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HIV/AIDS among Brazil's Prison Populations: Significant Political, Public Health, And Human Rights Implications for Failing to Provide Prisoners with Adequate Care

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Abstract

There are significant ethical, public health, and human rights implications for failing to provide detainees and prisoners with adequate safety and health care, particularly with regard to infectious diseases such as HIV and AIDS. In other words, there is an ethical obligation to earmark resources, even when scarce, toward the study and care of prisoners. At the same time, however, how disease surveillance and treatment are carried out in this population—especially with regard to infectious diseases associated with stigmatized or illegal behaviors—raises a different set of ethical issues: For example, obtaining an accurate picture of disease prevalence and incidence rates in prisons as well as effectively treating prisoners may place prisoners at increased risk of physical and legal harms. Thus, both failing to advocate for the incarcerated as well as advocating in a poorly considered way are cause for concern. Additionally, misleading metaphors surrounding prisons and penal systems and the marginalization of prisoners and certain socioeconomic classes lead to a perpetuation of diseases such as HIV and AIDS throughout societies in general. Brazil provides a telling example in that, despite the fact that it has one of the most innovative and proactive HIV/AIDS programs in the world and its Constitution frames health care as a right of all, its imprisoned populations, like those in other countries, shoulder the double burden of being both from lower socioeconomic classes with limited access to resources and at markedly higher risk of contracting HIV than those in the general population. Appropriate solutions will require political, institutional, and cultural changes that assure equitable access to medical care, avenues for real rehabilitation, and safe environments within and beyond prison walls, as well as actions to reduce legal prohibitions against drug use, destigmatize sexual behaviors, and resolve entrenched social inequities.

Keywords: Prisoners; Infectious disease; HIV/AIDS; Brazil; Public health; Disease surveillance; Health Care; Bioethics; Policy; Human rights

Introduction

There are significant political, public health, and human rights implications for failing to provide detainees and prisoners with adequate safety and health care, particularly with regard to infectious diseases including HIV and AIDS. The goals of incarceration, no matter the crime, do not involve exposure to health risks and the acquisition of disease [1]. Yet prevalence rates of communicable diseases such as tuberculosis, hepatitis B and C, syphilis, and HIV/AIDS routinely are higher in imprisoned populations compared to the general communities in which the penal systems reside [1–10]. While in higher-income countries the differential disease burden between the incarcerated and the non-incarcerated has narrowed (though not disappeared), discrepancies persist in low- and middle-income countries (LMICs). With regard to HIV in Brazil, for example, Coelho et al. "detected a rate almost seven-fold that estimated for the Brazilian male population in general" [2]. HIV within the prison population thus has been called a "subepidemic" [11].

Studies among prisoners conducted in countries around the world clearly indicate that confinement increases health risks [3]. Being incarcerated or having been incarcerated is a risk factor for disease and such risk increases the longer or more frequently one is in prison [4, 5]. It is not quite clear, however, whether individuals contract disease more often prior to or during imprisonment [6]. In part, this is due to difficulties in defining the concept of "prisoner." Not all inhabitants of prisons are necessarily criminals and not all prisoners still reside in prisons. In "many countries up to a third of a country's prison population … could be prisoners awaiting trial," and "in most of Latin America, the average criminal trial lasts for over four years and less than five percent of crimes result in a conviction" [1, 12]. Moreover, although prisons often are considered "closed" environments, the prison population is not static: "Many people enter and leave prisons every day and many prisoners themselves stay only a short period in prison and return to their families. … It is estimated … that although the world wide prison population is over 9 million, the annual turnover is closer to 30 million" [1].

Tracking disease risks among incarcerated populations also is problematic, however, because socioeconomic status is correlated to both incarceration [13, 14] and higher burdens of morbidity and mortality [15–17]. Those detained or incarcerated often come from already marginalized populations who—because of social stigmas, disproportionate access to capital and power, and structural obstacles to resources such as education, job opportunity, safe environments, and health care—are more likely to be imprisoned in the first place. In São Paulo, for example, "where 70% of the population is white, the incarceration rate per 100,000 is 76.8 for whites and 280.5 for blacks" [18]. Likewise, social, economic, and political inequities in any

population increase risks for a variety of health concerns, including HIV, both in terms of contracting disease and severity.

Incarceration reifies and magnifies marginalization and disease risk. Despite the fact that prisons are referred to as "correctional facilities" or even "public safety institutions" [19], the "rehabilitative purpose of detention is rarely realized" [20]. Instead, prisons tend to be overcrowded, underfunded, and dangerous, exposing inhabitants to violence, rape, drug use, and disease and advancing social instability and criminal activity in what journalist Joel Dyer calls the "perpetual prisoner machine" [21]. In Brazil alone, for example, the number of prisoners has doubled since 1995 [22] and more than one-third are located in the Rio–São Paulo area in inadequate facilities marked by a lack of access to care and "frequent inmate rebellions" [11, 23]. For instance, Carandiru, the nickname for São Paulo's Casa de Detenção and Brazil's largest prison before it was demolished in 2002, at one point housed more than 7,000—"double the number it was built for"—and has been compared to a "walled favela" [24].[1] Today Carandiru is remembered most notably for a massacre led by military police in which 111 inmates were killed. But the prison also became known for its high rates of HIV. Drauzio Varella, a physician who began investigating HIV in the prison in 1987, discovered rates around 17 percent (and even as high as 78 percent for certain inmates). Comparable to today, "drug abuse, age, number of sexual partners in the last year, and length of imprisonment were the most significant risk factors" [25].

Rather than "correcting" individual behavior or increasing public safety, prisons simultaneously reproduce and obscure social inequities through "a strange scientifico-juridical complex" that may ask "What law punishes this offence?" but often fails to address "What would be the most appropriate measures to take? How do we see the future development of the offender? What would be the best way of rehabilitating him?" [26]. Confronting these questions and the disease burden gap that ultimately affects both the incarcerated and non-incarcerated requires the development of more effective scientific methods and the political will to intervene. Brazil provides a telling example in that, despite the fact that it has one of the most innovative and proactive HIV/AIDS programs in the world and its Constitution frames health care as a right of all, its imprisoned populations—like those in other countries—often shoulder the double burden of being from socioeconomic classes with limited access to resources and at higher risk of contracting HIV, with rates among Brazilian prisoners reported between 3 percent and 16 percent [2–4, 25, 27]. Simooya explains the high rates of infectious disease within prisons, especially in LMICs, as the result of: "1) poor health systems; 2) overcrowding and congestion; 3) demographic characteristics of prisoners themselves; 4) security vs public health concerns[;] and 5) lack of public empathy for prisoners" [1]. Addressing these causes in meaningful ways at not only individual but also social and political-legal levels, however, necessitates a health ecological approach [28] that identifies and prioritizes effective points of intervention for a population that has been, by the very nature of the prison environment, segregated physically and politically and thus relegated to the fringes of society and social consciousness. Prisons and prisoners matter, and how crime and criminals are treated reflects the values of and has implications for the larger community and its social systems [29]. At minimum, as Principle 9 of the United Nations Basic Principles for the Treatment of Prisoners stipulates, there must be an "equivalence of health care between that provided for prisoners and that available in each country without discrimination" [1]. Moreover, because of the increased risks of disease and the fact that prisons often further isolate and harm already marginalized populations—effectively (re)creating an "invisible other" caught in a cycle of poverty and disparity—providing care and rehabilitation to prisoners is a public health imperative. In other words, there is a practical and ethical obligation to earmark resources, even when scarce, toward the study and care of prisoners. Unfortunately, this is easier in theory than in practice. Community leaders and the public may oppose attending to the needs of prisoners due to political reasons, economics, (mis)perceptions of imprisonment, and ignorance of disease epidemiology. Additionally, how disease surveillance and treatment are carried out within imprisoned populations raises a different set of ethical issues: For example, especially with regard to diseases associated with stigmatized or illegal behaviors, obtaining an accurate picture of disease rates in prisons as well as effectively screening and treating prisoners may place them at increased risk for further physical and legal harms. Thus, both failing to advocate for the incarcerated as well as advocating in a poorly considered way are cause for concern.

Not all Brazilian prisons present this bleak of a picture, however. According to Fiona Macaulay, "São Paulo state has pioneered an innovative partnership with local NGOs in running over 20 small prisons that are cheap to run and human rights compliant, providing a rehabilitative regime that reportedly produces very low re-offending rates" [22].

HIV in Brazil

Brazil has a history of being not only proactive but also at the forefront of many countries in its HIV/AIDS programs and policies. Its National AIDS Program born in the mid-1980s "represents one of the best examples of the determination shown by developing nations to meet the needs of its population living with the disease" [30]. Brazil's methods have focused on education, prevention, and treatment, including "nationwide condom distribution … as well as prevention campaigns targeting vulnerable populations such as sex workers, injecting drug users, and men who have sex with men (MSM)" [31]. In 1988, moreover, the country instituted a secondary HIV/AIDS prevention program that established "a network of free and voluntary HIV counseling and testing centers" within major urban areas [32], and, in 1996, it "became the first nation to set up a program of antiretroviral (ARV) distribution with [free] universal access" [30, 33]. Overall, Brazil "has received global recognition for its efforts," and incidence and mortality rates due to HIV/AIDS have responded successfully to this national program that also includes the local manufacture of medicines [30]. Brazil's approach stems in part from its Constitution, ratified in 1988 and incorporating principles proposed in prior decades by the Movimento de Reforma Sanitária (Movement for Sanitary Reform) that advocated for universal health care [34]. The Constitution guarantees that "[h]ealth is a right of all and a duty of the State" [35], and this is also reflected in the founding principles of the Sistema Único de Saúde, or National Unitary Health System: "(1) universal access, (2) integral care, (3) social control, and (4) public funding" [33].

Yet, despite its accomplishments, Brazil still accounts for "more than half of all known HIV/AIDS cases in Latin America and the Caribbean" [30]. Part of this may be due to the fact that Brazil is the largest country in South America, but other reasons exist, including

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persisting racial inequities stemming from colonial times (despite Brazil's insistence that it is a "racial democracy"); extreme socioeconomic disparities, particularly in growing urban areas; large regional differences; and continued stigmatization of homosexuality [19, 33, 36].

The majority of HIV cases reported in Brazil occur in the south and southeast regions of the country, particularly São Paulo and Rio de Janeiro. As in other areas of the world, while men who have sex with men continue to be at risk for contracting HIV, rates among this population in Brazil have improved, for example from"69% … [to] 44% of reported cases" as of 1996 [32]. Likewise, the "prevalence of HIV infection in injecting drug users has decreased substantially—from about 25% to 8% … presumably a result of prevention programs implemented nationally since the mid-1990s (i.e., syringe exchange programs, targeted condom distribution, and referral to treatment centers), and because many drug users have switched to non-injecting drugs, particularly crack cocaine" [36,37]. Rates for women, youth, and the poor have not decreased, however, and since the 1990s HIV in Brazil and elsewhere has become increasingly "feminized," "heterosexualized," and "pauperized" [11, 27]. Biologically and culturally vulnerable to sexually transmitted diseases, "women account for 31% of adults living with HIV [in Brazil]" [38] and experience risk primarily due to heterosexual contact as well as drug use, whether or not their own [11]. High rates also exist among young people: "Estimated numbers of HIV infected people in the country have indicated prevalence between 338,000 and 484,000 in individuals between 15–49 years of age" [32]. These statistics are cause for concern, as, in addition to being proactive as a country, Brazil has one of the highest proportions of HIV/AIDS-related non-governmental organizations in Latin America [39].

Moreover, the extent of transmission within prisons remains unclear [6]. Brazilian prisoners, like their counterparts in other countries, are at increased risk of acquiring HIV, but despite the high number of prisoners in Brazil and the public attention prison life (particularly at Carandiru) has received in the past decade, "few studies on prison inmates have been done" and "to date there has been no account of the reality [of HIV] in the country's prison population as a whole" [2]. Some studies have linked HIV rates among prisoners to injection and non-injection illicit drug use as well as HCV prevalence, tattooing, sexual behaviors prior to and during imprisonment, lower schooling, length of imprisonment, and previous incarceration [1, 3, 4, 7, 11, 25, 39]. [2]Of course, many of these risk factors are intimately tied to socioeconomic demographics and the cycle of poverty that often create prisoners in the first place; thus, the prison setting itself may not be the sole or primary risk for HIV among Brazil's prisoners.

On the other hand, drug use and sex and sexual violence do occur within prisons. The "prison environment [itself] appears as a factor stimulating drug use" [40], and one study exploring HIV and HCV among Brazilian prisoners cites Scottish research that found that, of the inmates who disclosed intravenous drug use at some point in their lives, "59% admitted using it inside the prison, of which a quarter had their first experience with injecting drugs in prison" [3]. Even fewer studies conducted in prisons discuss sexual contact—whether volitional or forced—though this may be in part due to methodological challenges of having to rely on self-reported data and the stigma attached to homosexuality, especially in Brazil. Regardless, HIV infection from sexual contact and, more importantly, rape in prison is a pressing public health and human rights issue long overdue as a subject for research and policy.

Equally important, there is a need to examine differences within prison populations: Men differ from women and youth differ from adults in important ways, but information on risks of infectious diseases such as HIV among these prison subpopulations "remains scarce, especially in developing countries" [5]. While research conducted in Brazil and elsewhere indicates that female inmates face similar risk factors as those of men, including intravenous drug use, drug use in general, and prior incarceration, and that they also "resemble male inmates in terms of race, ethnic background, and age" [41], one study of 290 female prisoners in the São Paulo State Penitentiary found that "sexual partnership variables were significantly related to HIV infection" and concluded that "although the use of injectable substances is associated with HIV infection, our results point to sexual behavior as the most important component of HIV transmission in the female prisoner population" [27]. Similarly, greater attention needs to be paid to risk among young prisoners, including how factors contributing to drug use and sexual contact both before and during incarceration differ from adults and how youth perceive and prioritize the risk of HIV in their lives [40, 42, 43].

[2]Studies have indicated opposite trends regarding length of imprisonment. While most studies demonstrate a high risk of HIV and other infectious diseases the longer one stays in prison, Coelho et al. found an inverse association between HIV infection and total length of sentence, with a higher prevalence among inmates with sentences of 5 years or less. One might assume intuitively that the risk of infection would be associated with longer time spent in prison, rather than the opposite. A possible explanation for this finding may be the fact that serious crimes (homicide, drug traffic) that involve long prison terms may not be necessarily associated with HIV risk behavior. In contrast, less serious crimes (possession of illicit drugs or weapons, petty theft) are often motivated by the need to support a drug habit. This situation, in turn, may be linked to other risk behaviors such as multiple partners and unprotected sex [2].

Ethical Issues

Understanding the full scope of HIV as well as preventing and treating it within the penal system are essential human rights and public health imperatives.[3] Unfortunately, "we still know very little about criminal justice institutions and the actors within them," and "empirical data on the prison system remain remarkably thin" [22]. Reasons for this are complex and include cultural and legal prejudices, ethical and methodological difficulties that prevent accurate data collection, and the erroneous assumption that prisons are "closed" systems whose disease risks can be understood in isolation. While HIV research and programs in Brazil and other countries have made efforts to address the needs of some marginalized groups such as men who have sex with men and those who use drugs or exchange sex for money, prisoners (and how such vulnerable populations overlap) tend to remain overlooked, including in the medical literature. Interestingly, one recent study on the "Successes and Failures in the Control of Infectious Diseases in Brazil" does mention prisons but only in relation to TB, suggesting that (perhaps unrecognized) biases

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associated with incarceration and diseases such as HCV and HIV are at play even in the fields of health research and health care [37].

Conducting research on the risk of HIV/AIDS in prisons poses challenges that obstruct clear understandings of the scope of the problem and effective and humane methods for combatting it. Some of this stems from the nature of infectious disease itself, as latency periods of symptom expression for HIV, HCV, and syphilis (with even the telltale cough of tuberculosis sometimes overlooked as "normal" in most prison settings) make it difficult to determine how many people come to prison already infected [8]. Moreover, while the HIV and HCV serostatus of prisoners can be established relatively easily using laboratory tests, routes of transmission are far more difficult to determine. Most studies must rely on interviews that examine inmates' sexual and drug use patterns, and some are conducted face-to-face (rather than written and anonymous) due to low schooling and literacy levels among prisoners [27]. One Brazilian study even used physicians to conduct interviews with inmates, in conjunction with clinical exams [3]. Such self-reported data are always less than ideal, particularly when behaviors are stigmatized and/or illegal, and some research participants may be less inclined to disclose information in a face-to-face setting or to figures in positions of authority. This is especially the case in the prison setting, where inmates have compelling reasons for concealing sex- and drug-related behavior.

Additionally, ethical issues emerge with regard to the prevention and treatment of disease in prisons because of the vulnerability of prisoners, the precariousness of the prison environment, and the stigmatization of HIV, drug use, and sex. Inmates are not in a position to provide autonomous and uncoerced consent for testing or treatment, making them by definition members of a vulnerable population and requiring researchers to adhere to more stringent standards for protecting human subjects and health providers to a higher duty of care. At the same time, because prisoners are deprived of personal control over their bodies and well-being (for example, with regard to nutrition, exercise, and medical needs), providing and even mandating health-related care may be essential because inmates cannot self-refer [7]. Mandatory health education, screening, or treatment, however, is ethically fraught: Participating in programs, research, or therapy can uncover behaviors or disease status that may "mark" particular prisoners as "law-breaking," "weak," or "deviant" and, therefore, targets of physical or legal retribution meted out by other inmates, guards, or the system itself. For instance, "although it is well known that drugs are consumed in prisons, drug use is illegal and once discovered it is usually met with disciplinary measures, not public health measures"[1]. Drug use among prisoners thus may be concealed and underreported "due to fear of legal consequences" [3].

3Brazil's Constitution also stipulates that "no one shall be submitted to torture or to inhuman or degrading treatment" and that "prisoners are ensured of respect to their physical and moral integrity" [35].

Moreover, in Brazil and elsewhere "homosexuality is a taboo" [30] and, thus, the reporting of homosexual contact in prisons is low, both due to the stigma attached to it as well as the fact that "sexual activity among inmates is a complex phenomenon that occurs along a continuum, from the entirely consensual to the violently coerced" [6]. Because of this, "rates of men-with-men sex in prison are extremely difficult to document, and published reports of its frequency vary widely in their findings" [44]. For example, in one study conducted at the Ribeirão Preto Penitentiary in São Paulo in which 333 inmates participated, only one described his sexual orientation as homosexual —although the study failed to tease out sexual orientation from temporary and circumstantial sexual contact [2]. In two other investigations, one in Manhuaçu, Brazil, and the other in Sorocaba, approximately 10 percent of inmates reported homosexual contact within the prison setting with other inmates, but neither study differentiated whether this behavior was consensual and only two individuals in the first study indicated that they initiated this behavior in prison [7, 11]. On the other hand, anecdotal evidence suggests much higher rates, with "correctional officers and former prisoners consistently saying that consensual sex is common among inmates," as is rape [44, 45]. Challenges associated with studying these issues, limited understandings of sexuality and sexual behavior, and inadequate experimental designs thus may skew the focus of research and interventions to drug use as the primary source of HIV risk and transmission without obtaining a complete picture of the hazards prisons impose.

Most studies, then, cannot definitively conclude how or when inmates become infected, limiting true assessments of HIV risk in the prison setting. This gap in the literature prevents evidenced-based interventions from being developed and undermines the planning and potential efficacy of public health prevention and intervention measures. Even if better research is carried out, prisoners as well as health care professionals interested in helping this population remain caught in a dilemma within the current prison environment: Failing to address the risk factors and higher rates of disease within prisons is not an option, but screening and treating prisoners may mark them as a "health threat" or as somehow different—including even the suggestion of homosexuality—potentially furthering suffering and illness. Discrimination related to one's "status" can continue outside of prison as well. Thus, obstacles that have hindered the implementation of control strategies in prisons include the following: prisoners hide their symptoms because of the violent nature of prison life and the need of physical strength for survival, prisoners risk stigmatization and segregation if they report their symptoms, the human and financial resources in prisons are limited, and the health services available in prisons are inadequate [8].

Policy Recommendations: An "Opportunity Lost"

Within accepted public health practice, the disproportionate burden of disease among prisoners compared to the larger community makes this a priority population. Moreover, prisoners often are socially disadvantaged prior to incarceration and prisons also are "concentrators" of drug use, violence, and other criminalized behavior. Thus, both social demographics that place individuals and communities at risk as well as risky behavioral habits "are present before and most probably continue after imprisonment" [3], underscoring the need for health-related programs within prisons that include substance abuse treatment, counseling, education, rehabilitation, and social reintegration. In this way, prisons could truly be "correctional facilities." Unfortunately, there is a "serious shortage of substance abuse [and other] treatment" within prisons [6], although they offer "captive" audiences within which those who use drugs or who are vulnerable to drug use and other risk factors may be identified. Likewise, more must be done to reduce unsafe environments, violence, and rape in prison, which contribute not only to infectious disease but also to physical and mental trauma.

Discourse regarding prisons needs to correlate with social priorities and practice. If prisons are "public safety institutions," then this means they should ensure and enhance the public's well-being, including that of prisoners, from dangers and disease. If they are "correctional

facilities," they should reform not only individual behavior and deficiencies but also the cultural, environmental, economic, and political-legal aspects of the cycle of disenfranchisement and poverty that tends to (re)create social ills and prisoners in the first place. Such prevention and treatment within the prison setting can be effective and address multiple issues and risk factors simultaneously, with prisoners and prison employees willing to participate if programs are framed appropriately and involve them as stakeholders. Several demonstration projects indicate that changes along these lines are possible. Working inside Carandiru, for example, Varella describes how prisoners asked pertinent questions and were open to HIV education after he realized that the "'just say no' approach would be a fantasy for them" and instead attempted to dispel myths and reduce stigmas associated with HIV, sex, and drug use by focusing on harm reduction within the given setting [25]. Similarly, Peres et al. developed an HIV/AIDS education program within a youth detention facility in Brazil using a participatory action methodology based on the work of Paulo Freire. This "involved facilitating a process through which the participants developed their own intervention" [42]. Since for "most of these boys, the drug scene was the reason for their incarceration" and "their main fear was being killed in criminal activities," this meant that the HIV/AIDS intervention had to move beyond just health [42]. By involving the youth themselves, the education program became more relevant to the participants and incorporated messages about HIV/AIDS into a broader examination of "issues such as violence, drugs, sexuality and human rights" [42]. Even if the primary focus of the intervention shifted away from HIV and AIDS, increasing self-efficacy, agency, coping, and empowerment that can be fostered through these types of approaches is recognized as essential for the success of any health promotion effort [46]. Similarly, while not addressing HIV per se, a hospice program in a state penitentiary in the United States illustrates "the transformative effect" such undertakings can have on inmates, in this instance both "securing adequate care for dying prisoners and providing [other] prisoners with the training and opportunity to participate in the care of some of their own at the end of life" [47]. Those associated with the program have reported that inmate hospice volunteers describe and demonstrate a greater sense of empowerment, compassion, and self-reflection and growth, suggesting that these kinds of endeavors "may actually achieve a form of rehabilitation that has for so long been marginalized by our society's determination to prioritize the retribution and deterrence functions of the penal system" [47]. This hospice program and the research conducted by Varella and Peres et al. are reminiscent of the work Paul Heritage has done using theater in Brazilian prison settings —as a means of exploring health and human rights, of reducing fear and abuse among prisoners and guards, and of opening up dialogue between prisons and the larger society [48], thus encouraging "debates about crime, violence and prisons in ways that challenge the dominant discourses that condemn us all to live in the ever-increasing shadows of the borderlands that we have created" [18].

Reframing the debate and investing in prisoners, even if they have violated the social contract, can make for a better society overall. Ethical issues regarding research, prevention, and treatment in prisons will remain challenging but perhaps can be addressed by instituting regular and comprehensive health care for all prisoners, creating more favorable "institutional conditions for the development of educational [and other] programs" that attend to "underlying social determinants" of inequities and disease [2], designing more effective means for confidentiality and safety, and improving understandings of and ways to investigate risk factors in prisons—not as isolated and "closed" environments but important and integrated parts of the larger community. In Brazil, there already exists a commitment to universal health care and HIV testing and treatment. Finding ways to effectively incorporate these and other interventions into prison settings, as well as encouraging experienced health professionals to work with this population and resist the "brain drain" to higher-income countries, can significantly impact the disease burden of citizens both inside and outside of prison.

Failure to promote public health activities in prisons is humanistically and financially costly, in particular because treatments for chronic diseases such as hepatitis and tuberculosis, and especially HIV/AIDS, are prolonged and expensive. Arguments also can be made for ensuring that prisoners receive primary care as well. Two studies that focused on female inmates, for example, found that many have never undergone a routine gynecological exam and, with little access to contraception, some become pregnant even after going to prison [20, 49]. There is, then, an imperative to conduct more and better health research and care in prisons—particularly in developing countries—while protecting prisoners from discrimination and other harms. Appropriate solutions will require political, institutional, and cultural changes that assure equitable access to medical care, avenues for real rehabilitation, and safe environments within and beyond prison walls, as well as actions to reduce legal prohibitions against drug use, destigmatize sexual behaviors, and resolve entrenched social inequities [1, 6, 7].

Prisons, although not "closed," do offer "captive" audiences suitable for prevention and intervention efforts related to communicable diseases as well as general and mental health, occupational education, and drug treatment. The social abandonment of prisoners is, thus, an "opportunity lost" [11].

Conclusion

Allowing health disparities to continue by neglecting to protect, treat, rehabilitate, and reintegrate prisoners is not only inhumane but also bad public policy. Providing a broad range of preventive and therapeutic health services to prisoners can decrease overall disease risks and morbidity and mortality, reduce health care expenditures and costs, and better equip parolees for success after release. Prison populations are captive audiences; thus, health promotion and treatment programs, when done ethically, can help to break the cycle of marginalization and the transmission of disease both within and beyond prison walls. Policies must be created that pull back the veil on misleading discourse and foster the development and implementation of public health programs in prisons that provide safe and hygienic environments, medical care, health education, counseling and drug treatment, and occupational training.

Disease, with few exceptions, has always been stigmatized and, in modern times, HIV perhaps iconically so. HIV's severity and association with "illicit" sexual and drug behaviors merely further segregate those already marginalized from society and, in the process, serve to exculpate the non-incarcerated from both responsibility and risk: "By associating HIV/AIDS with groups of persons perceived as 'outsiders,' people harbour the illusion that they themselves are not at risk of becoming infected" [36]. But this—like the idea that crime exists solely at the level of the individual—is illusion. Not only are "the vast majority of [HIV] cases among inmates probably … the result of exposure while in the general community" [6], the cycle of poverty and marginalization that begins well before incarceration persists after a

prisoner's release, guaranteeing that social inequities and disease risk will continue to flourish.

This has long-term and far-reaching consequences for both incarcerated and non-incarcerated populations. Although it is unfair and inaccurate to deem prisons "breeding grounds" of disease, as some have done, the penal system may be said to be "a potential public health problem in the sense that [it] acts as a concentrator of those infections and as a spreading focus for the population at large" [3]. By turning a blind eye on prisons and prisoners, governments and health care systems effectively ignore an important piece of the ecology of disease prevalence and incidence in society. Failing to account for and attend to disease within prisons only prolongs and potentially increases disease burden overall. Moreover, not providing appropriate access to care and a sanitary and safe environment is a violation of basic human rights.

Without significant reform, prisons will continue to reify the existing social order rather than deter or correct antisocial behavior or rehabilitate citizens and strengthen the social contract. Public health programs developed for those most at risk, including prisoners, are bound to fail unless they move beyond studying disease as the consequence of engaging in individualized risky behavior and instead address underlying structures and the social determinants of health.

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