succeed, we need leadership that informs and motivates, economic incentives that encourage change, and science that moves the frontiers. Health Aff (Millwood) 21(2): 78-93.**

**Type:** Policy discussion

**Background:** US health policy and health spending have been dominated by a focus on payment for medical treatment. Only recently, events have shifted focus to preparedness in the public health infrastructure. The fact that many of the conditions driving the need for treatment are preventable ought to draw attention to policy opportunities for promoting health. As much as 95% of health spending goes to direct medical care services while just 5% is allocated to population wide approaches to health improvement.

**Methods:** The authors discuss questions related to allocation of health dollars for prevention and the types of public policy interventions which might be successful. They also provide an overview of social and behavioral research on the nonmedical determinants of health.

**Findings/Discussion:** The leading determinants of population health are in five domains: genetic predispositions, social circumstances, environmental conditions, behavioral patterns, and access to and quality of medical care.

There is clear evidence emerging that health-promoting structural and behavioral interventions work. However the real-world struggles are numerous. The cost-effectiveness of population health promotion interventions is less clear, perhaps because of the expectation of evidence that future savings in health and social costs will offset the investments in prevention. Prevention interventions themselves are potentially more complex than medical care prevention because they tackle multiple, upstream causes of disease. Additionally, interest group dynamics may favor research and treatment for specific diseases rather than long-term prevention and health promotion. Prevention initiatives depend on policy changes outside the traditional health policy world, (e.g., excise taxes, zoning regulation). Social preferences for medical care over individual behavioral change must be explored to determine what social factors predispose people to choose health-threatening behavior.

Despite these barriers to policy attention and resource commitment to the nonmedical determinants of population health, there have been successful health promotion investments at the state and national level (e.g., auto safety, tobacco use, the national Healthy People initiative). The key elements of public policy attention to health promotion include leadership that informs and motivates, economic incentives that encourage and facilitate change, and improvement of the science base. Scientific advances may improve targeting of vulnerable groups, stripping away the anonymity of the problems. New models for policy development and implementation will also help. Medical care payment policy and other financial incentives can reward health-promoting efforts and behavior. New linkages between elements of the social service system and innovative models for community planning can enhance the health of individuals and communities.

**Parece, M. S., G. A. Herrera, R. F. Voigt, et al. (1999). STD testing policies and practices in U.S. city and county jails. *Sex Transm Dis* 26(8): 431-7.**

**Type:** Survey and analysis

**Background:** Sexually transmitted disease (STD) rates are high in both women and men in the incarcerated population. Because of the high morbidity, correctional facilities have been recognized as effective sites to improve public health through STD control. A 1997 IOM report recommended STD services in prisons, jails and juvenile facilities but little is known about nationwide STD testing policies or practices in jails. The authors conducted a national survey to describe testing policies in a sample of US city and county jails.

**Methods:** The Division of STD Prevention developed and distributed an e-mail survey to 94 counties reporting more than 40 primary and secondary cases in 1996 or having cities with more than 200,000 persons. The survey included questions regarding STD testing and treatment policies and practices, level of STD training, use of STD screening and treatment guidelines, inmate demographics, and facility characteristics. State and local STD program managers completed the assessment in collaboration with health departments and the main jail facilities in the selected counties.

**Findings/Discussion:** Most facilities (52-77%) had a policy for STD screening based only on symptoms or by arrestee request, and in these facilities, 0.2% to 6% of arrestees were tested. Facilities having a policy of offering routine testing tested only 3% to 45% of arrestees. Large facilities, facilities using public providers, and facilities routinely testing for syphilis using Stat RPR tested significantly more arrestees ( $P < 0.05$ ). Approximately half of the arrestees were released within 48 hours after intake, whereas 45% of facilities did not have STD testing results until after 48 hours.

The survey data shows that most facilities had a policy for STD screening based only on symptoms or by arrestee request. Less than half of the facilities had a policy of offering routine syphilis testing and less than one-fourth offered routine chlamydia or gonorrhea. In fact, some facilities actually had policies not to offer gonorrhea or chlamydia testing under any

circumstances. Even facilities having a policy of routine STD testing were not testing most of the arrestees. There is a small window (<48 hours) for STD testing and treatment before release. Unfortunately, test results are often not received within 48 hours and follow-up with this population is difficult.

Testing at intake and quick test laboratory turnaround is crucial to optimize STD control efforts in jail populations. Smaller jails and facilities using private providers may need additional resources to increase STD testing levels. Numerous opportunities for collaboration between health departments, jails and private health care providers exist: providing STD training for correctional health care staff, improving STD surveillance to capture jail-based morbidity, assuring STD testing treatment and counseling for arrestees, and developing STD education programs or behavioral interventions.

**Parker, R. (2002). The global HIV/AIDS pandemic, structural inequalities and the politics of international health. *Am J Public Health* 92(3): 343-6.**

**Type:** Discussion

**Findings/Discussion:** In the third decade of the HIV/AIDS epidemic, advances have led to new therapies, the transformation of AIDS into a chronic but manageable disease, legal and official sanctions against discrimination and human rights violations, and mainstreamed programmatic responses in the US and many developed countries. However, the picture in many areas of the US and the world still highlights the ravages of the epidemic in the most marginalized sectors of society where people live in situations characterized by diverse forms of structural violence including poverty, racism, gender inequality and sexual oppression.

The author discusses the relationship between HIV/AIDS and social and economic development and the international responses to the epidemic. Specifically, he discusses the involvement of the World Bank, UNAIDS and the United Nations Global Fund to Fight AIDS, Tuberculosis and Malaria. He urges ongoing commitment to these initiatives for understanding the social and economic processes even in the face of world events which threaten to redirect resources to security concerns.

**Parmet, W. E. and R. A. Daynard (2000). The new public health litigation. *Annu Rev Public Health* 21: 437-54.**

**Type:** Policy discussion

**Background:** In recent years litigation has increasingly been used as a public health tool in policies related to tobacco, gun violence, and lead paint as well as in ensuring access to health care for individuals infected with HIV.

**Methods:** In this literature and policy review, the authors discuss the development of litigation as a public health tool and the criticism that can be leveled at using litigation to develop public health policy. They survey the new public health litigation and discuss what these litigation cases can and cannot achieve.

**Findings/Discussion:** The authors characterize the cases in new public health litigation into four types which may mix public and private plaintiffs and public and private defendants. For example, cases may be brought by individuals or government agencies and may be brought against government officials (seeking to change public policy or to enforce existing regulations) or against private parties.

The authors state that there is a dearth of empirical evidence in the literature showing efficacy of using public health litigation to actually improve the public health. In a discussion of the literature, the authors enumerate several categories including law reform litigation and product liability litigation. Focusing on HIV, the author quotes Burris who cautioned that the law has limited ability to reduce HIV's social stigma and its attendant public health problems. The authors further discuss public health litigation related to democratic theory and the nature of rights. The authors conclude that while litigation may not always be successful, it may have a deterrent effect on individuals or organizations that create risks to public health and may aid in the articulation and recognition of individual rights.

**Philpott, A., D. Maher, et al. (2002). Translating HIV/AIDS research findings into policy: lessons from a case study of 'the Mwanza trial'. Health Policy Plan 17(2): 196-201.**

**Type:** Review of a policy analysis case study

**Background:** The relationship between researchers and policy-makers and the transfer of research into policy is often misunderstood but rarely analyzed. The authors use a success story of an HIV/AIDS clinical trial, 'the Mwanza trial', to illustrate lessons for HIV/AIDS researchers.

**Methods:** Results of the Mwanza clinical trial were published in 1995. The authors conducted 10 interviews in 1999 with interviewees recruited systematically from policy-makers from DIFID, researchers closely involved with the planning and the implementation of the trial or health policy researchers and independent consultants who had worked for international agencies or for a donor organization. There was a particular focus on British researchers and British aid policy.

**Findings/Discussion:** From the interviewees' perceptions, three key findings emerged as to how and why the Mwanza trial had such a significant policy impact: 1) the policy environment was favorable, 2) the researchers and policy-makers formed strategic alliances for policy shift, and 3) it was possible to present the data in an easily understandable form. The interviewees, both researchers and policy-makers, suggested that the policy shift was a cumulative but non-linear process, with the Mwanza trial placing a crucial role in both boosting and confirming existing policy movements. Key moments of communication generally involved personal contact. The multiple donors and research partners enabled communication and led to broad ownership of the results. Another major theme was cross-boundary interest, whereby a policy-maker may have had a previous research interest in this area of work. The Mwanza trial demonstrated a clear relationship between sexually transmitted infections intervention and a reduction of HIV transmission at the population level. The trial data was easy to show and digest.

The case study of the Mwanza trial led to lessons which may be of relevance for other researchers who are concerned that their studies have policy impact. These include researcher awareness of the policy environment, early and strategic alliances between researchers and those with an interest in policy implications, and presentation of easily digestible data.

**Reynolds, C. (2003). Public health law in the new century. J Law Med 10(4): 435-41.**

#### **Author abstract**

Public health law is a broad and sometimes nebulous field which has undergone extensive reform and rethinking over the past decade. This article provides a survey of current issues in public health law, highlighting these reforms and the potential for public health legislation to deal with upcoming threats, notably bioterrorism. While recognising the anxieties bioterrorism brings, public health responses must be grounded in a coherent philosophy of risk management. Its administrators must also be aware that large-scale threats to public health are not unprecedented and that past experience can provide an important guide for future strategies.

**Robinson, L. O. (2003). Sex offender management: the public policy challenges. Ann N Y Acad Sci 989: 1-7.**

**Type:** Discussion

**Background:** Sex offending is one of the most volatile issues in the crime policy arena but rational, informed policy is difficult because of a "knowledge gap" between research, science, and clinical practice on one side and the policy and criminal justice practitioner communities on the other.

**Findings/Discussion:** Highly publicized sex offending cases capture the attention of the public and are windows of opportunity for experts in the field to inform the debate with what is known from science and clinical practice about sex offending and about what works in addressing it. The author describes six challenges that need attention from academics, researchers, clinicians and other experts in this field: 1) the issue of education, communication and translation; 2) enhancing cross-disciplinary collaboration; 3) ensuring strong federal leadership; 4) reintegrating prisoners into the community; 5) ensuring that victim groups are part of the policy development process; and 6) examining the potential for unintended consequences.

**Spaulding, A., R. B. Lubelczyk and T. Flanigan (2001). Can unsafe sex behind bars be barred? Am J Public Health 91(8): 1176-7.**

**Type:** Editorial

**Background:** The authors describe a syphilis outbreak in an Alabama prison system which is detailed by Wolfe in this issue (Wolfe, 20021, AJPH) and discuss tailoring effective prevention strategies for STDs and HIV to the correctional setting instead of assuming that what works in the community will work in correctional settings.

**Methods:** In this editorial, the authors discuss Wolfe's findings and stress the need for effective interventions to reduce the transmission of STDs in correctional settings. They also advocate collaboration between public health workers and correctional health care providers and administrators.

**Findings/Discussion:** The authors point out that sex in the community is likely to be consensual while sex in prison may be consensual or coercive. Structural interventions such as better lighting, better shower and sleeping arrangements and improved supervision may reduce unwelcome, nonconsensual sexual activity. Few US correctional facilities allow condom distribution because of the potential to transport drugs in condoms and the possible interpretation of condoning sexual activity. However, no jurisdiction that allows condoms has reversed its decision. The authors recommend a collaboration of public health and correctional health care providers and administrators to develop, pilot test and implement effective interventions, institute routine screening and rapid treatment for STDs and improve education and prevention programs in correctional settings.

**Teret, S. (2001). Policy and science: should epidemiologists comment on the policy implications of their research? Epidemiology 12(4): 374-5.**

**Type:** Policy review

**Background:** Professor Teret weighs in on the debate on whether epidemiologists should be encouraged or discouraged from discussing the policy implications of their research. He argues that health policy should be informed by scientists and that scientists should not be proscribed from discussing the policy implications of their work.

**Methods:** The author argues that epidemiologists must make a bridge between their scientific findings and policies that would best reduce the incidence of diseases or injuries. He cites examples from the literature of epidemiology and policy to support his position.

**Findings/Discussion:** He uses the issue of gun control as an example of a positive bridge between science and policy for the benefit of the public. In 1987, Dr. Garen Wintemute aggregated gun death data that previously had been compartmentalized into mental health, law enforcement and criminology with unintentional injuries largely ignored. In reporting on the epidemiology, Wintemute discussed design changes that might make firearms less lethal and less concealable. This opinion, coming from scientists, launched a sea-change in policy discussions and social norms. In a second example, he cites the work of injury epidemiologist S.P. Baker (Pediatrics, 1979) who published data on the high death rate of infants involved in motor vehicle crashes. Baker and other authors called for child restraint device legislation which was passed in every state following these articles.

Teret suggests a scientific study to dispel the warning that scientists who engage in policy discussion lose their credibility. Lastly, he suggests that health policy has a role in accomplishing the goals of reducing diseases and injuries and enhancing health for populations. If epidemiologists can inform policy makers, their voices should not be silenced by editorial policy.

**Valdiserri, R. O. (2002). HIV/AIDS stigma: an impediment to public health. Am J Public Health 92(3): 341-2.**

**Type:** Editorial

**Background:** From leprosy to cholera to syphilis, diseases through history have been stigmatized. As reported by Herek and colleagues (Herek, *AJPH*, 2002), HIV/AIDS stigma, fear,

negativity and judgmental attitudes have decreased but are not gone. The author point out that stigma can risk the success of effective HIV prevention and care programs. One of the mechanisms by which stigma influences prevention was explored by Stokes and Peterson who found compelling evidence that internalized negative attitudes about homophobia may have lead to lowered self-esteem and increased risk behavior. The attitudes and responsiveness of HIV testing services can also influence a client's likelihood of using the services. In this way too, stigma can affect prevention and care efforts since treatment can only begin with diagnosis.

**Methods:** In an editorial discussion of Herek's article and other research, the author stresses the importance of nonthreatening, nonjudgmental and responsive HIV testing services that reflect the needs and preferences of the groups for whom they are intended.

**Findings/Discussion:** The author urges public health practitioners to confront the negative impact of HIV/AIDS stigma through education about how HIV is and is not transmitted, ensuring that HIV programs are not inadvertently stigmatizing and continuing to support research on intervention, program operations, and policy formulation.

## Systems Integration

*Articles describe integration of HIV prevention into HIV care, STD treatment, family planning, managed care, and other healthcare systems.*

**Fleming, D. T. and J. N. Wasserheit (1999). From epidemiological synergy to public health policy and practice: the contribution of other sexually transmitted diseases to sexual transmission of HIV infection. Sex Transm Infect 75(1): 3-17.**

**Type:** Literature review and analysis

**Background:** The authors reviewed the scientific data on the role STDs play in the transmission of HIV infection. The need to translate scientific findings into sustainable preventive programs and policy is urgent against the backdrop of recent developments. These developments include easier and more effective STD screening and treatment; greater heterosexual transmission of HIV with increasing number of infections in women; and changing perceptions of the importance of maintaining safe sexual behaviors with advances in HIV therapies.

**Methods:** Articles were selected from a MEDLINE search which covered articles from January 1987 to September 1998 and yielded 2101 articles. Methods included searching for related articles by author, and combing literature reviews. In addition, all abstracts under the category "sexually transmitted diseases" from the XI and XII International Conferences on AIDS (Vancouver 1996 and Geneva 1998) and other relevant scientific meetings were reviewed. Efforts were made to locate journal articles which resulted from the research reported in the identified abstracts. All original journal articles and abstracts which met one of the following criteria were included: (1) studies of the biological plausibility or mechanism of facilitation of HIV infectiousness or susceptibility by STDs, (2) prospective cohort studies (longitudinal or nested case-control) which estimate the risk of HIV infection associated with specific STDs or STD syndromes, or (3) intervention studies which quantitate the effect which STD treatment can have on HIV incidence.

**Findings/Discussion:** There is strong evidence that both ulcerative and non-ulcerative STDs promote HIV transmission by augmenting HIV infectiousness and HIV susceptibility by a variety of biological mechanisms. These effects are reflected in the risk estimates found in prospective studies from four continents which range from 2.0 to 23.5, with most clustering between 2 and 5. The relative importance of ulcerative and non-ulcerative STDs appears to be complex. Owing to the greater frequency of non-ulcerative STDs in many populations, these infections may be responsible for more HIV transmission than genital ulcers. However, the limited reciprocal impact of HIV infection on non-ulcerative STDs and the evidence that non-ulcerative STDs may increase risk primarily for the receptive partner (rather than bidirectionally) may modulate the impact of these diseases. The results of two community level randomized, controlled intervention trials conducted in Africa suggest that timely provision of STD services can substantially reduce HIV incidence, but raise additional questions about the optimal way to target and implement these services to achieve the greatest effect on HIV transmission.

Analysis of the scientific data in this large-scale literature review strongly suggests that STDs facilitate HIV transmission through direct, biological mechanisms and that early STD treatment should be part of a high quality, comprehensive HIV prevention strategy. Initial implementation efforts should focus on three key areas: (1) improving access to and quality of STD clinical services; (2) promoting early and effective STD related healthcare behaviours; and (3) establishing surveillance systems to monitor STD and HIV trends and their interrelations. To promote early and effective STD related healthcare behaviors, risk reduction messages which focus on sexual behaviors should include these critical messages: 1) STDs facilitate the spread of HIV infection, thus detecting and treating STDs is an HIV prevention strategy; 2) recognizing and acting on STD symptoms is important; and 3) where screening is feasible, it should be done regularly because most STDs are asymptomatic.

**Meyerson, B., B. C. Chu, et al. (2003). State agency policy and program coordination in response to the co-occurrence of HIV, chemical dependency, and mental illness. Public Health Rep 118(5): 408-14.**

**Type:** Data and survey review

**Background:** The co-occurrence of HIV, chemical dependency, and mental illness demands flexible and coordinated federal and state level health policy and financing for public health services. The role of coordinated state agencies is crucial as they may provide the safety net for many populations. The authors undertook this review to determine the degree to which state agencies coordinate policies and programs for the co-morbidities of HIV infection, substance abuse/chemical dependency, and mental health.

**Methods:** The authors compared three separate Substance Abuse and Mental Health Services Administration (SAMHSA) surveys conducted among state substance abuse directors, state AIDS directors, and state mental health directors between 1998 and 2000. The three surveys were developed at different times, by different organizations, for different survey organizations. The surveys provided important but distinct measures of state HIV, mental health and substance abuse agency coordination. Several variables were selected for comparison including written agreements, joint planning and initiatives, funding coordination, and information-sharing. Data from 38 states were reviewed.

**Findings/Discussion:** The most frequently reported state agency activity was coordination of funding in 31.6% of states. Staff cross-training and integrative planning activities (e.g., soliciting input by the substance abuse agency for the development of grants or plans) were the next most frequent coordinated activities.

When compared for association with state characteristics, coordination among state agencies was found to be associated with Early Intervention Services (EIS) designation, higher rates of AIDS generally, higher rates of AIDS among African Americans and Hispanic populations, and substance abuse block grants funding level.

Given the limitations of the research design of comparing three disparate surveys conducted at different times with low level of agreement, the findings were judged to be conservative and preliminary. Studying the extant data sets produced an understanding of state-level coordination among HIV, substance abuse and mental health agencies and highlighted the need to survey all directors simultaneously.

**Patt, M. R. (2003). Prevention is treatment: prevention with positives in clinical care. HRSA Care Action: 1-8. March 2003.**

**Type:** Discussion and program review

**Findings/Discussion:** With 40,000 new HIV infections occurring each year, the author states that growing prevalence of HIV means that each behavior of an HIV-negative person carries more and more risk and argues that the need for prevention interventions among persons living with HIV is more important than ever. The goal of prevention among positives is both to reduce the spread of HIV and other consequences of risky behavior and to prevent exposure to opportunistic infections.

The HIV/AIDS Bureau of the Health Resources and Services Administration has made prevention with positives a priority. Programs such as the Ryan White Comprehensive AIDS Resources Emergency (CARE) Act's Special Projects of National Significance (SPNS) model the delivery of preventive services in the clinical setting. The barriers to implementing prevention with positives programs can be grouped into client-related barriers, provider-related barriers and system-related factors. Client-related barriers may be related to stigma, treatment optimism, prevention burnout, changing demographics and co-morbidities. Provider-related barriers occur because providers may lack both the time and training to offer adequate prevention services to HIV positive persons. The most obvious system-related barrier in the US health care system is the separation of prevention and care and the resulting lack of coordination between providers of prevention and care services. The author outlines several US government initiatives, an NIH and IOM report, and professional guidelines with goals and recommendations for making prevention with positives a routine part of HIV management. Goals to improve prevention efforts for HIV-positive persons in clinical care from the provider, funding and structural perspective are outlined. These include training and tools for providers, integration of services, full understanding of reimbursement options for prevention activities and a protocol for establishing successful prevention services that includes HIV-positive persons in developing and evaluating models.

**Schauffler, H. H. (1999). Policy tools for building health education and preventive counseling into managed care. *Am J Prev Med* 17(4): 309-14.**

**Type:** Data analysis and policy discussion

**Background:** The author presents six policy tools for building health education and preventive counseling into managed care and describes the opportunities and barriers to implementation based largely on managed care plans operating in California in 1998.

**Methods:** Data was collected as part of the Health Insurance Policy Program, the California Behavioral Risk Factor Survey and other sources. For each of the six policy tools, the author describes the policy option, provides examples of current practice and discusses problems and limitations associated with the adoption of each policy.

**Findings/Discussion:** The six policy tools are (1) covering health education and preventive counseling as defined benefits, (2) increasing access to and use of health promotion programs, (3) incorporating health education into disease-management programs, (4) defining quality performance measures for health education and preventive counseling, (5) defining performance targets and guarantees for health education and preventive counseling to hold health plans accountable for providing these services, and (6) building collaboration between public health agencies and managed care on public health education and health promotion.

The obstacles for integrating health education and preventive counseling into managed care include additional provider training, implementation of information and reminder systems and the development of financial incentives for providing counseling. The author acknowledges that more research is needed to determine the relative costs and effectiveness of these approaches for integrating health education and prevention counseling in managed care to increase access to and utilization of these services.

**Voelker, R. (2003). Detecting acute HIV infections feasible, North Carolina program demonstrates. *JAMA* 289(20): 2633-4.**

**Type:** Review

**Findings/Discussion:** North Carolina is the first state to implement an RNA screening program to detect acute HIV infections. Conventional HIV testing detects anti-HIV antibodies in the blood formed by the body weeks after infection; RNA screening detects the presence of the virus itself. The Screening and Tracing Active Transmission (STAT) program began after pilot testing showed that the addition of RNA screening to conventional antibody testing increased diagnostic yield by 10%.

The detection of new infections is very important because the burst of viral activity in a newly-infected person makes those with new infections more likely to transmit HIV than individuals with chronic infections. RNA testing is the method blood banks use to screen donor

blood for infectious agents but the FDA has not licensed the RNA test as a diagnostic procedure. North Carolina's STAT program is a valuable approach in stemming HIV transmission but the sensitivity and specificity of the RNA testing is a concern, as is the cost. Other concerns to be addressed are its efficacy in a high-prevalence population, the need for a centralized laboratory and whether test results and medical care can be delivered quickly enough to reap the benefits of detecting acute infection.

**Voelker, R. (2003). As AIDS cases increase, health experts warn against missed prevention opportunities. JAMA 290(10): 1304-6.**

**Type:** Meeting report

**Findings/Discussion:** A key theme of the 2003 National HIV Prevention Conference was a "do ask, do tell" relationship between physicians and HIV-infected patients. According to CDC figures, new AIDS cases and new HIV infections are rising in some categories. The CDC released new recommendations in 2003 for a detailed risk assessment advising physicians to ask their HIV-infected patients specific questions about their risk behaviors for transmitting HIV or becoming reinfected.

Dr. Mark Thrun of the Denver Public Health Department spoke to the theme of missed opportunities. Dr. Thrun's realization of missed communication with HIV-positive patients came when he realized that male patients with HIV infection were also being treated for other sexually transmitted diseases in a separate STD clinic. Thrun and his colleagues attended a workshop on discussing HIV risk behavior with patients followed by brief annual "booster" sessions. Following this education, the proportion of health care workers who asked patients about current risk behaviors and the numbers who said they felt comfortable doing so both rose.

Speakers also noted that the concept of prevention for positives is not well understood and that lack of time and funding are major concerns. Mid-July 2003 guidelines from the CDC were released to help physicians and other health care workers incorporate HIV prevention into medical care for HIV-positive persons. Key aspects of the guidelines include screening for risk behavior, delivering prevention advice and counseling partners.

## **Populations/Settings/Approaches**

### **Populations/Settings/Approaches: Corrections**

*Articles explore reducing risk and transmission within correctional settings.*

**Braithwaite, R. L. and K. R. Arriola (2003). Male prisoners and HIV prevention: a call for action ignored. Am J Public Health 93(5): 759-63.**

**Type:** Review with policy recommendations

**Background:** US prison inmates are disproportionately indigent young men of color, severely affected by HIV/AIDS, largely owing to the high-risk behavior that they engage in prior to incarceration. The period of incarceration is a unique opportunity to implement HIV prevention and risk reduction programs in prisons.

**Findings/Discussion:** The authors review city and state projects funded by the Corrections Demonstration Project of the Centers for Disease Control and Prevention and the Health Resources and Services Administration to provide HIV prevention/peer education programs in prisons, jails and juvenile and transitional facilities. The authors recommend several risk reduction policy initiatives including adoption of mandatory HIV testing by state prison systems even though it runs counter to WHO's support of voluntary testing, reinforcing continuity of care for HIV-infected inmates returning to the community, and improving access to incarcerated populations for community-based organizations and AIDS service organizations for delivery of HIV/AIDS education and prevention programs.

**Dolan, K., S. Rutter, et al. (2003). Prison-based syringe exchange programmes: a review of international research and development. *Addiction* 98(2): 153-8.**

**Type:** Literature review

**Background:** Needle and syringe programs can reduce the spread of HIV among injecting drug users but implementation of prison-based syringe exchange (PSE) programs has lagged. This is important because risks for high numbers of blood-borne viral infections in prison include scarcity of injecting equipment, higher prevalence of syringe sharing and rapid turnover of prison populations.

**Methods:** The authors collated information on prison needle and syringe programs. They identified journal publications and conference presentations by a comprehensive search of electronic databases and contacted experts involved with development and evaluation of current PSE programs or policy.

**Findings/Discussion:** As of December 2000, the authors identified 14 papers on PSE programs in Switzerland, Germany and Spain. The authors found seven PSEs were operating in Switzerland, seven in Germany and five in Spain. The first PSE program started in 1992 in Switzerland. The Swiss system operates either via the prison doctor or via an automatic distribution machine. In Germany, the first documented consideration of PSE was in 1994. Protocols included automatic dispensers and distribution through counseling staff. Five programs in Spain were implemented in collaboration with regional health authorities. Kits with a syringe, alcohol swabs and water were supplied and distributed by local NGOs. Plans for expansion incorporate prerequisites of a significant number of IDUs, a needs assessment and anonymity for the participants.

This review of 19 syringe exchange programs in prisons demonstrated that they are feasible and provide benefit in the reduction of risk behaviour and the transmission of blood-borne infection without unintended negative consequences.

**Dolan, K. A., A. D. Wodak and W. D. Hall (1998). A bleach program for inmates in NSW: an HIV prevention strategy. *Aust N Z J Public Health* 22(7): 838-40.**

**Type:** Small study/questionnaire with financial incentive

**Background:** Syringe cleaning guidelines for injecting drug users require injecting equipment to be soaked in bleach for at least 30 seconds in addition to being flushed with water several times. Disinfectants have been available from prison clinical staff, prison officers and other inmates on request and free of charge in NSW prisons since 1990. The authors examine the efforts by IDUs in New South Wales prisons to adopt the revised guidelines in 1994.

**Methods:** Consecutive inmates (229) nearing release were visited and asked to call a toll free number for an interview once released. Questionnaires covered demographic characteristics, awareness of policy on bleach provision, ease of access to disinfectants, and IDU sharing partners.

**Findings/Discussion:** Respondents (102) did not differ from non-respondents (127). Many respondents (64%) reported injecting and many of these reported injecting (58%), sharing (48%) and syringe cleaning (46%) when last in prison. Some (23%) respondents reported adopting the revised syringe cleaning guidelines. Tattooing (38%) was reported more often than sexual activity in prison (4%).

Of the 50 inmates who had attempted to obtain disinfectants, 56% reported having easy access to at least one type of disinfectant but the main factor which impeded access was that they were simply unavailable in prison. Some respondents reported that prison officers were reluctant to provide disinfectants, or that they were searched or had their names recorded when they requested disinfectants.

This study highlighted a number of shortcomings in the bleach program in NSW prisons. Access to bleach was difficult for some inmates and the effectiveness of bleach to limit transmission of Hepatitis B and C from injecting equipment is not known. The potential for HIV to spread in prison still poses major public health challenges.

**Freudenberg, N. (2002). Adverse effects of US jail and prison policies on the health and well-being of women of color. *Am J Public Health* 92(12): 1895-9.**

**Type:** Policy review

**Background:** The rate of increase for the number of women in US jails and prisons has been higher than that of men since 1990. The author reviews the evidence of the negative impact of incarceration on the health of women of color and suggests that there is a public health rationale for correctional system policy change.

**Methods:** Literature review and discussion

**Findings/Discussion:** The author's review of data shows that women in the correctional system are more likely to be Black, young, poor and of limited formal educational attainment. Compared with other low-income women, they are also more likely to have recent and chronic substance abuse problems, HIV/AIDS, hepatitis C and other STDs, and mental health problems. To compound the intersecting social and health problems, about 70% of women in the correctional system have children younger than 18 years. Community reintegration is difficult with policies requiring public housing projects to evict families with whom a felon resides or punitive policies associated with the Personal Responsibility and Work Opportunity Reconciliation Act of 1996. These policies may lead women ex-offenders to abandon their children and families and risk homelessness.

The author identifies several promising approaches to reducing drug use, HIV risk and re-arrest and to linking to health and social services and successful community reintegration. He outlines specific roles for health professionals including forming alliances addressing alternatives to incarceration and creating programs that address the needs of women in correctional facilities. By identifying the pathways by which correctional policies damage health, researchers can identify opportunities for intervention. The author ends with a reminder that one goal of *Healthy People 2010* is eliminating the health disparities for women of color in the US. He suggests that the public health community has a mandate to join the effort to change criminal justice policies.

**Freudenberg, N. (2001). Jails, prisons, and the health of urban populations: a review of the impact of the correctional system on community health. *J Urban Health* 78(2): 214-35.**

**Type:** Review and discussion

**Background:** Incarceration rates and rate growth are higher in the US than in any other industrial democracy. Men are the largest proportion of the incarcerated but the proportion of women is increasing dramatically and at a faster rate than men. Black and Latinos are disproportionately represented as are urban populations. In short, the incarcerated population is mostly urban, minority and with a high prevalence of health problems including substance abuse, human immunodeficiency virus (HIV) and other infectious diseases, perpetration and victimization by violence, mental illness, chronic disease, and reproductive health problems.

**Methods:** The author introduces a special journal issue which explores the ecology of the correctional system within urban communities in the United States, especially as it affects health. The author discusses previous research and describes current health efforts within the system.

**Findings/Discussion:** Components of the correctional system affect urban communities directly and indirectly. Indirectly, they influence family structure, economic opportunities, political participation, and normative community values on sex, drugs, and violence. Current correctional policies also divert resources from other social needs. Correctional systems can have a direct positive effect on the health of urban populations by offering health care and health promotion in jails and prisons, by linking inmates to community services after release, and by assisting in the process of community reintegration.

The author stresses the importance of devising new strategies to improve the health of those involved in the correctional system and forging new partnerships between the criminal justice and public health systems. These strategies can help meet the objectives of *Healthy People 2010* since many of those objectives depend on reducing health disparities of low-income populations, the very group most heavily involved in the correctional system. He urges public health professionals to advocate to 1) improve health and social services for inmates, 2) emphasize community reintegration for released inmates, 3) support research and evaluation,

and 4) support alternatives to incarceration. He argues that the fundamental causes of crime and incarceration are the same as for poor health - poverty, racism, income inequality, and lack of opportunity - and that public health must reduce injustice as part of its mission.

## **Populations/Settings/Approaches: Drug Users**

*Articles describe epidemiology and/or interventions regarding injection drug use, including distribution of injection equipment and drug control policies.*

**Abdul-Quader, A., D. C. Des Jarlais, A. Chatterjee, A. E. Hirky, S. R. Friedman. (1999). Interventions for injecting drug users. in *Preventing HIV in developing countries: biomedical and behavioral approaches*. L. Gibney, R. J. DiClemente and S. H. Vermund. New York, Kluwer Academic/Plenum Publishers: 283-312.**

**Type:** Book chapter

**Background:** In the first half of the 20<sup>th</sup> century, the use of illicit drugs by injection was largely confined to America. Since then, the practice of injecting illegal psychoactive drugs has spread and there are now an estimated five million people in the world who inject illicit drugs. Injecting drug use has become a major risk factor for HIV infection and AIDS as well as other pathogens such as hepatitis B and C. Several factors have been associated with extremely rapid transmission of HIV among injecting drug users (IDUs): (1) lack of awareness of HIV/AIDS as a local threat; (2) restrictions on the availability and use of new injection equipment; (3) mechanisms for rapid, efficient mixing within the local IDU population such as sharing injecting equipment. The authors review the HIV prevention interventions that are currently available in different parts of the world. These include education of IDUs, increasing availability of clean injection equipment, decontamination of used needles and syringes, pharmacological treatment of drug addiction, outreach, HIV testing, organization of IDUs to provide service and advocacy, and social network intervention.

**Methods:** Through literature review and personal communication, the authors review HIV prevention interventions available and give specific examples of programs in countries including Vietnam, India, Nepal, Malaysia, Myanmar, China, Latin America, Argentina and Brazil. They discuss the issues related to HIV prevention, particularly in developing countries, and suggest future directions for HIV prevention.

**Findings/Discussion:** A number of HIV prevention interventions for IDUs have been successfully implemented and evaluated throughout the developed world. These include access to sterile injection equipment, needle-syringe exchange, needle decontamination, pharmacological drug use treatment for heroin addiction, and network intervention as well as prevention education outreach programs. The authors enumerate a number of crucial future directions for research and action: initiating programs in developing countries, even where HIV has not entered the ID population; formally and systematically evaluating the efficacy of prevention intervention programs in developing countries; understanding how to prevent rapid HIV transmission and the conditions where it is possible to reverse a large, high-seroprevalence HIV epidemic; and understanding interventions for preventing sexual transmission of HIV among drug users.

**Gorman, M., R. Carroll, W. Sherrell, et al. (1998). Micro-environmental issues and methamphetamine use among MSM, men who have sex with other men: implications for outreach and prevention. (abstract no. 34158). Int Conf AIDS 12: 717.**

**Author abstract**

**Issue:** High prevalence of methamphetamine use among MSM places them at high risk for HIV transmission or infection. This NIDA study identified salient environmental, behavioral contexts of drug use in relation to HIV risk behaviors and treatment issues. Other aims were to identify individual risk factors, patterns, factors relative to substance use patterns, rationales for continued use, experiences with health providers.

**Project:** A micro-environmental study of methamphetamine use among MSM in the Northwest United States. Focus groups and in-depth semi-structured ethnographic interviews, were conducted with 80 participants, service providers, public health officials, community leaders, drug users. Content analysis (NUD\*IST) was employed to analyze the transcriptions by identification of emergent themes and domains. Descriptive statistics were applied to quantifiable aspects of the database.

**Results:** Findings reveal complex, overlapping social, cultural ecologies for drug using MSMs. The study identified subgroups: reflecting significant internal and external dynamics associated with drug use. Internal dynamics included: identity meanings; self-perceptions as a user; perspectives on gay identity, and meanings tied to drug sexual experience. External dynamics included: initiation to methamphetamine usage; sexual activities associated with drug use. Two global factors emerged as key motivations: association with heightened arousal during sexual experiences and the drug's perceived ability to antagonize HIV related depression and fatigue associated with HIV. A common folk-belief was that drug use increased T-cells. Many reported poly-substance use, involvement in loosely constructed social networks. Many described barriers to accessing effective treatment services. Methamphetamine use among this group of MSMs occurs within a complex series of micro-environmental, social, cultural, psychological and HIV-related dynamics. The development of effective and culturally competent outreach and prevention strategies must build upon these ecological factors and must be related to existing linkages among methamphetamine use, individual and group (i.e., gay transgender) identity, and related social and sexual environments.

**Lurie, P., T. S. Jones and J. Foley (1998). A sterile syringe for every drug user injection: how many injections take place annually, and how might pharmacists contribute to syringe distribution? J Acquir Immune Defic Syndr Hum Retrovirol 18(Suppl 1): S45-51.**

**Type:** Review and hypothesis on the number of sterile syringes needed to supply a clean syringe for each injection

**Background:** Statistics on HIV infections show an alarming increasing trend in drug users (mostly IDUs), their sex partners and their offspring. Injection drug use is an important factor in the HIV epidemic in the US and appears to be setting the stage for an epidemic driven by injection drug use. In 1997, the US Public Health Service recommended that IDUs who cannot or will not enter a drug treatment program use a sterile syringe only once and dispose of it safely. In an attempt to determine the need for sterile syringes, the authors estimate the number of IDU injections per year in selected US cities and states and for the US as a whole. They also assess the utility of various strategies for providing IDUs with sterile syringes, particularly the potential role of pharmacists in providing IDUs with a sterile syringe for every injection.

**Methods:** Estimates of the number of annual injections by IDUs for the United States, selected U.S. states, and selected U.S. cities used the following formula: number of injections per year = (number of IDUs) x (average number of injections per IDU per day) x 365. Data were obtained from published articles, personal communications with local experts, and selected national databases. Estimates of the number of IDUs in selected states were obtained from the National Association of State Alcohol and Drug Abuse Directors and national estimates were obtained from the CDC. The authors also reviewed published and unpublished studies of pharmacy kits, pharmacist attitudes, and pharmacist practices in the United States and abroad.

**Findings/Discussion:** Between 920 million and 1.7 billion injections by IDUs take place each year in the United States. We estimated 12 million injections per year in San Francisco and >80 million in New York City. A similar number of syringes would be needed to satisfy the goal of a sterile syringe for every injection.

While the estimated syringe requirements seem formidable, this number needed by IDUs is roughly the same number that is already being manufactured for other uses and manufacturers have suggested that they could increase production. The estimates are also in the upper limits because some studies suggest that sterile syringes are already used in approximately 15% of injections by IDUs. Lastly, sterile syringe use would reduce the transmission of several other infectious diseases and reduce other complications such as cellulitis in addition to limiting HIV transmission. A complementary approach to increasing needle exchange programs is to involve

pharmacists in the sale, distribution or exchange of syringes. Pharmacy-based strategies, including the sale of kits for injection drug use, have successfully provided sterile syringes to IDUs in Europe, Australia, and New Zealand.

In conclusion, large numbers of syringes would be required to provide a sterile syringe for every injection, but significant numbers of pharmacists seem to be willing to play a central role in syringe sale and distribution. The concerns most frequently expressed by pharmacists are the possible negative effect of IDUs on pharmacy business, the safe disposal of syringes and the network of state and Federal laws in the US. Outreach programs to IDUs should emphasize that using a sterile syringe for every injection is the optimal HIV prevention practice for IDUs who cannot or will not stop injecting. Pharmacy-based syringe sale or distribution has the potential to augment current HIV prevention efforts in IDUs, their sex partners, and their children.

**Stopka, T. J., C.M. Heusner, H. Chen, S.R. Truax. (2003). HIV and hepatitis risk among injection drug users (IDUs) tested at public HIV testing sites in California: implications for structural interventions. National HIV Prevention Conference, Atlanta.**

**Author abstract**

**Background/Objectives:** Assess the reported HIV risk behavior, HIV prevalence and HIV prevention efforts among self-identified injection drug users (IDUs) who received counseling and testing services in California.

**Methods:** The California Information System was revised in 2001 to improve risk assessment and data collection procedures. These data now provide the most detailed and systematic HIV risk behavior surveillance information available for publicly-funded testing clients. Analyses are based on over 43,000 HIV client visits in which clients reported injection drug use or were non-injecting sex partners of IDUs. Data were collected between January 2001 and June 2002 at Office of AIDS-funded test sites in California.

**Results:** The HIV positivity rate for all IDUs was 1.21%. Non-IDU clients with IDU sex partners had a positivity rate of 1.24%. These rates have decreased from those reported during the late 1990s. Self-reported hepatitis C infection was high among IDUs (18.26%) compared to their non-injecting sex partners (4.19%). White IDUs represent 55% of all IDUs who tested in public venues in California while Latinos and African Americans IDUs represent 22% and 13% of IDU testers, respectively. Overall, African American IDUs represented 51% of all positives among female IDUs and 30% of all positive male IDUs. Forty-one percent of white, 33% of Latino and 21% of African American HIV-positive non-injecting males reported having an IDU sex partner. Among HIV-positive non-injecting females, 38% reported having an IDU sex partner. The drugs most often reported as injected by IDUs were heroin (61%), methamphetamines (48%) and cocaine (23%). Of those responding to questions related to syringe exchange (n=19,258), 33% of IDUs reported exchanging syringes at a syringe exchange program (SEP) in California. Twenty-five percent of IDUs reported that SEPs were not available to them in their geographical area. Seventy-one percent of IDUs who tested for HIV reported sharing syringes and 68% reported not cleaning their works prior to every injection. African American IDUs (54%) in this sample reported utilizing SEPs more than other ethnic/racial groups (29%) and were more likely to report cleaning their syringes and less likely to report sharing syringes. Finally, HIV-positive IDUs were more likely to report using SEPs (47%) than HIV-negative IDUs (32%).

**Conclusions:** IDUs and their sex partners continue to demonstrate elevated risk for HIV and hepatitis infections. Of particular importance is the high proportion of female African American IDUs testing positive for HIV in California. IDUs and their partners appear to be at risk for HIV infection due to both unsafe injection practices and unsafe sexual encounters. The data suggest that there are differential levels of access to and interest in utilizing SEPs among IDUs of different ethnic/racial groups and among IDUs of differing HIV serostatus. Implications and suggestions for HIV prevention will be discussed with a specific focus on structural interventions to decrease HIV risk among IDUs.

## Populations/Settings/Approaches: Men who have sex with men (MSM)

Articles describe epidemiology and interventions, particularly those targeted to MSMs, in public sex establishments such as bathhouses and sex clubs.

**Binson, D. and W. J. Woods (2003). A theoretical approach to bathhouse environments. J Homosex 44(3-4): 23-31.**

**Type:** Exploration of a theoretical model for interventions

**Background:** The public health community has begun to focus on structural level interventions on physical, social and normative environments as well as on individual-level interventions for HIV prevention. The authors use the Rudolf Moos person-environment theory to understand how different dimensions of the environment affect behavior and for an understanding not just *that* an intervention works, but *how* it works.

**Methods:** The authors apply the Rudolf Moos person-environment theory as a model to provide an understanding of the dynamic relationship between bathhouse patrons and the environment within which they engage in sexual activities.

**Findings/Discussion:** The Moos person-environment theory is a conceptual model which has been used in specific settings from psychiatric facilities to educational institutions and military bases. According to the theory, the social climate interacts with a person's individual characteristics to condition or determine behavioral outcomes. In this theoretical construct, the bathhouse environment is conceived as a dynamic system with four principal domains: the supra personal; the institutional context; the physical setting; and policies and services. The authors suggest that the policies and services domain is the area where most health and safety issues might be addressed. They suggest that the domain model is useful in showing how dimensions of the environment from patron demographics to staff size to type of space to policies on drug use, HIV testing or counseling might affect behavior. The model is also promising because it may explain *how* interventions work, thereby facilitating its application in other settings.

**Binson, D., W. J. Woods, L. Pollack, et al. (2001). Differential HIV risk in bathhouses and public cruising areas. Am J Public Health 91(9): 1482-6.**

**Type:** Probability sample

**Background:** This article describes the characteristics of men who have sex with men according to their pattern of sex venue attendance: only public cruising areas, only baths, or both public cruising areas and baths.

**Methods:** The authors used a probability sample of MSM residing in 4 US cities ( $n = 2,881$ ). The sample design used multiple data sources to identify geographic areas in New York, Chicago, Los Angeles and San Francisco that reflected residential clustering of MSM populations. Computer-assisted telephone interviews were conducted in English or Spanish.

**Findings/Discussion:** Men who used party drugs and had unprotected anal intercourse with nonprimary partners were more likely to go to sex venues than men who did not. Among attendees, MSM who went to public cruising areas only were least likely, and those who went to both public cruising areas and bathhouses were most likely to report risky sex in public settings. The model also indicated that respondents who reported frequent drug use, as well as those who were HIV positive, were more likely to engage in unprotected anal intercourse in a public setting.

Sex venues have generally been treated as a single construct. However, this study revealed a significant association between pattern of venue use and sexual risk, with baths being the more likely place for sexual risk behavior. Targeting HIV prevention in the bathhouses would reach the segment of men at greatest risk for HIV transmission. The author urges prevention research to unravel the complex interaction between individual characteristics and the environment.

**Brown, A. (2000). Public sex and sexual cultures: Bathhouses, risk and the lives of men who have sex with men. Int Conf AIDS 13.**

**Author abstract**

**Issues:** Men who have sex with men (MSM) continue to drive the HIV epidemic in the United States. Despite continued health and safer sex education campaigns, intervention and outreach efforts have produced little difference. Although cultural sensitivity has been a key factor in these programs, there has been little attention paid to the overlap of two communities: (1) non-gay identified MSM, especially from communities of color, and (2) those individuals who frequent public sex venues. If public health practitioners are to make an impact within these communities, an understanding of this unique sexual culture must be had.

**Description:** This analysis integrates sexual life histories and public sexual practices to develop a model for understanding community needs. This paper describes the web of factors, and the networks within which they exist, as they affect the lives of MSM who frequent public sexual venues. Not limited solely to sexual risk factors, various risk inventories will be developed in conjunction with education, outreach and prevention materials for public health practitioners and community-based organizations. This work is based on a series of semi-structured qualitative interviews conducted with employees, patrons, and outreach workers from two public sex venues in Los Angeles County and will be supplemented with other sources of data such as a risk assessment questionnaire and cultural artifacts.

**Conclusion:** Targeting communities considered "high-risk" for HIV transmission has had limited success. By providing a contextual and cultural analysis of the sexual lives of MSM in public settings, this paper advocates alternative methods through which outreach, education, and prevention can be conducted. Rather than eliminating these public sexual venues, public health practitioners should exploit their unique sexual ecology as a way to reach difficult to serve populations.

**Disman, C. (2003). The San Francisco bathhouse battles of 1984: civil liberties, AIDS risk, and shifts in health policy. J Homosex 44(3-4): 71-129.**

**Type:** Historical review

**Background:** The author reviews the AIDS-containment strategies considered by the city of San Francisco in 1984 related to businesses that provided space for sex between men and the response from the city's gay/lesbian/bisexual community. Debate centered on questions of public health and gay sexual freedom and civil liberties.

**Methods:** Historical review of the mid-1980s bathhouse debates

**Findings/Discussion:** The author chronicles the history of San Francisco's baths from the 1970s to 1984 with discussions of the early aspects of AIDS, the actions of the San Francisco Department of Public Health and the CDC, positions on closure from activists such as Larry Littlejohn, the mayor, the police department, the city attorney and city supervisors and bath owners among others. There was strong disagreement on whether the businesses should be closed, should make their own AIDS-prevention efforts, or should continue operating under new regulations. The author notes especially that the policies implemented for the city's baths were not informed by the known AIDS risk of different sexual behaviors or from research findings on AIDS and the local baths. He also notes that the October 9, 1984 closure order by Dr. Silverman of the department of public health was followed by two months of intense legal fighting and 1986-1989 rulings in the court case. The author enumerates the continuing influences that the 1980's political and judicial decisions had on San Francisco's bathhouses and sex clubs and other cities and states through the later 1980s and the 1990s.

**French, R., R. Power, S. Mitchell, et al. (1998). An evaluation of community-based STD/HIV prevention work in a public sex environment (PSE). (abstract no. 43293). Int Conf AIDS 12: 905.**

**Author abstract**

**Background:** The most extensive year to year evaluation of PSE outreach work in the UK has come from Gay Men Fighting AIDS' (GMFA) Hampstead Heath Project, which is a peer-led HIV prevention and safer sex education campaign. It is a nighttime service run by volunteers. Condom packs and safer sex literature are distributed by volunteers or are available from illuminated 'glowboxes'. This research was an external process evaluation of the intervention.

**Methods:** Data were collected through surveys of Gay and bisexual men in a variety of settings (n = 871). In-depth interviews (n = 38) were conducted with PSE users, professionals working within the broad field of Gay men and health promotion, and GMFA volunteers and workers. Observational data were collected during volunteer shifts.

**Results:** Hampstead Heath is predominantly used by Gay-identified men aged between 20-49 years. A wide range of health promotion needs were reported, including: cruising safety, safer sex information and provision of condoms. There was evidence of unprotected anal intercourse taking place. A total of 100,088 condoms were distributed over the intervention's five month period (at weekends an average of 430 per night). The commitment of the volunteers played a vital role in the delivery of the intervention. GMFA's established identity and peer emphasis made it acceptable to the target group. The Heath Project provided an efficient, valued and cost-effective health promotion service. The evaluation highlighted the need for such interventions in PSEs as men were still putting themselves at risk of acquiring STDs and HIV infection, despite being aware of health promotion messages. Consideration should be given to the wider application of its model in other PSEs.

**Friedman, S. R. and S. Aral (2001). Social networks, risk-potential networks, health, and disease. J Urban Health 78(3): 411-8.**

**Type:** Review of the literature and introduction to the concept of networks

**Background:** Network approaches offer a way to apply the analytic insights and computerized techniques of systems theories to studies of the flow of social support, social influence and infectious diseases through populations. Research into the epidemiology and prevention of HIV, AIDS, and other blood-borne diseases has focused attention on social networks.

**Methods:** The authors introduce the concept of networks in text and diagrams. They also introduce and discuss three articles which appear in this special issue of the *Journal of Urban Health* and review other work on the topic.

**Findings/Discussion:** In an introduction to networks, the authors define some key concepts. A risk potential network is defined as a pattern of risk-potential linkages among a group of people. A risk potential linkage is a tie between two people that can spread infection if the infectious agent is present. Thinking in terms of networks involves building larger patterns from linkages between pairs of people. An egocentric network approach considers only the direct linkages of a given person while sociometric networks consist of a set of people and all the linkages between them. The authors suggest that sociometric risk-potential networks can spread infections through a community; social networks can spread messages, norms, social support and influence. If risk potential networks affect disease transmission, then the utility of network analysis is determined at least in part by whether it suggests useful interventions. Similarly interventions into social networks should be able to improve mental health, mobilize normative pressures against high-risk behaviors and/or reduce risky behaviors. Further research is needed into the interactions between social networks and risk-potential networks and how urban structures, economic forces, social policies, policing patterns and other "macro" variables shape these networks. Theoretical development is needed on what kinds of socioeconomic and policy environmental structures and processes might shape networks. The authors conclude that network research in public health is promising in terms of improving health and responding to HIV, STDs and other epidemics.

**Friedman, S. R., B. J. Kottiri, A. Neaigus, et al. (2000). Network-related mechanisms may help explain long-term HIV-1 seroprevalence levels that remain high but do not approach population-group saturation. Am J Epidemiol 152(10): 913-22.**

**Type:** Network analysis among drug injectors

**Background:** In many cities, human immunodeficiency virus (HIV)-1 seroprevalence among drug injectors stabilizes at 30-70% for many years without secondary outbreaks that increase seroprevalence by 15% or more. The authors considered how HIV-1 incidence can remain moderate at seroprevalence levels that would give maximum incidence. Previously suggested answers include behavioral risk reduction and network saturation within high-risk subgroups. The authors used risk network analysis to examine whether network saturation could explain stable seroprevalence among IDUs in New York City. They also studied the possibility that risk network patterns, rather than saturation, may serve to contain highly infectious primary HIV infections within a high-seroprevalence population. The authors developed hypotheses about how sociometric risk network configurations might explain the lack of outbreaks in stable high-prevalence epidemics.

**Methods:** During 1991-1993, 767 drug injectors were interviewed in face-to-face structured interviews. The interview gathered data on subjects' sociodemographic and biographic backgrounds, drug and sexual risk behaviors during the prior 30 days and prior 2 years, medical history, health beliefs, social roles in the drug scene and networks. Questionnaire and other data collected during the project were used to define sociometric risk network linkages among research participants.

**Findings/Discussion:** During a period of stable high seroprevalence in New York City, the authors found that risk behaviors remained common, and networks were far from saturated. They suggest that sociometric network characteristics, unlike network saturation, may well have helped prevent further epidemic outbreaks in cities with a high prevalence and suggest a different network-based mechanism. In stable high-prevalence situations, the relatively small sizes of subnetworks of linked seronegatives (within larger networks containing both infected and uninfected persons) may limit infectious outbreaks. Any primary infection outbreak would probably be limited to members of connected subcomponents of seronegatives, and the largest such subcomponent in the study contained only 18 members (of 415 seronegatives). Research and mathematical modeling should study conditions that may affect the size and stability of subcomponents of seronegatives.

One public health implication is emphasized. If the existence of small, connected components of seronegatives prevents secondary outbreaks, then when HIV-1 seroprevalence falls, this protection may weaken and vulnerability to new outbreaks may increase. Situations of declining prevalence are also likely to be situations in which vulnerability to new outbreaks is increasing. Thus, the authors emphasize that in situations of declining prevalence, prevention programs should be maintained or strengthened.

**Friedman, S. R., R. Curtis, A. Neaigus, et al. (1999). *Social networks: drug injectors' lives, and HIV/AIDS*. New York, Kluwer/Plenum.**

No abstract available.

**Friedman, S. R., A. Neaigus, B. Jose, et al. (1999). *Networks, norms, and solidaristic/altruistic action against AIDS among the demonized*. *Sociological Focus* 32: 127-142.**

No abstract available.

**Helquist, M. and R. Osmon (2003). *Sex and the baths: a not-so-secret report*. *J Homosex* 44(3-4): 153-75.**

**Type:** Reprint of 1984 article

**Background:** During the 1984 debate about closing the baths in San Francisco, Mayor Dianne Feinstein directed the police to investigate and report on sexual behavior in the bathhouses. This secret report was squelched in response to community outrage. In response to the city investigation, two local journalists conducted an investigation of six bathhouses and published their findings in an article in *Coming Up!*, a monthly lesbian and gay community newspaper published in San Francisco.

**Methods:** Reprint of July 1984 article

**Findings/Discussion:** The 1984 article provides a systematic and thorough description of bathhouse activities and interactions. Many of the public health options being considered in 2003 were already being discussed or enacted in the San Francisco bathhouses in 1984. At the time, orgy rooms were considered likely to be contributing to HIV transmission because of multiple sexual contacts and possible higher risk behaviors and the authors (reporters) gave particular attention the presence or absence and use of orgy rooms in a matrix in the article. The authors (reporters) also suggested adherence to standards of risk reduction and safe sex guidelines. They conclude the report with personal recommendations including education, personal responsibility, "safe sex" behavior, counseling, and gay and lesbian business involvement in AIDS education efforts.

**Kottiri, B. J., S. R. Friedman, A. Neaigus, et al. (2002). Risk networks and racial/ethnic differences in the prevalence of HIV infection among injection drug users. J Acquir Immune Defic Syndr 30(1): 95-104.**

**Type:** Analysis of risk networks

**Background:** Studies among injection drug users (IDUs) in New York City have found a higher prevalence of HIV infection among black and Puerto Rican IDUs than among white IDUs. Risk behaviors seldom explain these differences. The authors examined how risk networks contribute to racial/ethnic variations in HIV prevalence. They examined these questions: 1) do black and Puerto Rican IDUs engage in greater levels of risk behaviors than their white counterparts?; 2) to what extent does racial/ethnic selectivity of risk networks explain racial/ethnic variations in HIV prevalence?; 3) are white IDUs who have risk network contacts with minority IDUs at higher risk of HIV than their counterparts who have no such contacts?; and 4) do racial/ethnic differences in HIV seroprevalence persist after adjusting for risk behaviors and risk network characteristics?

**Methods:** Six hundred sixty-two IDUs were recruited on the street in Bushwick, Brooklyn, interviewed, and tested for HIV. Data was collected in structured interviews on drug use, sexual behaviors and risk network members. The risk behaviors and networks were analyzed to explain racial/ethnic variations in HIV.

**Findings/Discussion:** Forty percent of IDUs were infected with HIV. Consistent with findings from other studies, HIV prevalence was greater for Puerto Ricans (45%) and blacks (44%) than for whites (32%). Egocentric sexual and drug risk networks were predominantly racially/ethnically homogeneous. After multivariate adjustments for risk behaviors and risk networks, black-white differences in HIV prevalence were no longer significant. Although differences between Puerto Ricans and whites persisted, analyses suggested that network partner characteristics might explain these differences. Analysis suggested that in spite of the high prevalence of infection among Puerto Ricans in the sample, Hispanic network contacts listed by persons in the sample were relatively younger and newer injectors than network contacts of other race/ethnicity. In Bushwick, racially/ethnically discordant risk partnerships involving black IDUs may function as potential bridges of transmission between groups. Network patterns within and between racial and ethnic groups may continue to be a key factor in the future of the epidemic. Research that is sensitive to stigmatization and discrimination is needed on targeted potential individual and group interventions based on network characteristics and the prevalence of infection and behavior.

**Mutchler, M. G., T. Bingham, et al. (2003). Comparing sexual behavioral patterns between two bathhouses: implications for HIV prevention intervention policy. J Homosex 44(3-4): 221-42.**

**Type:** Qualitative study of bathhouse sexual and HIV risk behavior patterns in Los Angeles County

**Background:** Bathhouses are an important part of gay sexual cultures in the US and as such may play a role in HIV transmission. In Los Angeles County, the primary mode of transmission of HIV is male-to-male sexual contact. The authors undertook this study of two bathhouse settings to identify the considerations needed in developing setting-specific interventions to reduce HIV risk behavior.

**Methods:** Face-to-face semi-structured qualitative interviews with bathhouse workers (16) and bathhouse patrons (24) from two bathhouses in Los Angeles County. The two bathhouses were chosen for their differing clientele demographics and their managers' willingness to participate. Respondents were compensated \$35. Interviews were confidential with no names or other identifying information used. A coding scheme was established and data were organized according to conceptual themes of respondents' beliefs, opinions and behaviors.

**Findings/Discussion:** The authors compared similarities and differences in sexual and HIV risk behavioral patterns in two LA County bathhouses to identify how differing sexual norms, rules and risk behaviors can be used to tailor HIV prevention interventions to bathhouse environments. Differences between the two bathhouses were in six key areas: bathhouse clientele (demographics), attraction to particular sites, sexual practices and condom use (condom use more likely for anal than for oral sex), communication about sex (mostly nonverbal) and HIV status (mostly not discussed), bathhouse rules (inconsistently enforced), and substance use (frequent but primarily with different drugs in each setting). The differences in bathhouse behavioral risk patterns in these two settings in the same metropolitan area highlight considerations for developing prevention and harm reduction strategies responsive to specific HIV risk factors at individual bathhouses.

**Neaigus, A., S. R. Friedman, B. J. Kottiri, et al. (2001). HIV risk networks and HIV transmission among injecting drug users. Eval Program Plann 24(2): 221-226.**

No abstract available.

**Spielberg, F., B. M. Branson, et al. (2003). Designing an HIV counseling and testing program for bathhouses: the Seattle experience with strategies to improve acceptability. J Homosex 44(3-4): 203-20.**

**Type:** Programmatic design for HIV testing in bathhouses

**Background:** The HIV Alternative Testing Strategies (HATS) study identified barriers to HIV counseling and testing and preferences for alternative testing and counseling strategies among MSM in venues including a bathhouse, a sex club, a needle exchange program and an STD clinic. Using the survey responses and the stated preferences for rapid testing, oral fluid or urine tests instead of blood tests and telephoned results, the authors designed a program located in bathhouses. They describe the HIV testing program at bathhouses in Seattle and make recommendations for optimal design of an HIV counseling and testing program in a bathhouse.

**Methods:** Review of programmatic design and implementation

**Findings/Discussion:** The key programmatic considerations in the design of a bathhouse HIV counseling and testing program included building alliances with community stakeholders including HIV testing and counseling providers, bathhouse managers and staff, laboratory directors and prevention outreach workers; hiring and training staff; developing techniques for offering testing; and providing options for counseling, testing, and disclosure of results, client support and follow-up for partner notification and treatment counseling. Maintaining relationships with bathhouse management for support of prevention activities was also crucial in the design. The authors also outlined keys to success including establishing community prevention collaborations between bathhouse personnel and testing agencies; ensuring that testing staff are supported in their work; and offering anonymous rapid HIV testing. The FDA- approved rapid tests that do not require venipuncture, centrifugation, or laboratory oversight will make bathhouse HIV counseling and testing programs more acceptable and feasible.

**Wohlfeiler, D. (2000). Structural and environmental HIV prevention for gay and bisexual men. AIDS 14(Suppl 1): S52-6.**

#### **Author abstract**

HIV prevention efforts for gay and bisexual men in the United States began as community-mobilizing efforts, but have drifted towards focusing more on the individual. Given lowering prevalence and incidence, it is unreasonable to expect continued community support for high

levels of prevention activity. Structural and environmental interventions present one useful, complementary set of alternatives to support prevention efforts. This paper reviews the gay community's relationship with these interventions, including its intensely debated approaches to reducing HIV transmission within bathhouses. The implications for HIV prevention for gay men of larger societal factors, including economic development and economic motivation, migration, and legislation, are then considered. Individual rights, community and public-health interests must be given particularly cautious consideration when designing and implementing structural and environmental interventions.

**Woods, W. J. and D. Binson (2003). Public health policy and gay bathhouses. J Homosex 44(3-4): 1-21.**

**Type:** Historical overview of gay bathhouses

**Background:** As an introduction to a special journal issue, the authors provide a context and an overview of the bathhouse environment and how it differs from other public sex environments, and describe public policies that have been implemented.

**Methods:** Historical overview

**Findings/Discussion:** In a discussion of gay baths and other public sex environments, the authors outline three distinguishing characteristics useful for future research and public policy: 1) whether the place where sex will occur will require a "transformation" or intentional construction, 2) whether the primary purpose is to provide a place for sex, and 3) exclusivity or membership. Structural policies related to gay baths have ranged from an eradication policy, or eliminating bathhouses through closure, to modifying bathhouses by regulating various aspects of the environment often in a collaborative manner with the bathhouse owners. Evidence suggests that many policies other than closure can reduce the risk of HIV transmission and sexually transmitted diseases in gay baths and the authors recommend that the public health community continue to actively pursue and maintain collaborative relationships with bath owners and managers.

**Woods, W. J., J. Sabatino, P. L. Bauer, et al. (2000). HIV testing in gay sex clubs. Int J STD AIDS 11(3): 173-5.**

#### **Author abstract**

The purpose of this study was to evaluate a programme of human immunodeficiency virus (HIV) antibody testing at gay sex clubs. Conducting secondary analyses with 2 datasets, we evaluated HIV-testing preferences of patrons at 2 sex clubs and compared their risks to testers at a standard testing clinic. Sex club testers had significantly more partners and were significantly older than their clinic peers. Sixteen per cent of sex club testers reported that they would not test if testing were not available at the sex club. Gay sex clubs offer an opportunity to reach men at high risk for HIV, some who otherwise may not test.

## **Populations/Settings/Approaches: Networks**

*Articles describe the contribution of networks to transmission. These articles might also include interventions which operate at the network level, for example, separating core from lower risk individuals.*

**Browning, C. R. (2002). Neighborhood structural disadvantage, social organization, and number of sexual partners among urban adults. Meeting abstract. Int Conf AIDS.**

#### **Author abstract**

**Background:** Recent research on community context and HIV risk have linked structural features of neighborhoods such as poverty and residential stability with sexual risk, but neglected intervening mechanisms such as social network density and collective efficacy (neighborhood trust/cohesiveness and residents' willingness to act on behalf of neighborhood goals). We test three hypotheses: 1) dense social networks increase sexual partnering opportunity in urban

neighborhoods, 2) high collective efficacy neighborhoods reduce multiple sexual partnering through managing interaction between high risk individuals, and 3) dense networks increase the likelihood of multiple partnering only in low collective efficacy neighborhoods.

**Methods:** We use data from the 1990 decennial census, the 1995 Project on Human Development in Chicago Neighborhoods Community Survey, and the 1995-97 Chicago Health and Social Life Survey. Hierarchical logit models of multiple sexual partnering were performed separately by gender, controlling demographic and sexual background.

**Results:** Network density is positively associated with sexual partnering among men in neighborhoods with low levels of collective efficacy. However, this effect is reduced as collective efficacy increases. The predicted probability of having three or more sexual partners in the last year for men in low collective efficacy neighborhoods ranged from .05 to .40 in low and high network density neighborhoods, respectively. By comparison, in high collective efficacy neighborhoods, comparable figures were .05 and .08. Neighborhood characteristics were not associated with multiple partnering among women.

**Conclusion:** Collective efficacy and networks at the neighborhood level play a significant role in organizing sexual partnering practices, net of individual controls and neighborhood structure. Research on the social context of sexual risk should incorporate social organizational factors at the neighborhood level.

**Holtgrave, D. R. (1999). Challenges and opportunities arising from an HIV infection cluster. J Public Health Manag Pract 5(5): vii-viii.**

No abstract available.

**Klausner, J. D., W. Wolf, L. Fischer-Ponce, et al. (2000). Tracing a syphilis outbreak through cyberspace. JAMA 284(4): 447-9.**

**Type:** Outbreak investigation, controlled trial

**Background:** A syphilis outbreak among gay men who met their sexual partners in an Internet chat room challenged existing models of partner notification and community education. Partner information was often limited to screen names and the internet service provider would not provide the identity of partners due to strongly held privacy issues. The authors sought to determine the association of Internet use and acquisition of syphilis and to describe innovative methods of partner notification in cyberspace.

**Methods:** Outbreak investigation conducted at the San Francisco Department of Public Health in June-August 1999 of 7 cases of early syphilis among gay men linked to an online chat room; case-control study of 6 gay men with syphilis reported to SFDPH in July-August 1999 (cases) and 32 gay men without syphilis who presented to a city clinic in April-July 1999 (controls). Outcome measures included the association of syphilis infection with Internet use, Internet use among cases vs. controls, and partner notification methods and partner evaluation indexes.

**Findings/Discussion:** Blocked by privacy concerns from contacting persons directly, an awareness campaign within the chat room was conducted electronically. Persons who had met partners in the chat room were encouraged to seek medical evaluation. To notify partners, e-mail messages which requested a reply were sent to screen names by the department of public health. In addition to using the Internet, the public health department also placed advertisements in gay newspapers and faxed a syphilis alert to physicians, clinics and hospitals. Cases were significantly more likely than controls to have met their partners through the Internet (67% vs. 19%). Forty-two percent of named partners were notified and tested; the mean number of sexual partners medically evaluated per index case was 5.9.

As disease venues change, public health efforts must continually adapt disease control procedures. In the case of the Internet chat room, the rights to privacy vs. the need to protect public health must be carefully weighed. In this outbreak, the Internet was a technology that facilitated STD transmission but also provided a targeted awareness and control campaign.

**Laumann, E. O. and Y. Youm (1999). Racial/ethnic group differences in the prevalence of sexually transmitted diseases in the United States: a network explanation. Sex Transm Dis 26(5): 250-61.**

**Type:** Data analysis and discussion

**Background:** Many studies have observed that African Americans have comparatively high rates of selected STDs, often 10 to 20 times higher than whites and other racial/ethnic groups.

Explanations of this disproportion have not been convincing, in part because of problems with data. The authors enumerate the limitations in the three most common ways of collecting and analyzing data on STDs. They suggest that case-based reporting, rather than person-based reporting introduces a systematic bias against inclusion of cases from higher socioeconomic status who may use private physicians who are less likely to report STDs. Secondly, most of the data on STDs is only about infected persons, making it impossible to examine critical questions about transmission risk. Lastly, data analysis generally focuses on individual characteristics and fails to recognize network aspects of STD dynamics. The authors use data from a nationally representative probability sample, the National Health and Social Life Survey (NHSLs), and a network approach to suggest an explanation for disproportionate rates of STDs in African Americans. The NHSLs is a nationally representative probability sample of 1,511 men and 1,921 women in the United States.

**Methods:** Logistic regression analysis of the National Health and Social Life Survey (NHSLs) data permitted a multivariate analysis of the individual risk factors associated with STDs. Using loglinear analysis and a simulation, the authors also identified the effects of sexual network patterns within and between racial/ethnic groups.

**Findings/Discussion:** Logistic regression analysis of the NHSLs revealed, even after controlling for all the appropriate individual-level risk factors, that African Americans are almost five times more likely to be infected by bacterial diseases than the other racial/ethnic groups. African Americans' higher infection rate for bacterial diseases can be explained by the patterns of sexual networks within and between different racial/ethnic groups. First, infections are more widespread in the African American population at large because partner choice is more highly assortative--meaning that "peripheral" African Americans (who have had only one partner in the past year) are five times more likely to choose "core" African Americans (who have had four or more partners in the past year) than "peripheral" whites are to choose "core" whites. Secondly, sexually transmitted infections stay within the African American population because their partner choices are more segregated (assortative mating) than other groups. The likelihood of African Americans having a sexually transmitted infection is 1.3 times greater than it is for whites because of this factor alone.

The authors note that in addition to the usual behavioral risk factors, social and attitudinal items provide stable and consistent predictors of STD prevalence and incidence. Their analysis also demonstrated the critical role network patterns (described as the intraracial and interracial network effects) play in accounting for known differentials in the rates of infection across racial and ethnic groups.

**Rosenberg, D., K. Moseley, R. Kahn, et al. (1999). Networks of persons with syphilis and at risk for syphilis in Louisiana: evidence of core transmitters. Sex Transm Dis 26(2): 108-14.**

**Type:** Social network analysis

**Background:** Syphilis persists disproportionately in certain populations, particularly minorities. To understand the behavioral epidemiology of syphilis in a region of high primary and secondary syphilis rates, the authors conducted a social network analysis of persons with syphilis and their contacts and developed and applied a definition of core transmitters. Social network analysis (SNA) characterizes the sociobehavioral attributes of relationships such as shared drug use or sexual activity. SNA has two phases: the network interviews and the subsequent structural analysis.

**Methods:** The authors interviewed 10 index persons with primary or secondary untreated syphilis and 80 of their named sexual and social contacts. The study population was a mix of persons

from both urban and rural settings. Krackplot III software was used to map and analyze network structures.

**Findings/Discussion:** Fourteen (16%) of 90 interviewed persons met the definition of core transmitters, 9 of whom had past or current syphilis. A core transmitter was defined as either 1) a female who reported receiving either money or drugs for sex, or five or more sex partners, or 2) a male who reported five or more sex partners. The other interviewed persons had only moderately risky behaviors. Seventy-eight (42%) of the network sexual contacts were connected directly or indirectly to a core transmitter.

This analysis suggests that syphilis transmission is maintained by a community with a small percentage of high-risk persons centrally placed amidst a larger group with moderately risky behavior. Therefore the person with moderately risky behavior had partners with risky behavior and was connected directly or indirectly with at least one "core transmitter." These characteristics of the network put the entire network at risk. Prevention efforts for this network would have to be designed not only for core transmitters but also for a larger group of connected individuals who are engaging in moderately risky behaviors that are magnified by the connected group.

**Rothenberg, R., L. Kimbrough, R. Lewis-Hardy, et al. (2000). Social network methods for endemic foci of syphilis: a pilot project. Sex Transm Dis 27(1): 12-8.**

**Type:** Social network analysis

**Background:** One approach to areas of high, persistent syphilis endemicity posits that members of core groups, whose behaviors and relationships involve the active transmission of STDs, maintain the endemicity in geographic areas and spread STDs outside those areas. One intervention for targeting core groups is the use of social network methods to augment routine partner-notification activities. The authors report on a 6-month pilot study that incorporated social network approaches into routine syphilis-control activities in an Atlanta area with high syphilis morbidity.

**Methods:** Disease investigators conducted interviews, used network diagrams to prioritize their work, and relied on network connections for finding hard-to-reach persons. A total of 396 contacts were elicited from 48 infected and 50 uninfected persons.

**Findings/Discussion:** The cumulative prevalence of syphilis was 12.6%, and 24 persons infected with HIV were identified. Network methods disclosed a large, interconnected group (276 persons) characterized by high network centrality and the substantial presence of small, interactive subgroups (microstructures).

Although this technique is a departure from traditional syphilis-intervention techniques, the network approach proved a feasible field technique although implementation may require further programmatic development. The findings suggest that structure plays an important role and makes a distinguishable contribution compared to the contribution of personal behavior alone. This targeted, network-based approach may be useful in attempts to eliminate syphilis.

**Rothenberg, R. B., J. J. Potterat and D. E. Woodhouse (1996). Personal risk taking and the spread of disease: beyond core groups. J Infect Dis 174(Suppl 2): S144-9.**

**Type:** Review

**Background:** Disease control efforts directed at human immunodeficiency virus which target personal risk behaviors may not adequately reflect the complicated interplay between personal behaviors and the social setting in which they occur. These efforts have aided in understanding the dynamics of transmission and have highlighted the relationship between personal risk taking and population risk

**Methods:** The authors review research to date, including the application of population ecology, the development of the core group hypothesis, and the use of compartment models to describe disease transmission. They discuss the terms used to describe social groups as the foci for disease propagation and suggest future research approaches.

**Findings/Discussion:** They note that the application of the techniques of social network analysis to infectious disease spread related to the context of STDs and intravenous drug use is becoming more common in the literature. This work suggests that social structure may act as a barrier (or

facilitator) in disease transmission and that the epidemiologic impact of a risky act varies with the social setting. At this early stage of application of the techniques, there are notions emerging which may be important for disease control. Segmentation of social networks may be an important method for interrupting transmission. Social network methods may identify persons whose position in the network gives them influence beyond their personal behaviors. One conclusion from this construct of social networks analysis is that generalized, untargeted methods may be less valuable than approaches which focus on important group structures for controlling or changing the dynamics of transmission.

**Stoner, B. P., W. L. Whittington, J. P. Hughes, et al. (2000). Comparative epidemiology of heterosexual gonococcal and chlamydial networks: implications for transmission patterns. Sex Transm Dis 27(4): 215-23.**

**Type:** Network analyses

**Background:** Networks of sex-partner interaction affect differential risk of acquiring sexually transmitted infections. The authors evaluated sociodemographic and behavioral factors that correlated with membership in networks of gonococcal and chlamydial transmission.

**Methods:** The study evaluated networks of heterosexually transmitted gonococcal and chlamydial infection in Seattle, Washington using data collected directly from index cases and from sex partners. Face-to-face interviews were conducted with 127 patients with gonorrhea and 184 patients with chlamydia (index cases) and their named sex partners, as well as the partners of infected partners. Detailed information was obtained regarding demographic, behavioral, and sexual-history characteristics of all respondents. Chains of infection were followed through contact tracing with data collected on as many persons as possible, establishing networks of sexual contact and disease transmission.

**Findings/Discussion:** The network analysis of gonococcal and chlamydial infections suggests that the infections spread differently through networks of sex-partner interaction and involve different sectors of the population. Gonococcal-network members differed significantly from chlamydial-network members in a number of demographic variables, including race or ethnicity, education, and unemployment status. Gonococcal networks were larger than chlamydial networks. Gonococcal-network members were more likely to report past history of crack-cocaine use, sexual assault, and having been in jail. Gonococcal-network members also reported having more sex partners during the past one year and three months than did chlamydial-network members. Gonococcal and chlamydial mixing matrices demonstrated assortativeness for sex partner selection by race or ethnicity but not by sexual activity level, and no systematic differences between networks were noted.

Disease control implications of this network analysis suggest that targeted intervention activity at the network rather than the individual level may provide greatest access to persons at risk of future infection. For example, an intervention to reduce gonococcal transmission may involve community-based organizations that focus on socially marginalized populations.

**Zenilman, J. M. (2000). Gonorrhea, chlamydia and the sexual network: pushing the envelope. Sex Transm Dis 27(4): 224-5.**

**Type:** Editorial

**Background:** Intergroup differences on reported rates of gonorrhea and chlamydia in whites and blacks have been reported and healthcare access, biology and sexual behavior have been ruled out as the primary domains responsible for these differences. In a major conceptual leap, the concept of sexual networks is being explored. This shift is dramatic because the key determinant is now the sexual behavior and STD risk of the partner.

**Methods:** In an editorial introducing a special journal issue, the author reviews past discussion, hypotheses and literature on the reported rates of gonorrhea and chlamydia in whites and blacks.

**Findings/Discussion:** The author introduces an article by Stoner (Sex Transm Dis, 2000) which presents data which demonstrates that dissortative mixing is an important feature of STD infection chains. Stoner's data also confirms previous work that suggests that patients with gonorrhea have higher rates of risky social behavior and adverse social indicators. The author

notes that given a demonstrated link between STDs, health status and poverty, the challenge is to develop strategies that effectively target culturally sensitive and nonstigmatizing health resources and to involve the affected communities in the development and implementation of these initiatives.

## **Populations/Settings/Approaches: Sex Workers**

*Articles describe interventions with or regulation of commercial sex workers.*

**Bourcier, E., E. J. Douglas, et al. (2002). Support for applying a structural approach to prevention efforts: examination of the high-risk settings of truck routes, brothels, and migrant work sites. Meeting abstract. Int Conf AIDS.**

### **Author abstract**

**Issues:** Long-distance truck drivers, brothel-based sex workers, and migrant workers are populations identified as high-risk by HIV prevention programs. This focus on target groups often involves efforts to change individual behavior. Since the late 1990's, the context of risk behavior has been recognized as critical to intervention success. The Synergy Project funded by USAID, is facilitating practical program design by organizing technical reviews and tools. Three new Synergy publications explore the settings of truck routes, brothels, and migrant work sites by looking at contextual and structural factors. They synthesize hundreds of studies related to each setting.

**Description:** These publications look at individual risk behaviors and at the social, community, institutional, and individual contexts that affect behaviors. They discuss common themes that exist across countries as well as variations and describe effective interventions. They include cost/resource analyses of these interventions that provide quantity-based data that are not tied to prices (which vary over time and countries).

**Lessons Learned:** Sweat and Denison (Reducing HIV incidence... AIDS 1995; 9 Suppl A: S251-7) identified four levels of causation as significant to the spread of HIV -- superstructural, structural, environmental, and individual. The publications apply this approach to settings. The context-driven perspective suggests an approach that considers, even targets, different levels of causation.

**Recommendations:** The publications argue that culture and social surroundings are crucial to understanding individuals and affecting behavior. Underlying issues, like gender inequity and stigma may be invisible yet overpowering. These publications argue for an approach that acknowledges contextual factors and addresses multiple levels. Settings such as truck routes are more than transmission settings; they are systems through which prevention efforts can reduce transmission.

**Goldsamt, L., M. Clatts, J. Sotheran, et al. (1998). Environmental factors in injection-related HIV risk in female commercial sex workers from two US cities. (abstract no. 23535). Int Conf AIDS 12: 449.**

### **Author abstract**

**Background:** As part of a study of injection drug users (IDU) in New York City and Denver Colorado, USA, 50 female commercial sex workers (CSWs) and 79 women who were not CSWs were interviewed regarding their injection-related HIV risk behaviors.

All subjects were recruited in street-based venues (e.g., parks, public restrooms) on the Lower East Side of NYC and the East Side of Denver. These cities were selected for their contrasting background seroprevalence, density of IDUs, drug forms, and associated drug injection practices.

**Methods:** Subjects were eligible if they reported any injection drug use during the past 30 days. A structured interview, based upon existing measures and the results of extensive ethnographic research in each community, was administered to all subjects. The interview covered 13 different areas, including demographics, most recent solitary/group injection episodes, HIV-related drug risk behaviors, knowledge of HIV-related drug risks, and intentions regarding HIV-related drug

behavior. We used general linear modeling to control for the effects of city and city/CSW interactions, with follow-up t-tests or chi-square analyses for significant main effects.

**Results:** CSWs and non-CSWs did not differ on demographic measures (age, ethnicity, education, marital status). CSWs injected more frequently, were more likely to inject in public locations, and had less stable housing. CSWs injected an average of 7.9 times each day, compared to 2.9 injections/day for non-CSWs ( $t = 2.65$ ,  $p = .01$ ); felt that their most recent injection was in a location likely to be interrupted by another person ( $x^2 = 8.70$ ,  $p = .013$ ); and were more likely to have spent a night in a public place during the last 30 days ( $t = 9.98$ ,  $p = .002$ ), although no differences were found in type of primary living situation or perceived homelessness.

**Conclusions:** Female commercial sex workers are at greater HIV risk than non-commercial sex workers due not only to higher injection frequency, but also to injection in high risk environments, which create the need to inject more quickly and surreptitiously. Furthermore, unstable living situations limit CSWs ability to maintain new or clean injection equipment. These results suggest that environmental factors and their relationship to HIV-related risk behaviors need to be explored in research and interventions involving CSWs and other high risk populations.

**Ghys, P., G. Mah-Bi, M. Traore, et al. (1998). Trends in condom use between 1991 and 1997 and obstacles to 100% condom use in female sex workers (FSW) in Abidjan, Cote d'Ivoire. (abstract no. 33101). Int Conf AIDS 12: 612.**

#### **Author abstract**

**Objective:** To describe trends in reported condom use by FSW between 1991 and 1997, to study the impact of targeted interventions on condom use, and to identify obstacles to condom use by FSW in Abidjan in 1997.

**Methods:** Since 1991 the Ivorian Ministry of Health has sponsored an HIV/AIDS prevention campaign targeted at FSW that includes group health education sessions in sex work sites, peer education, and referral of FSW to a confidential STD/HIV clinic that offers health education, STD diagnosis and treatment, HIV counseling and testing. In 1991, 1993, 1995 and 1997 community-based surveys were conducted among Abidjan female sex workers. During the survey questions were asked about condom use with the last client, attendance at the education sessions and the clinic, and in 1997, about obstacles to condom use.

**Results:** Reported condom use with the last client was 63% in 1991 ( $N = 294$ ), 78% in 1993 ( $N = 602$ ), 76% in 1995 ( $N = 828$ ) and 91% in 1997 ( $N = 500$ ) ( $p < 0.05$ ; test for trend). Condom use was more frequent among women who had attended community health education sessions than among those who had not attended (90% vs 72% in 1993 and 81% vs 73% in 1995;  $p < 0.05$ ). Condom use with the last client was also more frequent among women who had attended the clinic than among those who had not attended (91% vs 77% in 1993; 87% vs 72% in 1995; 95% vs. 89% in 1997; all  $p < 0.05$ ). In 1997 condom use was less frequent in women working in high class hotels and night clubs compared with women working in other types of sites (71% vs 92%;  $p < 0.05$ ) and in Ivorian women compared with other nationalities (87% vs 94%,  $p < 0.05$ ). The most frequently cited reason for not using condoms was the client's refusal (40%), followed by failure of the sex worker to propose condom use (32%) and non-availability of a condom (28%).

**Conclusion:** Condom use among FSW in Abidjan has increased dramatically between 1991 and 1997 and is associated with exposure to a targeted intervention program. It is important to continue targeted prevention efforts comprising community-based and clinic-based activities and to extend these to clients of sex workers.

**Kerrigan, D., L. Moreno, et al. (2002). A structural intervention significantly increased protective behavior and reduced STI among establishment-based female sex workers in the Dominican Republic. Meeting abstract. Int Conf AIDS.**

#### **Author abstract**

**Background:** Despite interest in the potential efficacy of structural interventions to reduce HIV transmission, few studies have examined their impact on risk behavior and disease outcomes.

While the Thai "100% condom" intervention was reported to be highly effective, its applicability in other cultural settings had not been examined.

**Methods:** The Thai model was adapted for the Dominican Republic based on formative research. In Santo Domingo, a solidarity-based intervention was implemented with female sex workers (SWs), sex establishment owners/managers and other employees. In Puerto Plata, government policy and regulation was also included allowing us to examine the additive impact of solidarity and government policy. A pre-post test intervention trial design with historic controls was utilized. A cross-section of 400 SW participated in a behavioral survey and STI testing for gonorrhoea, chlamydia and trichomoniasis at baseline and one-year follow-up. Participant observations were conducted with 130 SW at pre-post to assess ability to reject unsafe sex.

**Results:** In combined analysis across both cities: STI prevalence decreased significantly (27.1% to 16.1%; OR 1.93; p=.000); Consistent condom use (CCU) with new clients rose to almost 100%; CCU with regular partners rose significantly (13.8% to 23.0%; OR 1.80; p=.005) as did CCU with all partners in the last month (33.6% to 45.1%; OR 1.62; p=.002). SWs ability to reject unsafe sex also increased significantly (57.3% to 75.2%; OR 2.36; p=.001). The intervention (13-item scale; Cronbach's Alpha=.80) was correlated with all study outcomes (p<.05). Changes were larger in Puerto Plata than Santo Domingo.

**Conclusions:** Environmental-structural interventions are highly effective in increasing consistent condom use and decreasing STI among female sex workers.

**Louis, A., L. Kumaramangalam, V. Sabapathy, et al. (1998). Intervention among truck drivers & CSWS along the national highway 7 at Hosur, Tamilnadu. (abstract no. 33107). Int Conf AIDS 12: 613.**

#### **Author abstract**

**Issue:** Target population vulnerable to HIV/AIDS since they are away from home from a number of days and highway commercial sex workers are available.

**Project:** A multi-dimensional intervention using Information, Education, Communication (IEC), condom distribution and an STD referral was developed. A baseline survey and ethnographic research were conducted to establish indicators for the project. A referral system was developed for both truckers and sex-workers, through which STD cases were treated to reduce the risk of HIV infection. The target population was mobilised, peers were identified and trained, one to one communication and focus group discussions used to promote health seeking behaviour. 3 counselling booths cum drop-in centres were set up along the highway at points where truckers assemble. Non-traditional condom outlets were established close to where sex takes place.

**Results:** Awareness among truck drivers and highway CSWs increased from 10% to 57% and 47% respectively. More than 600 STD cases were referred and 532 cases received treatment, through affiliated STD care providers. Usage of condoms increased from 4% to 19%. Lessons learned: Targeted intervention programmes can be successful if they address truckers according to their specific needs, their type of work as men on the move and the situations they find themselves in.

**Moreno, L., H. Jerez, et al. (2002). Combining structural and community-based approaches reduces HIV/STI vulnerability among female sex workers in the Dominican Republic. Meeting abstract. Int Conf AIDS.**

#### **Author abstract**

**Background:** There has been significant interest in adapting the Thai 100% condom program due to its reported success as a structural intervention with female sex workers (SWs). However, critics of such approaches have expressed concerns that structural approaches that do not include community mobilization and participation may result in increased marginalization of vulnerable groups.

**Methods:** This paper describes how a structural intervention can be coupled with solidarity building activities that promotes and protects the rights of participants and strengthens the intervention's effectiveness. An integrated structural and community-based intervention was implemented in 34 sex establishments in Puerto Plata, Dominican Republic over the course of

one year. 400 SW participated in pre-post test surveys and STI testing. Intervention elements included: a) regional governmental 100% condom policy; b) participatory workshops with SWs, establishment owners and employees to encourage collective commitment to condom use; c) monthly STI counseling and testing; d) environmental stimuli such as 100% condom posters, visible and stable supplies of condoms and disc jockey condom messages; and e) certificates of compliance and graduated sanctions for non-compliance.

**Results:** A 40% reduction in STI (28.8% to 16.3%;  $p=.003$ ) and a 40% increase in consistent condom use (31.5% to 53.8%;  $p=.000$ ) with all paying and non-paying partners in the last month was achieved by the integrated intervention. Process evaluation data demonstrate that the success of governmental policy and regulations were due in large part to the project's ability to mobilize community participation and support.

**Conclusions:** Government policy interventions should be combined with community mobilization and participation to enhance HIV/STI prevention effectiveness and protect the human rights of vulnerable groups.

# STRUCTURAL INTERVENTIONS IN PUBLIC HEALTH

## Alcohol

*Articles describe interventions related to reducing youth access to alcohol and alcohol-impaired driving*

**Bernhoft, I. M. and I. Behrensdoerff (2003). Effect of lowering the alcohol limit in Denmark. *Accid Anal Prev* 35(4): 515-25.**

### Author abstract

On 1 March 1998, the Danish per se limit was lowered from 0.08 to 0.05% blood alcohol concentration (BAC) for motor vehicle drivers. Based on accident data and drivers' drinking habits before and after the amendment, the effect of the new limit has been evaluated. Interviews revealed a significant decrease in the number of drinks that drivers allow themselves to drink within a 2-h period before driving. The proportion of drivers, who would not drink at all or only have one drink, increased from 71% before the amendment to 80% after the amendment. Drivers with changed drinking habits most often stated the lower limit as the main reason for having less alcohol. However, based on accident data from the first year after the amendment, this has not resulted in a marked decrease in the proportion of injury accidents with impaired motor vehicle drivers (BAC $\geq$ 0.05%) compared to all injury accidents. On the contrary, the proportion of fatal accidents with drink-drivers compared to all fatal accidents has increased in the after-period. The total numbers of drink-driving sentences were a little larger in 1999 than in 1997 because of the lower limit, but a significant change from higher towards lower alcohol levels can be seen.

**DeJong, W. and L. M. Langford (2002). A typology for campus-based alcohol prevention: moving toward environmental management strategies. *J Stud Alcohol Suppl* (14): 140-7.**

### Type: Review

**Background:** This article describes a common public health social ecological framework, applies it to college student drinking and reviews promising case studies of its application. It also reports findings from a national survey of U.S. colleges and universities about available resources for pursuing environmentally focused prevention and describes a typology matrix of campus-based prevention and treatment options.

**Methods:** The typology matrix is grounded in a social ecological framework, which recognizes that health-related behaviors are affected through multiple levels of influence: intrapersonal (individual) factors, interpersonal (group) processes, institutional factors, community factors and public policy. It was developed by US DOE Higher Education Center for Alcohol and Other Drug Prevention. In 1998, the Center first surveyed (Survey of American College Campuses) senior administrators responsible for their school's institutional response to substance use problems. The study sample included a probability sample of 2- and 4-year US campuses; the response rate was 76.9%.

**Findings/Discussion:** The environmental change category of the survey includes five subcategories of strategic interventions: 1) offer and promote social, recreational, extracurricular and public service options that do not include alcohol, 2) create a social, academic and residential environment that supports health-promoting norms, 3) limit alcohol availability both on- and off-campus, 4) restrict marketing and promotion of alcoholic beverages both on- and off-campus and 5) develop and enforce campus policies and local, state and federal laws. Scientifically based evaluation research is scarce but new funded research initiatives should provide the finances needed for research on environmentally focused policies and programs.

The 1998 administrators' survey was undertaken to determine how many colleges and universities have the resources and infrastructure to pursue this approach. Respondents provided information on infrastructure, current funding and staff levels and data collection and research. Findings showed that the majority of US colleges have not yet installed the basic infrastructure required for developing, implementing and evaluating environmental management strategies.

Several steps will facilitate progress towards a more comprehensive approach: establishment of a permanent campus task force that reports directly to the president, participating actively in a campus-community coalition that seeks to change the availability of alcohol in the local community and joining a state-level association that speaks out on state and federal policy issues. An important state level role is facilitating the simultaneous development of multiple campus and community coalitions within a state.

**Gruenewald, P. J., L. Remer, et al. (2002). Evaluating the alcohol environment: community geography and alcohol problems. *Alcohol Res Health* 26(1): 42-8.**

**Type:** Discussion

**Background:** Several recent ecological studies of alcohol use and abuse in the US have incorporated a view of community settings and alcohol problems that includes both individual drinking behaviors and the environmental contexts in which these behaviors occur. The availability of alcohol at different places affects drinking practices and may influence the incidence, prevalence and geographic distribution of alcohol-related problems in the community.

**Findings/Discussion:** Ecological studies of alcohol use are based on the observation that alcohol problems occur in environmental settings and that environmental settings may be changed through community action. Several research techniques used to study the geography of alcohol use and related problems (e.g. motor vehicles accidents, pedestrian injuries, violence) are examined. These include a survey technique, simply asking people where they drink, the circumstances of their drinking and their drinking behaviors. A second way to gather information is to examine the geographic distribution of drinking-related events (e.g. alcohol-related crashes, arrests for public drunkenness) using archival data such as police reports. The third approach requires the identification of specific environmental features of the community related to alcohol use (e.g. alcohol outlets) and the empirical examination of relationships between these environmental features and problem outcomes. This spatial ecology of community alcohol problems can be revealed only through the combined use of survey and archival data.

Technologies and tools such as maps and mapping, spatial analysis and statistics, geomatics can be used to map the environment in which problem behaviors take place. This area of research may lead to a greater understanding of the manifestation of individual problem behaviors in environments which can be regulated and controlled.

**Shults, R. A., R. W. Elder, D. A. Sleet, et al. (2001). Reviews of evidence regarding interventions to reduce alcohol-impaired driving. *Am J Prev Med* 21(4 Suppl): 66-88.**

**Author abstract**

**Background:** Alcohol-related motor vehicle crashes are a major public health problem, resulting in 15,786 deaths and more than 300,000 injuries in 1999. This report presents the results of systematic reviews of the effectiveness and economic efficiency of selected population-based interventions to reduce alcohol-impaired driving.

**Methods:** The *Guide to Community Preventive Services's* methods for systematic reviews were used to evaluate the effectiveness of five interventions to decrease alcohol-impaired driving, using changes in alcohol-related crashes as the primary outcome measure.

**Results:** Strong evidence was found for the effectiveness of .08 blood alcohol concentration laws, minimum legal drinking age laws, and sobriety checkpoints. Sufficient evidence was found for the effectiveness of lower blood alcohol concentration laws for young and inexperienced drivers and of intervention training programs for servers of alcoholic beverages. Additional information is provided about the applicability, other effects, and barriers to implementation of these interventions.

**Conclusion:** These reviews form the basis of the recommendations by the Task Force on Community Preventive Services presented elsewhere in this supplement. They can help decision makers identify and implement effective interventions that fit within an overall strategy to prevent impaired driving.

**Turrisi, R., B. Nicholson and J. Jaccard (1999). A cognitive analysis of server intervention policies: perceptions of bar owners and servers. J Stud Alcohol 60(1): 37-46.**

**Type:** Theoretical examination of college bar owners' and servers' attitudes and beliefs about server intervention policies

**Background:** Past research shows that server policies can have a positive impact on excessive drinking and driving under the influence of alcohol but server intervention policies have not been embraced by the alcohol service industry. The authors examined the underlying psychological variables relevant to alcohol server intervention policies. The research focuses on: 1) identifying policies that are favorably or unfavorably viewed by owners and servers that might assist in future policymaking decisions, and 2) utilizing perspectives from psychological decision theory to identify perceived cognitive outcomes underlying owner and server attitudes toward server intervention policies. College bar owners and servers were interviewed to determine their attitudes and perceptions regarding the implementation of server intervention policies. The authors attempted to identify both the attitudes towards the policies and the determinants of the attitudes.

**Methods:** Owners (n = 185) and servers (n = 185) of college bars were asked about their attitudes and perceived cognitive outcomes regarding server intervention policies. Each respondent was given a packet containing general instructions and a battery of questionnaires that included measures for the attitudes toward different server intervention policies and perceived expectancies about the policies. Measures were adopted from the traditional attitudinal literature.

**Findings/Discussion:** The findings revealed no statistical differences between owners and servers on their attitudes toward the different server intervention policies but statistical differences were found between the different policies. Favorable policies focused on providing services to customers; unfavorable policies focused on limiting the sales of alcohol. Attitudes are likely to have a direct influence on the adoption of policies or, on the part of the server, compliance with the policies. Attitudes toward the policies were found to be a function of the perceived hassle of implementing the policies and how effective the policy was in preventing driving under the influence.

The authors note that further research is necessary to examine the generalizability of these findings. For example, the present analysis did not examine differing perceptions based on age, years of experience or other background characteristics of the owners and servers. In addition, owners with different clienteles from the college bars included here may utilize entirely different policies.

**Wagenaar, A. C., D. M. Murray, J. P. Gehan, et al. (2000). Communities mobilizing for change on alcohol: outcomes from a randomized community trial. J Stud Alcohol 61(1): 85-94.**

**Type:** Randomized trial

**Background:** Communities Mobilizing for Change on Alcohol (CMCA) was a randomized 15-community trial of a community organizing intervention designed to reduce the accessibility of alcoholic beverages to youths under the legal drinking age in upper Midwestern communities. This community level intervention sought to reduce the number of alcohol outlets selling to young people; reduce the availability of alcohol to youths from noncommercial sources like parent or siblings; and reduce community tolerance of underage drinking and noncommercial access to alcohol.

**Methods:** Data were collected at baseline before random assignment of communities to intervention or control condition, and again at follow-up after a 2.5-year intervention. Data collection included in-school surveys of twelfth graders, telephone surveys of 18- to 20-year-olds and alcohol merchants, and direct testing of the propensity of alcohol outlets to sell to young buyers.

**Findings/Discussion:** The CMCA intervention most significantly and favorably affected the behavior of 18- to 20-year-olds and the practices of on-sale alcohol establishments. Alcohol merchants appear to have increased age-identification checking and reduced propensity to sell to

minors. Eighteen- to 20-year-olds reduced their propensity to provide alcohol to other teens and were less likely to try to buy alcohol, drink in a bar or consume alcohol. The effect was marginal on off-sale alcohol establishments. It produced no significant effect on high school seniors.

The community intervention was successfully implemented in communities that had paid little attention to youth drinking. Despite the common implementation complexities of large-scale community-change projects, results were favorable on three of the four key target populations. The findings suggest that community organizing is a useful intervention approach for mobilizing communities for institutional and policy change to improve the health of the population.

## Drugs

*Articles describe addiction, drug use and US drug policy.*

**Grossman, M., F. J. Chaloupka, et al. (2002). Illegal drug use and public policy. One can support the war on drugs' goal of reducing consumption without supporting the war itself. Health Aff (Millwood) 21(2): 134-45.**

**Type:** Review and data analysis

**Background:** Given the high costs of the war on drugs in the US in terms of expenditures, incarcerations and the spread of HIV and AIDS among intravenous drug users, the authors summarize and discuss the theoretical and empirical evidence concerning the legalization of marijuana, cocaine, heroin, and other illicit substances. They address three contentious issues: the contention made by proponents of legalization that the demand for illegal drugs is not responsive to price and evidence that suggests otherwise, 2) the assertion by opponents of legalization that price will fall if drugs are legalized, perhaps increasing demand and availability, and 3) the argument of opponents that the option of legalization and taxation is not feasible.

**Methods:** Analysis of data on cocaine, heroin and marijuana prices and discussion of the literature

**Findings/Discussion:** The authors conclude with three factors not emphasized in the legalization debate. The first factor is that legalization of all drugs or legalization of marijuana alone may increase consumption if prices fall by as much as suggested; second and related is that these price reductions may have been greatly overestimated. Lastly, the authors suggest that legalization and taxation of drugs, similar to the present regulation of cigarettes and alcohol, may be better than the current approach and may lead to a lower level of consumption. They suggest social welfare is potentially greater when drugs are legal and taxed and that tax revenue could be redistributed to the population or used to fund drug treatment and prevention programs.

**Haden, M. (2002). Illicit IV drugs. A public health approach. Can J Public Health 93(6): 431-4.**

**Type:** Discussion

**Background:** This report on Canada's drug laws, particularly related to intravenous drugs, lays out the author's assertion that the prohibitionist drug laws and drug war have harmed both users and communities by increased HIV infection, crime, overdoses, unsanitary injection techniques and the marginalization of drug users. The author's goal is to clarify the available options of legal controls over drugs and to discuss how these options impact level of consumption, the marginalization of drug users and the relationship between legal status and level of consumption.

**Findings/Discussion:** The author outlines and discusses eight options for legal controls of drugs in Canada: "free market" legalization; legalization with "product" restrictions; market regulation; availability by prescription; decriminalization; de facto decriminalization or legalization; depenalization or criminalization. He stresses that the "drug problem" cannot be managed until addiction is viewed through the lens of public health rather than through the lens of the legal system.

**Mammo, A. and J. F. French (1998). Using social indicators to predict addiction. Subst Use Misuse 33(12): 2499-513.**

**Type:** Social indicator analysis and review of literature

**Background:** The authors extended the application of social indicator analysis to include short-term prediction of community needs for substance-abuse treatment. Social indicator analysis uses summary data of selected characteristics of a population under study at a desired geographic level (e.g., county) and employs moderately complex statistical techniques to arrive at relative treatment needs estimates. The social indicator approach may draw data from a variety of sources in constructing a composite scale. The Relative Needs Assessment Scale (RNAS) was used in this study. A weakness of this type of analysis is that the scale derived from the indicators measures a relative need for treatment as opposed to estimating the number (or proportion) of people in need of treatment which could be obtained directly from surveys or indirectly from mathematical (statistical) models.

**Methods:** The authors obtained the parameters by regressing the proportions of people addicted to alcohol (or drugs) in the 21 counties in New Jersey on social-indicator-based relative treatment need estimates for alcohol or drugs.

**Findings/Discussion:** Because of cost, the social undesirability of illegal drug use and other constraints, it is difficult to estimate need for treatment from routine surveys. The authors used a carefully selected number of social indicators to produce a scale that is strongly related to directly or indirectly obtained estimates of "substance" abuse" or "dependence." The social indicator approach can draw data and integrate estimates from independent sources and is an important tool for planning and resource allocation.

**Rasmussen, D. W. and B. L. Benson (1999). Reducing the harms of drug policy: an economic perspective. Subst Use Misuse 34(1): 49-67.**

**Type:** Discussion

**Background:** Economics is the study of choice among alternatives under conditions of scarcity. The authors suggest that drug policy is an "economic" problem since a choice is required because not all options (e.g. control, treatment) are possible. Drug policies are developed under conditions of scarcity: there are not enough police, treatment facilities, and social services to solve the drug problem. The authors suggest that current policies do not necessarily reduce drug problems and can generate unintended consequences. The authors argue that a harm reduction approach to drug policy is a pragmatic cost-effective strategy which attempts to achieve efficient drug policy.

**Methods:** The authors discuss economic aspects of drug enforcement through analysis of current federal and state policies. Using tools of economic analysis, they suggest that enforcement generates harm, undermines public safety and does not achieve the goal of reduced drug use.

**Findings/Discussion:** Enforcement is the dominant drug policy in the United States, in part because both federal and state asset forfeiture laws and budget processes offer police agencies incentives to focus on enforcement rather than other policy alternatives. The authors argue that "zero-tolerance" policies in the drug war are the military equivalent of unconditional surrender and are the antithesis of economic reasoning. However, an efficiency-based harm reduction approach is consistent with an economic approach because it rejects "all-or-nothing" approaches and realizes that policy change is incremental. This position is often opposed as one leading to drug legalization but the authors note that substantial literature supports the idea that reducing enforcement in favor of treatment, benign neglect and other harm-reduction policies may lead to a more cost-effective drug policy.

**Rhodes, T., L. Mikhailova, et al. (2003). Situational factors influencing drug injecting, risk reduction and syringe exchange in Togliatti City, Russian Federation: a qualitative study of micro risk environment. Soc Sci Med 57(1): 39-54.**

**Author abstract**

We undertook a qualitative study to explore the micro-environment of drug injecting, risk reduction and syringe exchange practices among injecting drug users (IDUs) in Togliatti City, Russia. Semi-structured qualitative interviews (n=57) were undertaken with current IDUs in May 2001. Findings highlight a recent transition away from hanka (a home-produced liquid opiate derived from opium poppy) towards the injection of heroin powder, and a drug use culture in which injecting predominates. Findings emphasise that risk reduction practices may be influenced less by availability of injecting equipment than by an interplay of situational and micro-environmental factors. Principal among these is a reported fear of police detainment or arrest among IDUs which encourages a reluctance to carry needles and syringes, and which in turn, is associated with needle and syringe sharing at the point of drug sale. We note the role of policing practices in influencing risk reduction and the potential role of policing agencies in supporting HIV prevention initiatives among IDUs.

**Weatherburn, D., C. Jones, et al. (2003). Supply control and harm reduction: lessons from the Australian heroin 'drought'. *Addiction* 98(1): 83-91.**

**Type:** Review and data analysis

**Background:** Using a "natural experiment", a heroin shortage in December 2000 and January 2001, the authors examine the effects of supply-side drug law enforcement on the Australian heroin market. The heroin shortage, which appeared to have been caused at least in part by drug law enforcement, was an opportunity to examine the impact of a sharp fall in the availability of an illicit drug and the effect on the harms associated with heroin.

**Methods:** Data were drawn from a survey of 165 heroin users in South-Western Sydney, Australia; from the Drug Use Monitoring in Australia (DUMA) project; from NSW Health records of heroin overdoses; and from the Computerized Operational Policing System (COPS) database.

**Findings/Discussion:** During the shortage, heroin price increased, while purity, consumption and expenditure on the drug decreased. The decrease in overall heroin use was accompanied by a significant reduction in the rate of heroin overdose but this health benefit may have been offset by an increase in the use of other drugs (mainly cocaine) during the heroin shortage. This substitution of drugs is an unintended consequence which should be examined carefully; cocaine may be a more dangerous drug than heroin relative to public health and crime. There does not appear to have been any enduring impact on crime rates as a result of the heroin 'drought' despite some immediate changes in break and enter crimes.

The data most clearly shows that drug price is a determinant of heroin consumption. This evidence suggests that any reduction in the price of heroin will be accompanied by an increase in heroin consumption. The benefits associated with reduced use of heroin during the shortage were offset by an increased use of other illicit drugs, most notably cocaine. The authors reinforce that proponents of supply-side drug law enforcement must be aware of the unintended adverse consequences that might result from disrupting the market for a particular illegal drug like heroin. They also note that this "experiment" may have resulted because Australia's heroin market is atypical and may be easier to disrupt given the country's small population and island geography and in that way, the lesson may be unique to that market.

## **Tobacco**

*Articles explore tobacco control, both through reducing access to tobacco by youth and through litigation.*

**Balbach, E. D., M. P. Traynor and S. A. Glantz (2000). The implementation of California's tobacco tax initiative: the critical role of outsider strategies in protecting Proposition 99. *J Health Polit Policy Law* 25(4): 689-715.**

**Type:** Documentation of the initiative process and discussion of tobacco policy context

**Background:** California Proposition 99, enacted in 1998, increased California's cigarette tax by 25 cents per pack and allocated a minimum of 20 percent of the revenues to fund antitobacco

education. The authors document the events leading to the passage of the Proposition and discuss the successful and unsuccessful political strategies used by public health groups.

**Methods:** The research for documenting the events and the policy context of California's tobacco tax initiative used printed resources including court files, newspaper stories, and organizations' documents and interviews with key personnel involved in the development of the legislation to implement Proposition 99.

**Findings/Discussion:** Between 1989 and 1996, tobacco control advocates in California were unsuccessful in influencing legislation which underfunded the Proposition 99 Health Education programs by over \$273 million. The underfunding occurred despite some successful public health group tactics such as litigation against the governor.

Health policy research indicates that legislative success requires power (the ability to translate ideas into action), ideas (solid plans of what to do and ways of framing issues), and leadership (the ability to recognize opportunities and commitment to challenge status quo.) (Oliver and Paul-Shaheen, 1997)

Prior to 1996, public health groups relied on insider strategies, an approach that takes advantage of close relationships lobbyists have built with legislative leaders within a concentrated issue area and relies on financial resources and substantive expertise. The public health groups were pitted against skilled insider players such as medical groups and the tobacco industry who had more money, more experience and larger lobbying groups. By diversifying their approach and adding outsider strategies to their efforts, the public health groups were able to force full funding of the health education programs. In July 1996 the underexpenditures stopped because the tobacco control groups made a concerted effort to use public awareness and involvement. Tobacco control groups used a variety of outsider strategies, including paid advertising, free media, a grassroots campaign, and lobbyists, to bring significant media and public attention to the diversions of funds. The authors suggest that these lessons from the efforts of tobacco control groups in California are adaptable to other states. They stress that the public must be involved in efforts to influence tobacco policies. Advocacy groups must commit resources to attract free media, to pay for advertising, and to engage in direct grassroots advocacy.

**Bayer, R. and J. Colgrove (2002). Science, politics, and ideology in the campaign against environmental tobacco smoke. Am J Public Health 92(6): 949-54.**

**Type:** Review

**Background:** For over thirty years, the issue of environmental tobacco smoke (ETS) and harm to nonsmoking bystanders has been at the center of the rhetoric and strategy of antismoking forces in the United States. The authors examine how the political and ideological context of the US influenced beliefs about the harm of secondhand smoke and the public health strategies that were created as a response.

**Findings/Discussion:** In 1971, Surgeon General Steinfeld spoke about bystanders to smoking, encompassing the unborn and the nonsmoker. He proposed a policy agenda of banning smoking from all public spaces. The 1972 Surgeon General's report identified, for the first time, the exposure of nonsmokers to cigarette smoke as a health hazard. In 1973, Arizona became the first state to ban smoking in some public spaces. The tobacco industry took note of the changing social climate as early as 1973; by the late 1970s, following the Roper report, it publicized evidence that passive smoking is not harmful to the nonsmoker. The following years were marked by increasing restrictions on smoking by states and mounting evidence of the dangers of secondhand or involuntary smoking. The resistance from the tobacco industry incorporated several strategies including challenging the scientific evidence of an ETS health hazard and transforming the context of restrictive smoking policies to one focused on the core American values of liberty and choice. However, restrictions on public smoking have eroded the social acceptability of cigarettes and thereby reduced smoking prevalence. This strategy was necessitated by the context of American political culture. The risk of overreaching and the prospect of hostility and political resistance toward public health interventions that are overtly paternalistic always have the potential to impede further policies.

**Forster, J. L., D. M. Murray, M. Wolfson, et al. (1998). The effects of community policies to reduce youth access to tobacco. Am J Public Health 88(8): 1193-8.**

**Type:** Intervention; randomized community trial

**Background:** Tobacco Policy Options for Prevention (TPOP) was designed to test the effects of changes in local policies to limit youth access to tobacco. The project tests the hypothesis that local policy changes following community mobilization will reduce commercial availability of tobacco and have a positive effect on adolescent tobacco use.

**Methods:** A randomized community trial was conducted in 14 Minnesota communities. The 14 communities were randomly assigned to experimental or control conditions. Seven intervention communities participated in a 32-month community-organizing effort with a goal to change ordinances, merchant policies and practices, and enforcement practices to reduce youth access to tobacco. Outcome measures were derived from surveys related to adolescent tobacco use, tobacco acquisition behavior; and perceptions about tobacco availability of students before and after the intervention and from tobacco purchase attempts in all retail outlets in the communities before and after the intervention. Data analyses used mixed-model regression to account for the clustering within communities and to adjust for covariates.

**Findings/Discussion:** Each intervention community passed a comprehensive youth access ordinance aimed at ensuring merchant compliance with tobacco age-of-sale laws and reducing youth access to tobacco. The seven intervention communities showed a lower net prevalence of adolescent daily smoking compared to the control communities. Tobacco purchase success declined more in intervention than control communities. While this decline was consistent with expectations, the difference was not statistically significant. In the intervention communities, cigarettes were more likely to be displayed behind a counter and stores were more likely to post signs about age-of-sale policies.

This intervention study provides evidence that policies designed to reduce youth access to tobacco can have a significant effect on adolescent smoking rates. The community mobilization intervention resulting in policy adoption and enforcement to reduce youth access to tobacco affected adolescent smoking rates. Efforts that limit commercial access to tobacco by youth are an effective component of a multidimensional approach to reducing tobacco use.

**Gorovitz, E., J. Mosher and M. Pertschuk (1998). Preemption or prevention?: lessons from efforts to control firearms, alcohol, and tobacco. J Public Health Policy 19(1): 36-50.**

**Type:** Discussion

**Background:** The judicial doctrine of preemption allows federal or state governments to restrict the ability of state or local governments, respectively, to regulate in a given area. Preemption can interfere with local public health efforts to protect citizens from the risk posed by harm-causing products.

The authors enumerate the implications of preemptive legislation on three products: tobacco, firearms and alcohol. Their examples of preemption in these areas illustrate the potential danger that preemptive legislation poses to efforts to prevent illness, injury and death caused by these products.

**Methods:** The authors present a brief discussion of preemption from across the states, followed by specific examples from California. They suggest that the lessons learned in California will assist policymakers and advocates to understand and confront preemption-based challenges to local public health regulation.

**Findings/Discussion:** Preemption occurs when the state or federal government claims exclusive control over a particular field of regulation. In both "express" and "implied" preemption, the state strips lower levels of government of regulatory authority over the affected field, preventing local regulation even in the absence of any conflict with state law.

The preemption in tobacco control involves the federal Cigarette Labeling and Advertising Act of 1965, as amended in 1969, which imposed cigarette labeling requirements and restrictions on tobacco advertising and included a preemption clause barring states from imposing different mandates or restrictions. In the firearms control arena, federal law leaves most firearm regulation to the states and preemption generally arises in the context of attempts by local governments to

adopt regulations which differ from state regulations. Similarly, the preemptive impact of state legislation regulating alcohol sales and marketing varies widely from state to state. The authors maintain that preemption provides a powerful indirect method of industry control over local regulation as it concentrates regulatory authority in legislative bodies over which industry exerts the greatest control. In securing preemptive legislation, industries can prohibit public health regulation. The authors urge disease- and injury-prevention advocates to be aware of the potential impact of preemption and to protect the ability of state and local governments to deal with harm-causing products.

**Gottlieb, N. H., A. O. Goldstein, et al. (2003). State legislators' beliefs about legislation that restricts youth access to tobacco products. *Health Educ Behav* 30(2): 209-24.**

**Type:** Survey of state legislators

**Background:** The results of a 1994 State Legislator Survey suggested public health strategies to increase support for legislation restricting youth tobacco sales. The authors report on the structure of state legislators' cognitions using the theory of planned behavior as a framework.

**Methods:** The State Legislator Study (in 1994) involved interviews with 444 of 529 eligible legislators from North Carolina, Texas and Vermont. Legislators were questioned concerning their beliefs and intentions related to voting for a hypothetical measure to enforce legislation preventing the sale of tobacco to minors, using scales based on the theory of planned behavior.

**Findings/Discussion:** Attitude (importance), subjective norm (whether most people important to you would say you should or should not vote for the law), perceived behavioral control (ability to cast one's vote for the law), and home state were independently and significantly related to intention to vote for the law's enforcement. The results suggest that advocates should aim to increase legislators' perceptions of the effectiveness of enforcement in preventing smoking and increase the salience of this outcome because the most important variable predicting intention was the policy's public health impact. The authors suggest that the theory of planned behavior was useful but noted that further development of the model in a legislative context could yield additional insights on decision making.

**Jensen, B. A. (2001). From tobacco to health care and beyond--a critique of lawsuits targeting unpopular industries. *Cornell Law Rev* 86(6): 1334-85.**

**Type:** Critique/discussion

**Background:** The tobacco litigation began a new form of class action suits in which lawyers representing thousands to millions of individuals attempt to expose an industry to liability so expansive that it will capitulate and settle even before the plaintiffs' legal theories are tested in court. Many of the same lawyers are now taking on other industries including the health care, gun manufacturing and paint industries. This litigation seeks to extract enormous damages from unpopular but entirely legal industries. The author questions whether this new form of litigation, which has proved a powerful vehicle for plaintiffs, is wise or even constitutional and suggests that reform should be pursued through the more representative branches of government.

**Methods:** In discussion and historical narrative, the author examines four suits (tobacco, managed care, lead paint industry, gun manufacturers). Part 1 of this Note provides a brief history of the tobacco litigation, Part II surveys the history of health care in the US in light of the solution that managed care appears to provide, Part III discusses class action lawsuits recently filed against HMOs, and Part IV examines the use of certain litigation strategies, borrowed from tobacco suits, against gun manufacturers and the paint industry.

**Findings/Discussion:** The author notes that the keystone of each suit was the involvement of a public entity as plaintiff. The assault of joint governmental and public plaintiffs has caused industries to capitulate before testing their defenses in court. The author suggests that the popular appeal of these class action suits conceals legal theories of recovery that probably could not survive courtroom scrutiny. He argues that courts urge settlement in order to clear their dockets and that industries tolerate the settlements as a cost of doing business.

In conclusion, he suggests that the tobacco litigation and subsequent class action suits encourage citizens and the executive branches of government to seek restitution in the courts

after losing in the legislative arena. This forces the judiciary branches into the role of policymaker. If public policy decisions are to be kept out of the courts, plaintiffs' attorneys must not pressure other industries into settlement negotiations. A solution must focus on alliances formed between state governments and private attorneys. He notes that a ban on contingency fee agreements between state governments and private attorneys requires a governmental entity to appeal to the legislature for funding to advance its lawsuits, thus allowing elected representatives to examine whether the proposed litigation achieves the desired policy goal.

**Levy, D. T. and K. Friend (2000). Gauging the effects of mass media policies: what do we need to know? J Public Health Manag Pract 6(3): 95-106.**

**Type:** Literature review with modeling and discussion

**Background:** The authors explore the components of an effective mass media policy and the role of media campaigns as part of a comprehensive set of tobacco control strategies through a review of the main findings of the empirical literature. They construct a framework for understanding mass media policies which shows the influence of concurrent tobacco control policies and the interrelationship between the two. Their model draws on concepts and research from the advertising and marketing literature, as well as from public health studies.

**Methods:** The authors review the empirical literature on the effects of mass media campaigns and develop a framework for understanding mass media policy showing the influence of concurrent tobacco control policies and the interrelationship between the two. They present a model that draws on concepts and research from the advertising and marketing literature and public health studies. They conclude with a discussion of the limitations of existing literature and suggest issues for future examination.

**Findings/Discussion:** In the framework of reducing the prevalence of smoking and smoking-related morbidity and mortality, the components of an effective mass media policy include the exposure, the duration, the content and the advertising or marketing by tobacco manufacturers which may determine the threshold level of anti-tobacco messages needed. The authors note that media campaigns with high levels of exposure and linked to other tobacco control policies appear to be more effective than limited media interventions. However, the evidence of the most effective themes to change attitudes and behaviors is inconclusive. It is clear that planners must develop a campaign consistent with a broader package of tobacco control policies, use the limited empirical data on components for an effective campaign, and devote resources to evaluating and improving their own campaigns.

**Lima, J. C. and M. Siegel (1999). The tobacco settlement: an analysis of newspaper coverage of a national policy debate, 1997-98. Tob Control 8(3): 247-53.**

**Author abstract**

**Objective:** To examine the framing of tobacco policy issues in the news media during the national tobacco settlement debate of 1997-98. The major aims were (1) to describe the extent of newspaper coverage of each of the specific components of the proposed tobacco settlement; (2) to identify the tobacco control frames, and the dominant frame, appearing in each newspaper article; and (3) to examine trends in tobacco control frames over time.

**Design:** A content analysis was performed on 117 articles related to national tobacco legislation appearing in the Washington Post from 1 January 1997 through 18 June 1998.

**Main outcome measures:** (1) Major policy themes of the settlement referred to or implied in each article; (2) major frames used to discuss the problem of tobacco in each article.

**Results:** The generation of new revenue was the dominant theme of the articles, appearing as a major focus in 44% (52) of the articles. Other than the issues of Food and Drug Administration regulation of tobacco and restrictions on cigarette advertising, the public health policy aspects of the tobacco settlement received little attention. The problem of tobacco was portrayed as one of youth smoking in 55% (64) of the articles, but as one of a deadly product in none of the articles.

**Conclusions:** Future discussions of comprehensive tobacco policy should be driven by a more specific discussion of the precise programme and policy mechanisms by which tobacco use can

be most effectively prevented and controlled. The public health community must find ways to frame the tobacco issue more broadly than simply as one of youth smoking.

**McKinlay, J. B. and L. D. Marceau (2000). Upstream healthy public policy: lessons from the battle of tobacco. *Int J Health Serv* 30(1): 49-69.**

**Type:** Discussion

**Background:** Public health and politics are often considered to be entirely separate worlds but the authors argue that public health is inescapably a political activity. The authors' message is straightforward: if public health is to be successful in the 21st century, it must understand the forces and strategies arrayed against it. They argue that the sociocultural context must be considered and suggest that three factors will influence future public health activities: 1) a realistic assessment of the magnitude and tactics of the enemy; 2) the changing nature of the US states; and 3) rethinking the posture of scientific objectivity.

**Methods:** The authors discuss of the sociocultural context of the public health enterprise by reviewing research and legislative activities related to the "Battle of Tobacco" and other public health case studies.

**Findings/Discussion:** Politics goes beyond political party activities; it concerns the structure, distribution, and effects of power in society. It encompasses the groups that pattern the social order and their influence and therefore, the social effects resulting from the policies these groups shape. In this broader sense, politics is essential for effective public health and thus is the inescapable context of public health interventions. The authors invoke the actions of John Snow and apply them to the tobacco control battle. While John Snow might continue anti-tobacco health education campaigns or conduct scientific public health research, the authors argue that Snow would more likely "remove the pump handle from the Big Five tobacco companies." They urge recognition that evidence-based social action on behalf of public health is an appropriate and essential component of the public health enterprise.

**Mindell, J. (2001). Lessons from tobacco control for advocates of healthy transport. *J Public Health Med* 23(2): 91-7.**

**Type:** Review/tutorial

**Background:** The author draws a number of parallels between cigarettes and motor vehicles, smoking and car driving, and the tobacco and the auto/oil industries, and urges healthier transport policies.

**Methods:** The author reviews research and recent political and legislative actions and discusses two public health challenges related to automobile use: changing social attitudes to car use and changing conditions to make "the healthy choice the easy choice".

**Findings/Discussion:** The author suggests that advocates of transport policies that improve public transportation and reduce the volume and speed of traffic can learn lessons from tobacco control activities. She outlines similar control policies for both cars and tobacco: education, encouragement, counter-advertising, fiscal measures, regulation of design, regulation of advertising, technical fixes to reduce emissions, enforcement, legislation and promoting less harmful options. She supports evidence-based legislation as more effective than negotiated voluntary agreements between industry and government. Media advocacy is crucial to reframe the issues to allow changes in national policies that facilitate healthier choices.

She maintains that while multinational companies may oppose public health policies, active national and international networks of healthcare professionals, voluntary organizations, charities and their supporters can match the political power of these industries.

**Nathanson, C. A. (1999). Social movements as catalysts for policy change: the case of smoking and guns. *J Health Polit Policy Law* 24(3): 421-88.**

**Type:** Discussion/analysis

**Background:** In the United States, health-related social movements have played a major role in changing health policies and health behaviors. This article employs an analytic framework drawn

from two bodies of theory to compare the smoking/tobacco control movement and the gun control movement. Analysis was guided by two bodies of theory: social movement theory and work on the social construction of public problems and [perceptions of risk. The author identifies specific social movement ideologies and actions likely to facilitate achievement of the movement's health policy objectives. The primary focus of the article is the smoking/tobacco control movement but comparisons to the gun control movement highlight successes and pitfalls.

**Methods:** The author analyzes key interviews with movement activists and observers, participant-observation in movement-related activities, archival materials, and published books and articles by advocates, journals and scholars to compare the two campaigns of tobacco control and gun control. The analytic method was primarily qualitative and comparative.

**Findings/Discussion:** The author concludes that the success of health-related social movements is associated with (1) the articulation of a socially and scientifically credible threat to the public's health, (2) the ability to mobilize a diverse organizational constituency, and (3) the convergence of political opportunities with target vulnerabilities. She describes the advantages enjoyed by the smoking/tobacco control movement and the disadvantages it avoided. The advantages included the "good cop/bad cop" combination of conservative, highly respected health voluntaries and the initially radical nonsmokers' rights movement, the movement's grassroots base, the construction of credible risk, and the absence of a credible or effective countermovement to nonsmokers' rights. In contrast to the last point, opposition to gun control has been orchestrated by a grassroots organization with elite support, the ability to mobilize its constituency at every level of government and an ideologically resonant framework.

The author quotes theorists who suggest that cultural change is easier to accomplish than social and economic change. In the case of tobacco and smoking control in the United States, she advances two factors to account for the cultural impact: 1) the construction of credible risk and 2) the culturally receptive climate into which the discussion of risk was inserted.

In closing, the author notes that the smoking/tobacco control movement has shifted from citizen activists to a professionalized and lawyer-dominated movement, or from smoking and smokers to the tobacco industry. However, she notes that smoking prevalence has declined because smoking was made socially unacceptable, not because of pressure on the industry. She cautions health-related social movements to keep long-term goals in focus.

**Ong, E. K. and S. A. Glantz (2001). Constructing "sound science" and "good epidemiology": tobacco, lawyers, and public relations firms. Am J Public Health 91(11): 1749-57.**

**Type:** Policy discussion/tutorial

**Background:** The authors state that the "sound science" and "junk science" movement in the tobacco industry is not an effort to improve the quality of scientific discourse but rather is a sophisticated public relations campaign controlled by industry executives and lawyers to manipulate scientific standards of proof for the corporate interests of clients.

**Methods:** The authors analyze and discuss tobacco industry documents made public as a result of litigation. They detail the emergence and players in the "sound science" movement begun by the Philip Morris tobacco company in 1993 to stimulate criticism of the EPA report which identified secondhand smoke as a Group A human carcinogen. The authors also detail the formation of The Advancement for Sound Science Coalition (TASSC) and the worldwide seminars on good epidemiology practices (GEP).

**Findings/Discussion:** The "sound science" program in the United States and Europe recruited other industries and issues to obscure the tobacco industry's role. The European "sound science" plans included a version of "good epidemiological practices" that would make it impossible to conclude that secondhand smoke - and thus other environmental toxins - caused diseases. The authors urge public health professionals to be aware that the "sound science" movement reflects sophisticated public relations campaigns by industry executives and lawyers to serve the corporate interests of their clients. They caution that the issues of "sound science" and "junk science" come to the forefront because the US Supreme Court is allowing judges more freedom to decide whether to admit or exclude scientific evidence.

**Siegel, M., L. Biener and N. A. Rigotti (1999). The effect of local tobacco sales laws on adolescent smoking initiation. *Prev Med* 29(5): 334-42.**

**Type:** Prospective cohort study

**Background:** Little is known about the impact of ordinances and laws which prohibit the sale of tobacco to minors on youth smoking behavior. At the time of this study, over 700 communities had enacted such laws. The authors report the results of a statewide, longitudinal study of the impact of local tobacco sales ordinances on youth smoking initiation.

**Methods:** The authors conducted a prospective cohort study of 592 Massachusetts youths who did not smoke and were ages 12-15 years at the time of a baseline, random-digit-dial, telephone survey in 1993. They were reinterviewed in 1997 to determine whether living in a town with a local tobacco sales ordinance in place reduced the rate of smoking initiation over a 4-year follow-up period.

**Findings/Discussion:** Youths living in towns with a local tobacco sales ordinance at baseline were significantly less likely to progress to established smoking (defined as having smoked at least 100 cigarettes in one's life) than youths living in a town without an ordinance (odds ratio = 0.60; 95% confidence interval 0.37, 0.97). The effect was strongest for youths at the earliest stages of smoking initiation. The magnitude of this effect was unchanged after controlling for potential confounding variables including age, gender, race, and smoking by parents, friends or siblings.

However, there was no relationship between living in a town with an ordinance and youths' perceived access to tobacco. Local tobacco sales laws are associated with reduced rates of adolescent smoking initiation, but in this setting, this effect did not appear to be mediated through reduced access to cigarettes. The authors propose two possible explanations for this paradoxical finding: 1) the effect of tobacco sales ordinances could be mediated not by reducing access to cigarettes but by altering attitudes, perceptions and social norms that affect smoking initiation, or 2) the local tobacco sales ordinances may be a proxy for other factors that distinguish communities in ways that might affect smoking initiation. They conclude that local tobacco sales ordinances are a useful tool even though they may not work in the way they were intended.

**Stead, L. F. and T. Lancaster (2002). Interventions for preventing tobacco sales to minors (Cochrane Review). *Cochrane Database Syst Rev* (1): CD001497.**

#### **Author abstract**

**Background:** Laws restricting sales of tobacco products to minors exist in many countries, but young people may still purchase cigarettes easily.

**Objectives:** The review assesses the effects of interventions to reduce underage access to tobacco by deterring shopkeepers from making illegal sales.

**Search strategy:** We searched the Cochrane Tobacco Addiction group trials register, MEDLINE and EMBASE. Date of the most recent searches: October 2001.

**Selection criteria:** We included controlled trials and uncontrolled studies with pre- and post intervention assessment of interventions to change retailers' behaviour. The outcomes were changes in retailer compliance with legislation (assessed by test purchasing), changes in young people's smoking behaviour, and perceived ease of access to tobacco products.

**Data collection and analysis:** Studies were prescreened for relevance by one person and assessed for inclusion by two people independently. Data from included studies were extracted by one person and checked by a second. Study designs and types of intervention were heterogeneous so results were synthesised narratively, with greater weight given to controlled studies.

**Main results:** We identified 30 studies of which 13 were controlled. Giving retailers information was less effective in reducing illegal sales than active enforcement and/or multicomponent educational strategies. No strategy achieved complete, sustained compliance. In three controlled trials, there was little effect of intervention on youth perceptions of access or prevalence of smoking.

**Reviewer's conclusions:** Interventions with retailers can lead to large decreases in the number of outlets selling tobacco to youths. However, few of the communities studied in this review

achieved sustained levels of high compliance. This may explain why there is limited evidence for an effect of intervention on youth perception of ease of access to tobacco, and on smoking behaviour.

**Wakefield, M., B. Flay, et al. (2003). Effects of anti-smoking advertising on youth smoking: a review. J Health Commun 8(3): 229-47.**

#### **Author abstract**

This paper reviews empirical studies, encompassing community trials and field experiments, and evaluates government-funded anti-smoking campaigns, ecologic studies of population impact of anti-smoking advertising, and qualitative studies that have examined the effects of anti-smoking advertising on teenagers. We conclude that anti-smoking advertising appears to have more reliable positive effects on those in pre-adolescence or early adolescence by preventing commencement of smoking. It is unclear whether this is due to developmental differences, or is a reflection of smoking experience, or a combination of the two. In addition, it is evident that social group interactions, through family, peer and cultural contexts, can play an important role in reinforcing, denying, or neutralizing potential effects of anti-smoking advertising. Although there is some research to suggest that advertising genres that graphically depict the health effects of smoking, emphasize social norms against smoking, and portray the tobacco industry as manipulative can positively influence teenagers, these findings are far from consistent. Finally, the effects of anti-smoking advertising on youth smoking can be enhanced by the use of other tobacco control strategies, and may be dampened by tobacco advertising and marketing. Overall, the findings of this review indicate that there is no single "recipe" for anti-smoking advertising that leads to reductions in youth smoking. Anti-smoking advertising can influence youth smoking, but whether it does in the context of individual anti-smoking campaigns needs to be the subject of careful evaluation.

## **Tuberculosis**

*Article describes the network analysis of a tuberculosis outbreak.*

**Klodahl, A. S., E. A. Graviss, A. Yaganehdoost, et al. (2001). Networks and tuberculosis: an undetected community outbreak involving public places. Soc Sci Med 52(5): 681-94.**

**Type:** Network analysis

**Background:** Tuberculosis remains a major public health problem at the global level despite declining incidence in developed nations. The authors describe a new approach - combining methods from molecular biology, epidemiology and network analysis - which was used to examine an outbreak of tuberculosis in Houston, Texas. The Houston Tuberculosis Initiative focused on Houston in the early 1990s. At that time Houston was also among the top five or six American cities in AIDS cases.

**Methods:** Using combined methods from molecular biology, epidemiology and network analysis, the authors examined an outbreak of tuberculosis in Houston, Texas.

**Findings/Discussion:** Initial investigation using conventional public health strategies revealed few contacts among 37 patients with identical (six-band) DNA (IS6110-based) fingerprints, but subsequent research uncovered over 40 places (including many gay bars) to which patients in this outbreak could be linked. The DNA 'fingerprinting' of Mycobacterium tuberculosis made it clear that current transmission and recent infection (in contrast to reactivation of earlier, latent infection) were much more significant than previously believed.

The infection was spread through complex networks with different actors (persons and places) playing a role in the outbreak. In this particular outbreak, places, notably gay bars, were as important as persons in transmission. Clearly, effective tuberculosis control must focus on both persons (case-finding) and places (place finding). Places are also potentially significant as prospective locations for more cost-effective public health interventions. The authors also suggest that developing valid and reliable measures of the importance of key persons and places in an

outbreak network could improve disease control. For persons, tools might include tuberculin skin testing, chest radiography, chemoprophylaxis, chemotherapy, DOT or even isolation. Interventions for key places of transmission may include increasing tuberculosis awareness through site-specific education programs, tuberculin skin testing with mobile clinics if needed, and inspection for adherence to public health regulations like ventilation.

**Ogden, J., G. Walt, et al. (2003). The politics of 'branding' in policy transfer: the case of DOTS for tuberculosis control. Soc Sci Med 57(1): 179-88.**

**Type:** Literature review and key interviews

**Background:** The authors have two objectives: 1) to develop an understanding the process of policy transfer, particularly in relation to international organizations, and 2) to promote international public health messages more effectively. Using a public health policy case study of tuberculosis, they demonstrate two phases crucial for policy transfer: the mobilization of interest and resources for a particular issue followed by policy development, “branding” and advocacy.

**Methods:** Face-to-face or telephone interviews were conducted with 40 individuals from the main agencies involved in tuberculosis (TB) policy including bi and multi-lateral agencies, technical NGOs, and academic and research institutes. The literature of almost 30 years related to TB was also reviewed. Using an analytical framework developed by Kingdon, the authors formed a picture of how TB reappeared on the international policy agenda and how the interventions to address the disease were packaged and promoted as DOTS.

**Findings/Discussion:** While TB was not a new health problem, it reemerged in the 1980s and 1990s with outbreaks of multi-drug resistant TB and increasing evidence for a link between HIV and TB. This provided a window of opportunity to raise the profile of the issue. This TB “problem stream” was matched by a TB “policy stream” which selected a solution with the participations of visible and hidden actors, both reactive and proactive, in the process.

Ultimately, the response to global TB by WHO was distilled from a complex TB control manual and was “branded” and “sold” as DOTS, Direct Observation of Treatment, Short-Course Chemotherapy. The branding process was not without rifts between the political and operational experts on one side and the technical and scientific experts on the other. Others argued that the approach was operationally and ethically problematic. In 2001, WHO established the Stop TB Initiative to spearhead a wider implementation of DOTS, and to address the threat of MDR-TB as well as the HIV and TB co-epidemic.

The authors conclude that while it is possible to raise the profile of a policy dramatically through branding and marketing, success also depends on external events providing windows of opportunity for action. Simplifying policy approaches to 'one-size-fits-all' as DOTS did carries inherent risks, and can be perceived to harm locally appropriate programs. Lastly, top-down internationally driven policy changes may lead to apparent policy transfer, but not necessarily to successfully implemented programs.

## **Violence Prevention**

*Articles describe interventions related to gun control, such as firearm design and safety devices, and legislative and policy approaches to gun control and reducing firearm injuries.*

**Frattaroli, S., D. W. Webster and S. P. Teret (2002). Unintentional gun injuries, firearm design, and prevention: what we know, what we need to know, and what can be done. J Urban Health 79(1): 49-59.**

**Type:** Review

**Background:** The public health community has long recognized unintentional gun injuries as a public health issue. In 1998 in the United States, 866 people died from unintentional gunshot wounds, resulting in a crude death rate of 0.32 per 100,000, considerably lower than the 2.5 deaths per 100,000 rate reported in 1920 and 1.3 per 100,000 rate in 1973. Victims in 1998 were

overwhelmingly male and aged 15-19 years. Unintentional firearm injuries are amenable to prevention strategies which address modifiable failures in gun design.

**Methods:** In this review and discussion of the literature, the authors review the epidemiology of unintentional gun mortality and morbidity, examine trends in unintentional gun death and discuss intervention strategies.

**Findings/Discussion:** The authors discuss possible explanations for the falling rate of unintentional gun injuries and death. Among the potential causes are changes in gun ownership and demography with a decline in household prevalence of firearms, changes in access to guns among population subgroups, safety practices which may limit children's access to guns and their risk of unintentional injury, and an artifactual influence involving changes in cause-of-death coding practices for firearm deaths. Coding practices may involve classifying suicide deaths as unintentional due to family and societal pressures or coding a death as homicide when one person shoots at another even when the shooter believed the gun was not loaded.

The authors note that intervention strategies for reducing injuries by modification of the products can be more successful than modifying behaviors. They cite design changes such as airbags, shatterproof windshields and seatbelts as examples. While they hypothesize that the same applies to guns, there have not been adequate product modifications or data to test the hypothesis. They discuss product modifications including the loaded chamber indicator, the magazine disconnect and gun personalization. Unlike many other consumer products, the federal government does not regulate guns or their manufacturers. Some states and cities have turned to consumer product safety legislation and litigation as tools for protecting the public's health. The authors suggest that strategies to change social norms should be viewed as complementary to product-focused interventions and not as a substitute.

**Hemenway, D. (2001). The public health approach to motor vehicles, tobacco, and alcohol, with applications to firearms policy. J Public Health Policy 22(4): 381-402.**

**Type:** Discussion

**Background:** The endeavor to reduce gun violence is part of the general and continuing public health struggle to reduce harms caused by consumer products. The public health approach attempts to balance the freedom of consumers to buy, own, and use goods such as motor vehicles, cigarettes, and alcohol responsibly while reducing the negative health effects of the products. Manufacturers attempt to focus prevention efforts on the user rather than the product, and promote education and law enforcement policies directed toward the consumer.

**Methods:** The author draws parallels between four "products" - automobiles, tobacco, alcohol and firearms - and the efforts to control them and reduce the harm they cause. The article focuses on the similarities between the public health struggles related to these four products and highlights successes and lessons learned.

**Findings/Discussion:** One parallel among automobiles, tobacco, alcohol and firearms is that the goal for all four is not to prohibit manufacture or ban consumption but to minimize the burden on public health despite strong and opposing commercial and vested interests whose concern is increasing sales and acceptance. Another parallel is that all four products impose harmful results not just on the user but on others too. The author also acknowledges the differences between the products; for example, to improve auto safety, the focus has been on car and highway design while alcohol and tobacco control efforts have emphasized product access, pricing and promotion. Successful public health efforts emphasize the systematic collection of data, scientific inquiry, and a multi-faceted policy approach that includes modifying the product and the environment.

**Rodriguez, M. A. and E. Gorovitz (1999). The politics and prevention of gun violence. West J Med 171(5-6): 296-7.**

**Type:** Editorial

**Background:** Guns are a leading cause of morbidity and mortality in the United States by contributing to suicides, homicides, accidental injuries and nonfatal injuries. The nature of gun use and violence differs across geographic, demographic and socioeconomic boundaries, posing

challenges for prevention. The political influence of the gun industry and its advocates has hampered legislative efforts to control guns and other weaknesses in the regulatory system hamper prevention. For example, the federal government does not oversee or regulate gun distribution, standards, safety design and advertising of claims about gun ownership.

**Methods:** In an editorial, the author discusses the US approach to reducing gun violence, particularly legal strategies including litigation.

**Findings/Discussion:** The authors suggest that gun control advocates have reluctantly turned to litigation as a last resort because the standard tools of prevention, legislation and regulation have failed. They argue that litigation is a public health intervention which has forced safety improvements, motivated product redesign and created individual incentives for change in products ranging from vaporizers to explosives. Lawsuits against the gun industry seek to prevent injuries by shifting some of the costs of the trauma associated with gun violence back to the industry. However, the gun industry has proposed state and federal legislation which would bar these lawsuits. The authors urge physicians and other health care providers to prevent gun injuries by opposing gun industry legislation to block lawsuits thereby protecting current and future public health efforts.

**Teret, S. P. and P. L. Culross (2002). Product-oriented approaches to reducing youth gun violence. *Future Child* 12(2): 118-31.**

**Type:** Discussion

**Background:** Changes in gun design by manufacturers have the potential to reduce youth violence, to prevent unintentional injury by children or any other user and to make a gun more difficult to use if stolen or obtained illegally. The authors provide a brief history of efforts to make safer, smarter guns and assess the potential of the product safety approach for reducing gun violence.

**Findings/Discussion:** The authors draw on examples of other product oriented approaches to safety such as child-proof caps for medications and physical modifications to automobiles such as mandatory collapsible steering columns, seatbelts and energy-absorbing vehicle frames. As these lessons have demonstrated, changing product design may be more effective in preventing injuries than trying to change personal behaviors.

Technology exists and has existed for as long as 100 years which can make a gun safer around children and unauthorized users. Devices such as a squeezable grip safety, loaded chamber indicators or magazine disconnect devices can reduce the likelihood of unintentional firearm injuries. The emerging technology of a "personalized" gun may make guns less accessible to unauthorized users but it is not a complete solution. There is still a large stock of non-personalized guns, the guns themselves may be more expensive and more people may buy the personalized guns. The authors review other legislative, regulatory, and litigation efforts under way to mandate safer guns.

**Teret, S. P. and D. W. Webster (1999). Reducing gun deaths in the United States. *BMJ* 318(7192): 1160-1.**

**Type:** Editorial.

**Background:** In the wake of school shootings, the authors suggest that the most essential strategy for preventing fatal shootings is making firearms unavailable or inoperable by children. However, despite storage laws and trigger locks, the strategies to make guns unavailable to children have had limited success. The authors suggest therefore that the most effective method is gun personalization so that only an authorized user can operate the gun.

**Methods:** In an editorial, the author advocates the strategy of personalized and childproof guns as a method for reducing both accidental and intentional firearm injuries and violence.

**Findings/Discussion:** The authors suggest that personalized guns, with rapid identification technology via fingerprint, a sequence of buttons or other means of identification are the most effective strategy to prevent children's access to guns. They state that personalized guns could reduce teen suicide and accidental deaths as well as the homicidal shootings by children. They note that the wave of lawsuits brought by cities and citizens against gun manufacturers may

break the stalemate in gun debates in the US. Reports of strong popular support for personalized guns lead the authors to question when legislators will challenge the gun lobby and mandate the safer design of guns.

**Teret, S. P., D. W. Webster, J. S. Vernick, et al. (1998). Support for new policies to regulate firearms. Results of two national surveys. N Engl J Med 339(12): 813-8.**

**Type:** Random public telephone survey with interviews and pretest

**Background:** Several policy options for US firearm policies have been proposed recently to circumvent the rhetoric and stalemate in the debate. These options include the treatment of firearms as consumer products with regulation of the design for safety; denial of gun ownership to those convicted of misdemeanors; and strategies to curtail the illegal sale of guns. To assess public response to these innovative options, the authors conducted a random telephone survey.

**Methods:** Two telephone surveys of 1200 adults each in the United States were conducted in 1996 and 1997-1998. Cognitive interviews and pretests were used in the development of the survey instruments. Twenty-two policies were described in the poll. Potential participants were then contacted by random-digit dialing of telephone numbers.

**Findings/Discussion:** There was strong respondent support voiced for the majority of the options described in the poll even among a sub-group of gun owners. A majority of the respondents favored safety standards for new handguns. These standards included childproofing (favored by 88 percent of respondents), personalization (devices that permit firing only by an authorized person; 71 percent), magazine safeties (devices that prevent firing after the magazine or clip is removed; 82 percent), and loaded-chamber indicators (devices that show whether the handgun is loaded; 73 percent). There was strong support for policies prohibiting persons convicted of specific misdemeanors from purchasing a firearm. Support for prohibitions was strongest for crimes involving violence or the illegal use of a firearm (83 to 95 percent) or substance abuse (71 to 92 percent). There was also widespread support for policies designed to reduce the illegal sale of guns, such as mandatory tamper-resistant serial numbers (90 percent), a limit of one handgun purchase per customer per month (81 percent), and mandatory registration of handguns (82 percent). Most gun owner respondents favored stricter gun regulations in response to 20 of the 22 proposals covered in the poll.

The authors suggest that these findings of strong public support, even among gun owners, for innovative gun policies to regulate firearms demonstrate that these proposals warrant serious consideration by policy makers. These innovative options may break the existing stalemate in the debate on gun policy.

**Vernick, J. S. and J. S. Mair (2002). How the law affects gun policy in the United States: law as intervention or obstacle to prevention. J Law Med Ethics 30(4): 692-704.**

**Type:** Discussion

**Background:** The authors propose a framework of law as intervention, real obstacle, or perceived obstacle to characterize the range of legal issues associated with a public health approach to gun policy in the US. The article provides an overview of the public health landscape for firearms and the law and focuses on legal issues and strategies from a public health perspective, as opposed to a criminal justice perspective, to reduce the incidence of gun deaths and injuries.

**Findings/Discussion:** If law is used as a public health intervention to prevent firearm injuries, the targets of legislation or regulation may include manufacturers, dealers or distributors and buyers or ultimate users of the gun.

The Second Amendment is used as an example of a perceived obstacle to public health interventions relate to firearms. Among the real obstacles are other constitutional provisions, preemption of local gun laws, state firearm litigation immunity laws or statutory limits on the authority of the Consumer Product Safety Commission and the federal Bureau of Alcohol, Tobacco and Firearms. Despite the successful and powerful lobbying of groups like the National Rifle Association, public health practitioners have a potent and versatile tool in the law. Interventions can be crafted to address even real constitutional or statutory obstacles.

**Vernick, J. S., Z. F. Meisel, S. P. Teret, et al. (1999). "I didn't know the gun was loaded": an examination of two safety devices that can reduce the risk of unintentional firearm injuries. J Public Health Policy 20(4): 427-40.**

**Type:** Discussion

**Background:** Built-in handgun safety devices are intended to prevent injuries caused by erroneously believing that a handgun is not loaded. A loaded chamber indicator indicates the presence of ammunition in the gun; a magazine safety prevents the gun from being fired when the ammunition magazine is removed, even if one round remains in the firing chamber. The authors report that their earlier reported random-digit-dial telephone survey of U.S. adults, 34.8% of poll respondents (incorrectly) thought that a firearm with its ammunition magazine removed could not be shot, or said that they did not know.

**Methods:** Framed in a discussion of epidemiologic and survey data and an analysis of historical information from a patent search on gun safety devices, the authors explore ways to increase the prevalence of safety devices. These include legislation or regulation, voluntary action by manufacturers or litigation against manufacturers.

**Findings/Discussion:** The historical patent search revealed that these safety devices date back to the turn of the century with the earliest patent awarded in 1888. However, only 11% of 1998 pistol models contained a loaded chamber indicator and only 14% had a magazine safety. The three primary ways to increase the prevalence of safety devices are legislation or regulation to require these devices, voluntary action by manufacturers or litigation against manufacturers. The authors review the efforts in these three arenas.

The authors note that the data on unintentional gun deaths in the US is inadequate to determine the precise magnitude of the problem or the lives saved by the presence of loaded chamber indicators or magazine safeties on handguns. They also highlight the need for improved firearm injury surveillance systems to understand the influence of firearm design on injury risk and to permit evaluation of safety improvements. However, they argue that improvements on the safe design of handguns whether through legislation, litigation, or voluntary manufacturer action should not await perfect data.

## **Community Capacity Building**

*Articles describe community and neighborhood contexts of public health*

**Anderson, L. M., C. Shinn, J. St. Charles, et al. (2002). Community interventions to promote healthy social environments: early childhood development and family housing. A report on recommendations of the Task Force on Community Preventive Services. MMWR Recomm Rep 51(RR-1): 1-8.**

**Type:** Systematic literature reviews and recommendations

**Background:** The independent, nonfederal Task Force on Community Preventive Services has conducted systematic reviews of early childhood development interventions and family housing interventions and is developing the *Guide to Community Preventive Services* ([http://www.thecommunityguide.org/home\\_f.html](http://www.thecommunityguide.org/home_f.html)). This report is an overview of the process used by the Task Force to select and review evidence and summarizes the recommendations of the Task Force regarding community interventions that promote healthy social environments. Other Community Guide topics have been published and more will be released as completed.

**Methods:** Systematic literature reviews and policy recommendations based on the strength of the evidence. A recommendation required a sufficient number of studies, a consistent effect and a sufficient effect size for at least one outcome.

**Findings/Discussion:** The Task Force states that these interventions will be most useful and effective as a part of a coordinated system of supportive services for families including child care, housing and transportation assistance, nutritional support, employment opportunities and health care.

On the basis of the reviews, the Task Force strongly recommends publicly funded, center-based, comprehensive early childhood development programs for low-income children aged 3-5 years. The basis for the recommendation is evidence of effectiveness of these programs in preventing developmental delay, assessed by improvements in grade retention and placement in special education.

The Task Force also recommends housing subsidy programs for low-income families, which provide rental vouchers for use in the private housing market and allow families choice in residential location. This recommendation is based on outcomes of improved neighborhood safety and families' reduced exposure to violence.

The Task Force found insufficient evidence on which to base a recommendation for or against creation of mixed-income housing developments that provide safe and affordable housing in neighborhoods with adequate goods and services. This lack of evidence does not mean that the intervention is ineffective but rather that well-designed evaluations of these interventions are needed.

In discussing the use of the recommendations in communities, the authors reiterate that the Task Force cannot provide a "how to" list but they point out that recommendations can be used to influence policy and funding decisions, to inform the community, and as an impetus for work with local health departments and housing authorities.

**Ashe, M., D. Jernigan, et al. (2003). Land use planning and the control of alcohol, tobacco, firearms, and fast food restaurants. *Am J Public Health* 93(9): 1404-8.**

**Type:** Literature review

**Background:** The authors reviewed the literature to determine how land use regulations on location and density can function as control tools for public health advocates by limiting the availability of consumer products proved to be harmful to health. The article reviews the history and importance of local government's "police power" to protect public health, the use of that power to limit the availability of alcoholic beverages and explores the potential use of these powers to limit the availability of tobacco, firearms and nutritionally deficient foods.

**Methods:** Literature review

**Findings/Discussion:** "Police power" is the inherent authority of the state and local governments to enact laws and promulgate regulations concerning the health, safety, morals and general welfare of the people. To attain communal benefit, the state may restrict personal or economic interests. The first comprehensive public health act was enacted in 1843 in England; modern zoning with design standards for light, air, water and sewage took place in the 1890s in New York City.

The authors review alcohol control and land use (e.g. limiting the proliferation of retail alcohol outlets) and regulation of secondary effects of alcohol sales such as public and domestic violence, drunk driving, loitering, prostitution, or illegal drug sales. They also explore the regulation of sales practices for tobacco which are already in place (prohibiting sales to minors, banning displays of tobacco, minimum price of tobacco and age of sales clerks who sell tobacco). Theoretically, the same controls which limit the location and number of alcohol retail locations could be explored for tobacco, firearms and fast food outlets. Some potential measures would be regulating location, number and proximity to areas frequented by children, prohibiting drive-through service at fast food outlets, or charging a fee or tax to mitigate the negative effects. The "police powers" of local governments to regulate and attach conditions to land use are potential powerful public health tools.

**Baker, E. A. and C. Teaser-Polk (1998). Measuring community capacity: where do we go from here? *Health Educ Behav* 25(3): 279-83.**

**Type:** Commentary

**Background:** The authors suggest questions to consider as the discussion of measuring community capacity moves forward.

**Methods:** The authors comment on an article by Goodman et al. (Goodman, Health Education & Behavior, 1998) which outlines and describes the main dimensions of community capacity. The authors identify areas for future exploration.

**Findings/Discussion:** To frame the discussion of measuring community capacity, the authors discuss five questions: (1) who is the community?, (2) who are the community leaders?, (3) is it appropriate to measure the barriers and cost of participation?, (4) what is the role of outsiders?, and (5) how can we operationalize and measure the various components of community capacity? Among the important considerations the authors enumerate are the differing needs of local communities and broader community coalitions, the valuable use of the Internet in building capacity and community and the crucial ability of reputational and positional leaders to mobilize their followers. They stress that outsiders in roles ranging from facilitator to data analysis must remain flexible. The outsiders should also transfer skills to the community. The strategies to operationalize capacity must be locally generated and incorporate both community member and outsider perspectives. Measurement of components of community capacity should incorporate both qualitative and quantitative data.

The process used to develop measures, assess capacity, and use the information to intervene must be consistent with the intended outcome of building community capacity. They stress that the process should be cognizant of the history of the community, be participatory (i.e., incorporate the multitude of voices involved, particularly those of the community members themselves), and use the skills and resources available in professional, academic, and community settings. The dialogue must respect all perspectives to enhance community capacity to create healthful changes.

**Brown, M. J., J. Gardner, J. D. Sargent, et al. (2001). The effectiveness of housing policies in reducing children's lead exposure. Am J Public Health 91(4): 621-4.**

**Type:** Retrospective cohort study

**Background:** Studies have shown that efforts to reduce elevated blood levels in children by reducing residential contamination suggest that the benefit of intervening when children are already poisoned is small. However, case identification variance in places with different capacity to intervene suggests that lead poisoning prevention laws may have a preventive effect. This study evaluated the relation of housing policies in two states to risk of subsequent lead exposure in addresses where lead-poisoned children had lived.

**Methods:** Retrospective cohort study. Addresses where children with lead poisoning lived between May 1992 and April 1993 were selected from lead screening registries in two northeastern states differing in their enforcement of lead poisoning prevention statutes. Blood lead levels of subsequently resident children, exterior condition, tax value, age, and census tract characteristics were collected. The odds of elevated blood lead levels in subsequent resident children were calculated with logistic regression.

**Findings/Discussion:** In one state, addresses where lead-poisoned children lived were subject to enforcement and dangerous lead levels were reported to the owner, all tenants at the address and the state lead poisoning prevention program. In the second state, inspection was limited to the unit where the poisoned child lived and seldom resulted in lead hazard abatement. The risk of identifying one or more children with blood lead levels of 10 micrograms/dL or greater was four times higher in addresses with limited enforcement. Controlling for major confounders had little effect on the estimate. In the two states, the rate of subsequent cases of blood lead elevation in addresses with lead-poisoned children in the past was likely the result of differences in enforcement of state housing statutes. Enforcement of housing policies is effective in interrupting the cycle of repeated lead exposure.

**Kawachi, I., B. P. Kennedy and R. Glass (1999). Social capital and self-rated health: a contextual analysis. Am J Public Health 89(8): 1187-93.**

**Type:** Contextual survey data analysis and modeling

**Background:** Social capital consists of features of social organization--such as trust between citizens, norms of reciprocity, and group membership and density of civic associations--that

facilitate cooperation and collective action. Social capital has been claimed to be important for the enhancement of government performance and the functioning of democracy, for the prevention of crime and delinquency and for the maintenance of population health. The authors analyzed social capital and individual self-rated health, with adjustment for individual household income, health behaviors, and other covariates.

**Methods:** Self-rated health ("Is your overall health excellent, very good, good, fair, or poor?") was assessed among 167,259 individuals residing in 39 US states, sampled by the Behavioral Risk Factor Surveillance System. Social capital indicators, aggregated to the state level, were obtained from the General Social Surveys (General Social Survey Cumulative File, University of Michigan, Interuniversity Consortium for Political and Social Research).

**Findings/Discussion:** Individual-level factors (e.g., low income, low education, smoking) were strongly associated with self-rated poor health. However, even after adjustment for these proximal variables, a contextual effect of low social capital on risk of self-rated poor health was found. For example, the odds ratio for fair or poor health associated with living in areas with the lowest levels of social trust was 1.41 (95% confidence interval = 1.33, 1.50) compared with living in high-trust states.

These results extend previous findings on the health advantages stemming from social capital. The authors suggest that social capital in neighborhoods may influence individual health through pathways including promoting a rapid diffusion of health information, increasing the likelihood that healthy norms of behavior are adopted, exerting social control over deviant health-related behavior, increasing access to local services and amenities and influencing the health of individuals via psychosocial processes, by providing affective support and acting as the source for self-esteem and mutual respect. On the state level, the authors hypothesize that more cohesive states produce better health via more egalitarian patterns of political participation that result in the passage of policies that ensure the security of all members.

**Perdue, W. C., L. A. Stone, et al. (2003). The built environment and its relationship to the public's health: the legal framework. Am J Public Health 93(9): 1390-4.**

**Type:** Discussion

**Background:** The authors review the connection between public health and the built environment, ranging from large scale planning of housing and industry in earlier centuries to planning healthier spaces for populations suffering from chronic rather than infectious diseases today. The authors also describe the legal pathways for improving the design of our built environment.

**Findings/Discussion:** The primary health problems of Americans today are chronic rather than infectious diseases, a sharp contrast to one hundred years ago. However, the built environment influences the public's health today as it did in the past by either promoting or discouraging health activities or lifestyles. From automobiles to roads to suburban sprawl to toxic conditions to open space, built environments contribute to obesity, respiratory conditions, sedentary lifestyles or poor nutrition.

Laws can be used to shape the built environment. The authors list five legal avenues for affecting the built environment: environmental regulation, zoning and related developmental requirements, building and housing codes, taxing power and spending power. They conclude with strategies the public health community can use to accomplish the goal of healthier physical spaces: get involved early in the planning process, bring data and help policymakers use the data, be a voice independent of environmental and esthetic concerns, promote healthy activities for children and teens, be a voice for underrepresented populations and minorities and encourage government to lead by example, not just by regulation.

**Seidman, E., H. Yoshikawa, A. Roberts, et al. (1998). Structural and experiential neighborhood contexts, developmental stage, and antisocial behavior among urban adolescents in poverty. Dev Psychopathol 10(2): 259-81.**

**Author abstract**

This study explored the effects of structural and experiential neighborhood factors and developmental stage on antisocial behavior, among a sample of poor urban adolescents in New York City. Conceptually and empirically distinct profiles of neighborhood experience were derived from the data, based on measures of perceived neighborhood cohesion, poverty-related hassles, and involvement in neighborhood organizations and activities. Both the profiles of neighborhood experience and a measure of census-tract-level neighborhood hazard (poverty and violence) showed relationships to antisocial behavior. Contrary to expectation, higher levels of antisocial behavior were reported among adolescents residing in moderate-structural-risk neighborhoods than those in high-structural-risk neighborhoods. This effect held only for teens in middle (not early) adolescence and was stronger for teens perceiving their neighborhoods as hassling than for those who did not. Implications for future research and preventive intervention are discussed.

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## APPENDIX

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