Benefits and Barriers to HIV Testing in a Population of Federal Detention Inmates

Nicole A. Knight

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BENEFITS AND BARRIERS TO HIV TESTING IN A POPULATION OF FEDERAL DETENTION INMATES

By

Nicole A. Knight

A Dissertation in Partial Fulfillment of the Requirements for the
Degree of Doctor of Public Health in Preventive Care

March 2014
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ABSTRACT OF THE DISSERTATION

Benefits and Barriers to HIV Testing in a Population of Federal Detention Inmates

by

Nicole A. Knight

Doctor of Public Health Candidate in Preventive Care

Loma Linda University, 2014

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Voluntary HIV testing in combination with early medical intervention has been shown to be effective in reducing the rate of new infections and improving the health and life expectancy of those living with HIV. There are however several high-risk populations in the US that remain largely unreached by HIV testing efforts, some of which could be reached while they spend time in prison or jail. Per current Bureau of Prisons (BOP) policy, HIV testing is routinely offered only to “high risk” pretrial and sentenced inmates. We conducted a cross-sectional study with 721 pretrial and sentenced inmates who entered a large urban federal prison between August 2012 and June 2013. We explored HIV testing data for the inmates during this period and in addition collected survey responses from 397 participating inmates. The survey was designed to help us better understand inmates’ attitudes about HIV testing. Bi-variable and multivariate analyses were used to determine inmates’ decision to test for HIV. While age, ethnicity, sentencing status, sexual orientation, and risk status were significantly related with inmates’ decisions to test for HIV in bivariable analyses, only perceived benefits retained
its significance in the multivariable model. It is hoped that findings from this study will help guide HIV testing policies for federal prisons.
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CHAPTER 1

INTRODUCTION

A. Statement of the Problem

Human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS) are major public health issues. As stated in the Executive Summary of the National HIV/AIDS Strategy for the United States, one American is infected with HIV every nine and a half minutes (The White House Office of National AIDS Policy, 2010). While overall rates for HIV transmission have decreased and for those infected, HIV has become a chronic disease. People with HIV are living longer and more productive lives. There are over 1 million people who are infected with the virus and it is estimated among these at least 21% are unaware of their HIV status (Centers for Disease Control & Prevention [CDC], 2010).

In July 2010, President Obama executed a National HIV/AIDS Strategy for the United States. The three primary goals for the strategy include: (a) reducing the number of people who become infected with HIV; (b) increasing access to care and optimizing health outcomes for people living with HIV; and (c) reducing HIV-related health disparities (Office of National AIDS Policy, 2010). The President is calling on broad support that includes the Federal Government, state, tribal and local governments, faith communities, scientific and medical communities, and educational institutions to implement multiple strategies to help meet these goals.

In the United States, there are approximately 2 million people who are incarcerated in either state or federal prison. By adding those on either probation or parole the number of people affiliated with the prison system is tripled (Maruschak &
Beavers, 2009). According to internal prison data, the number of inmates currently housed in federal prison is approximately 217,000 (Federal Bureau of Prisons Weekly Population Report, 2012). Many of the individuals who enter the prison system have a history of risk behaviors such as unprotected sex, multiple sexual partners, intravenous drug (IV) use, tattooing, etc., which in turn puts them at increased risk for HIV/AIDS (Altice, et al., 2005). As a result, and based on the fact that many of these high risk behaviors continue to occur in prison although they are prohibited the rates of HIV/AIDS are increasing in the prison population.

According to the Bureau of Justice Statistics, in 2008 there were a reported 21,987 inmates in state or federal prison who were infected with HIV or AIDS. This accounts for approximately 1.5% of the total custody population. At the end of 2008, 1.5% of the male prison population (20,075) and 1.9% of the female prison population (1,912) were infected with HIV/AIDS (Maruschak & Beavers, 2009). Clinical studies (Andrinopoulos, Kerrigan, Figueroa, Reese, & Ellen, 2010) as well as pilot studies (Beckwith et al., 2010) point to the urgent need for early HIV testing in prison populations in order to identify undiagnosed HIV infection to facilitate early treatment of those yet to be diagnosed and implement preventive education and treatment to limit further spread.

In 2006, the CDC recommended that correctional facilities perform HIV testing as part of a routine medical evaluation. In a study regarding HIV testing in emergency room departments, the Director of the Centers for Disease Control Division of HIV/AIDS Prevention, Jonathan Mermin, MD stated, “Ensuring that all Americans know their HIV status is vital to ending the U.S. HIV epidemic” (Centers for Disease Control, 2011, p.1).
Clearly, the federal prison system with its many individuals at higher risk for potential HIV infection is in a position to help reduce new HIV infections by developing, evaluating, and implementing effective preventive strategies such as early HIV testing and prevention education. Early detection of HIV/AIDS is important for optimal treatment, prevention of complications, decreasing transmission of HIV, and improving the health of those living with HIV.

In 2008, the Federal Bureau of Prisons (BOP) adopted the CDC’s testing recommendations to include offering voluntary HIV testing of individuals convicted of a Federal offense who are sentenced to a period of six months or more. Additional requirements included assessing an inmate’s risk factors and screening for HIV during initial entry and throughout their incarceration period. The BOP Clinical Practice Guidelines on HIV and Preventive Health currently state that voluntary screening for HIV infection is to be conducted at intake or during initial physical examination, which is completed within 14 days of admission for all inmates who have any of the following:

- Signs/symptoms of acute HIV infection or HIV-related condition
- Pregnancy
- Recent exposure or victim of a sexual assault
- Active tuberculosis (TB) or a positive TB skin test or,
- When otherwise clinically indicated (i.e. risky sexual behavior, IV drug use, sexually transmitted disease (STDs), exposure-related, etc. (Federal Bureau of Prisons, 2009).

In January of 2012, internal prison data indicated that there were approximately 216,613 sentenced inmates in the BOP, who are primarily housed at Federal Correctional...
Institutions, Federal Correctional Complexes, BOP private jails, and BOP contract facilities, including home confinement. However, administrative facilities such as Federal Detention Centers within the BOP also currently house sentenced and unsentenced (pretrial) inmates. Since current guidelines suggest testing only for sentenced inmates, approximately 11,000 pretrial (not yet sentenced) inmates in the BOP are not routinely tested for HIV unless they meet the criteria as stated in the Clinical Practice Guidelines. More specific to this proposal, there are approximately 1,031 inmates housed at the Metropolitan Detention Center in Los Angeles; of these, approximately 800 are pretrial. Retrospective studies revealed that a significant number of HIV cases could have been identified if HIV testing was done during a prior arrest (Duffus, et al., 2009).

In 2009, the Rhode Island Department of Corrections (RIDOC) evaluated their HIV testing program to determine HIV case identification, HIV risk factors, and the approximate number of inmates (detainees) who may have not been tested early in their incarceration. The study revealed that if HIV testing was delayed, 43% (72) of detainees would have been released prior to being tested. This may have led to a delay in the diagnosis and treatment of HIV, increased the risk of transmission, and missed opportunities for HIV prevention education (Andrinopoulos, et al., 2010). Moreover, Kavaser et al. (2009) found that rates of HIV testing are higher when offered early in the incarceration.

Basu, Smith-Rohrberg, Hanck, & Altice (2005) recommend that HIV testing be offered to all inmates, both sentenced and those awaiting sentencing, regardless of risk factors. This, they believe, is the best testing strategy in correctional institutions to detect
HIV early enough to prevent infection, control transmission, and improve the health of those with HIV. A hypothesis offered herein is that a higher than currently known HIV rate will be identified when HIV testing is offered to all inmates, rather than when offered only to sentenced inmates and unsentenced high-risk inmates. If true, this hypothesis would open a major window for early intervention and unique preventive opportunities.

HIV/AIDS is a serious and stigmatized disease that is laden with a number of barriers to testing. Many may be afraid of finding out that they are HIV positive, and therefore avoid getting screened. Others fear stigma or being segregated from the general prison population. Therefore, it is important for the provider to create an environment that stresses confidentiality and explains the benefits of HIV testing. To further facilitate voluntary testing, it is important to learn more about barriers to HIV testing, so that programs can be developed to help address them.

Providing inmates with information about the benefits of HIV testing, such as early detection of the disease, reduced transmission, and prolonging one’s quality of life may reduce barriers to testing. Understanding the benefits or importance of HIV counseling and testing is essential for early HIV/AIDS detection to facilitate optimal treatment, prevent complications, decrease transmission, improve the health of positive individuals, and most important, increase willingness to test. It is important to evaluate inmates’ understanding of the benefits of testing and to educate them about the benefits before they make the decision whether or not to test. This study is designed to explore perceived benefits and barriers to HIV testing in inmates housed at the Federal Detention Center in Los Angeles, and how this impacts their decision to get tested for HIV if
offered to them. To do this we used the Health Belief Model to better understand the decision making process.

The Health Belief Model (HBM) is a theoretical framework, which is used to explain and predict health behaviors (Zak-Place & Stern, 2004). The model examines an individual’s perception about a preventive health action, and uses the concepts of perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy to better understand the factors that influence health decisions -- in this case, testing for HIV. Elements of the HBM were used in our study to assist in a better understanding of the inmate’s decision-making processes about voluntary HIV testing.

B. Purpose of the Study

In order to facilitate early detection of HIV to prevent, control transmission, and improve the health of individuals with HIV, it is recommended that HIV testing be offered to all inmates, including those who are considered high-risk and low-risk for HIV. The purpose of this study is twofold: 1. to study the decision-making process about HIV testing in inmates, and ultimately to increase HIV testing, which in turn will lead to the early diagnosis of HIV in inmates of the Federal Detention Center; and 2. to determine if BOP policy of targeted testing is sufficient in identifying HIV positive patients. Increased incidence of HIV seropositivity in Federal Detention Centers may indicate the need to revise the current policy regarding HIV testing to include voluntary HIV testing among all inmates housed in Federal Detention Centers. To best accomplish this we applied selected concepts of the HBM to explore inmates’ perceptions of HIV
severity and susceptibility, while identifying barriers and understanding the benefits to HIV testing, which the BOP can also utilize to promote HIV testing.

C. Research Questions

This cross-sectional study was conducted in the Federal Bureau of Prisons at the Metropolitan Detention Center in Los Angeles, California. For a period of approximately 12 months we offered HIV testing to all male inmates, rather than only to select inmates, as is current practice, allowing us to examine the resulting rates of HIV testing. In addition to explore inmates’ attitudes about the barriers and benefits to HIV testing, we invited all inmates, sentenced or pre-trial, to complete a short survey that included demographic questions and questions related to some of HBM constructs. Our research questions were as follows:

1. What are rates of HIV testing in an inmate population housed in a Federal Detention Center that offers HIV testing to all inmates as part of its medical intake procedures?

2. Does the rate of voluntary HIV testing differ between unsentenced (pretrial) low risk inmates and unsentenced (pretrial) high-risk inmates?

3. What are the perceived severity and susceptibility of HIV, and the perceived benefits and barriers to HIV testing in this Federal Detention Center population?

4. What are the rates of HIV seropositivity among a population of inmates housed at a Federal Detention Center that is tested for HIV?

5. Does the rate of HIV seropositivity differ between unsentenced (pretrial) low-risk inmates and unsentenced high-risk inmates?
D. Significance to Preventive Care

Increasing the proportion of adults and adolescents who have been tested for HIV in the past 12 months is one of the Department of Health and Human Services' Healthy People 2010 Objectives (Healthy People 2010). A review of literature on HIV testing revealed that the federal prison system is lacking in research and/or studies regarding HIV testing. Many argue that broad-based testing in prisons should take place given the target population and continued risk behaviors. This study identified the prevalence of HIV seropositivity among those who volunteered to be tested in an urban Federal Detention Center. Since the prevalence of seropositivity is in pre-trial inmates was significant, the BOP may need to re-evaluate current policies and guidelines regarding HIV testing, and offer HIV testing to all inmates to increase early detection of HIV.

Simply acknowledging a need to increase testing in detention centers is a necessary first step, but not sufficient. We plan to present the HIV testing results of our study to preventive care specialists who provide care to adults in the prison population. Using a HBM driven survey, we evaluated the psychosocial constructs important to understanding inmates' concerns, needs, and readiness around testing. With this information, preventive care specialists involved in inmate health care delivery can now gain better awareness about the meaning, complexity, and fears of HIV testing among the inmates they serve. We hope that our results will then also be applied to the care of inmates to increase voluntary HIV testing in a high-risk population in need of early intervention. Furthermore, for those inmates who test sero-negative for HIV, it would likely provide an opportunity for education and counseling about risky behaviors, and for behavior change regarding risky behaviors.
A. Overview

Infection with the human immunodeficiency virus (HIV) leads to acquired immune deficiency syndrome (AIDS) if the virus is not diagnosed early or left untreated. HIV is spread primarily through high-risk behaviors such as unprotected sexual intercourse, intravenous drug use, unregulated tattooing, etc. In the interest of better disease prevention for all, Altice et al. (2005) suggests that current voluntary HIV testing and counseling has not been effective in reaching groups at high risk for the virus, which hinders efforts to decrease HIV prevalence. To reach these groups, e.g. men who have sex with men, IV drug users, prisoners, gays, etc., use of saliva vs. blood tests, rapid serologic tests, and more routine testing in high risk and prevalence areas such as correctional settings is recommended. Many individuals who enter the federal prison system have a history of high-risk behaviors (Altice, et al., 2005).

Of particular concern is the increase of HIV/AIDS among inmates confined in state and federal prisons. In 2008, according to the Bureau of Justice Statistics, 21,987 inmates in state or federal prison were reportedly infected with HIV. By the end of 2008, there were approximately 4,561 inmates in state custody and 613 inmates in federal custody who were not only HIV seropositive but whose disease had progressed to AIDS (Maruschak & Beavers, 2009). This accounted for 0.5% of inmates in state prison and 0.3% of inmates housed in federal prison. Nevertheless, nearly 24% of inmates in state and federal prison had confirmed AIDS by the end of 2008 (Maruschak & Beavers, 2009).
Early voluntary HIV testing of the incarcerated is recommended for the early detection, prevention, control of transmission, and improved health of inmates. Studies have shown that when HIV testing was not performed during an early incarceration period, several cases of inmates who presented with a history of HIV were not diagnosed (Andrinopoulos, et al., 2010; Duffus et al., 2009). While HIV testing is encouraged as a strategy for the early identification of the disease, health practitioners and BOP staff need to better understand the potential benefits and barriers to testing from an inmate’s standpoint.

The purpose of this section is to review the literature and discuss current HIV testing strategies in correctional settings as well as the benefits and barriers to testing. Due to the limited number of studies in Federal prisons, studies examining similar populations including state and county jails will be examined to explore the relevance of HIV testing, perceived benefits, and barriers of HIV testing in Federal Detention Centers. To help guide our inquiry from a theoretical perspective, the HBM will be used to guide our exploration into factors influencing inmates’ decisions for HIV testing.

B. HIV/AIDS Prevalence in Prison

People who are incarcerated in prison in the United States have higher rates of health problems and chronic diseases when compared to the general population (Goldenson & Hennessey, 2009). The prison population also has a disproportionate burden of infectious disease, including HIV (Spaulding et al., 2002). From 1999 to 2006, “the prevalence of confirmed AIDS among the prison population was between 2.7 and 4.8 times higher than in the general US population” (CDC, 2009, p. 6). According to the Centers for Disease Control and Prevention (CDC) a conservative estimate of the
prevalence of HIV among the incarcerated is almost five times greater (2.0%) when compared to the general population (0.43%) (CDC, 2006). These trends were also confirmed by Wohl, Rosen, & Kaplan (2006).

A disproportionate number of the incarcerated are from low-income backgrounds and racial and ethnic minority groups (Braithwaite & Arriola, 2003; Goldenson & Hennessey, 2009). In the mid 2000’s, 12% of black men in their 20s and 30s had been incarcerated, compared to 1.7% of white men with similar ages (Spaulding, et al., 2002). Furthermore, many previously incarcerated individuals tend to lead lifestyles that at one time or another included HIV risk: a history of substance abuse, poverty, homelessness, unsafe sexual practices, and mental illness (Rapposelli et al., 2002).

In 2006, there was an estimated 17% of Americans who had at some time in their life entered the prison system, and 1 in 7 of whom were infected with HIV (Wakeman & Rich, 2010). In mid-2007, the CDC reported rates of incarceration among the different ethnic groups. The percentage of inmates in either state or federal custody who are black was 35.4%; 17.9% were Hispanic (CDC, 2009). In addition, 22-28% of black men who were infected with HIV during 2006 had been incarcerated at some point in their lives (Wakeman & Rich, 2010).

C. Risk Factors for HIV/AIDS in Prison

As noted earlier, many individuals who enter the prison system have a history of behaviors, which increase their risk of contracting HIV. For example, studies have shown that 25-40% of males who enter the prison system have a history of IV drug use, as compared to 0.6% of the general population (Vlahov & Putnam, 2006).
This may be related in part to the 1988 Anti-Drug Abuse Act, which created mandatory minimum sentences for crimes involving the manufacturing, distribution, and use of illegal drugs, and use for other purposes resulting in a significant increase in prisoners who committed a drug and/or sex related offense (Sylla, Harawa, & Grinstead Reznick, 2010). Since many of these prisoners engaged in high-risk behaviors before their incarceration, the number of prisoners participating in high risk behaviors while incarcerated also increased (Sylla, et al., 2010).

Although sexual contact, substance abuse, and tattooing are prohibited in correctional facilities, these practices continue. In a survey conducted in a Tennessee state prison, 12% of the inmates reported that they have injected drugs during their incarceration (Vlahov & Putnam, 2006). Yet in another prison survey, reports of homosexual practices while incarcerated were self-reported at 33% (Vlahov & Putnam, 2006). Some of these risky behaviors include intravenous drug use, tattooing, multiple sexual partners, unprotected sex, etc., all of which are also HIV risk behaviors. Furthermore, the frequency of risky behaviors often increased in prison due to boredom, untreated addictions, unavailability of condoms, and lack of access to clean syringes and tattooing needles (Hellard & Aitken, 2004).

Several studies (Hammett, 2006; Seal, Eldridge, Zack, & Sosman, 2010) have shown that prisoners engage in sexual and drug related high-risk behaviors. In 2008, Seal et al. conducted a study that examined the substance use and sexual behavior of men between the ages of 18 and 29 years while incarcerated. The results of the study revealed that 50% of the men had used substances and 17% engaged in sex during their incarceration (Seal et al., 2008).
While it is generally acknowledged that transmission of HIV while in prison is not uncommon, there are few studies describing the prevalence of intraprison transmission. In an assessment by Krebs and Simmons (2002), 33 new cases of HIV among inmates in state prison were identified. Similarly, Altice et al., (2005) identified the relationship between seroprevalence and HIV risk behaviors among females in an anonymous but linked HIV serosurvey. The researchers found that of 3315 participants, 7.5% (250) were HIV positive, but of these only 63% (157) had reported being HIV positive prior to testing. The highest HIV risk behaviors reported was having sex with a known HIV infected individual and IV drug use.

The above-mentioned studies have discussed risk factors associated with HIV. In addition, risk factors specific to the higher rates of HIV in prison populations were identified. That these risky behaviors occur and are even heightened in prison reveals the importance of HIV testing, which increases early identification and improves treatment options of those infected with the virus.

D. HIV Testing in Prison

Early diagnosis of HIV is vital to improving the quality of life of those infected and decreasing the transmission of HIV. Populations more likely to be incarcerated are among those historically more difficult to access with prevention efforts. This is often attributed to prisoners’ limited access to healthcare prior to incarceration. Hence, periods of incarceration provide an opportunity for HIV testing, diagnosis, and treatment of a high-risk population.

If HIV testing is not offered to all inmates while incarcerated, cases of HIV may not be detected and properly diagnosed. Studies have shown that when HIV testing is
offered only to inmates with a history of high-risk behaviors, inmates reporting behaviors
which are considered low-risk, such as engaging solely in heterosexual sex, are less likely
to be tested for HIV (Rosen et al., 2009). In their study, Rosen et al. (2009) examined
voluntary HIV testing among prisoners in the North Carolina state prison system. Of
54,016 inmates entering the system from January 2004 through May 2006, 38% (20,820)
were tested for HIV, with most testing (89%) taking place at intake. Inmates with high-
risk behaviors were at least 10% more likely to be tested, while 60% of those reporting
low-risk behaviors were not tested (Rosen, et al., 2009). In addition, black men were
30% less likely to be tested for HIV than white men, and many whose behavioral profiles
would label them, as “high-risk” were never tested. The study revealed the importance of
offering HIV testing to all inmates upon intake to increase early detection of HIV,
especially among high-risk and minority populations.

The Maryland Division of Corrections offers HIV testing to all inmates upon
entry, in addition to testing when clinically indicated. Kassier et al. (2001) conducted a
review of the Maryland Division of Corrections current HIV testing guidelines. The HIV
seropositivity in 1998 was 3.3%, revealing the importance of HIV testing, treatment, and
prevention strategies to identify new cases of HIV in prison settings, not only among
those who report high risk behaviors, but to the entire inmate population (Kassira et al.,
2001).

Studies have shown an increase in the rates of HIV seroprevalence among inmates
engaging in high-risk behaviors. Sexually transmitted infections and the prevalence of
HIV among men incarcerated at the Los Angeles County Men’s jail between March 2000
to December 2005 was evaluated by Javanbakht et al. (2009). The study conducted
voluntary HIV screening on the segregated men who have sex with men unit. The study’s population included a total of 7004 inmates from March 2000 through December 2005. The prevalence of HIV in this population was 13.4% (625 out of 4658), with the screening continuing over a five-year period. Approximately 15% of the inmates reentered the jail and had repeat HIV testing. Of these, 15% (33 inmates) were newly diagnosed with HIV when repeat testing was done, resulting in a HIV incidence of 1.9% (Javanbakht, et al., 2009).

Duffus et al. (2009), conducted a retrospective population-based cohort study comparing case reports from HIV/AIDS Reporting System (HARS) and the South Carolina Law Enforcement Division database to determine if HIV/AIDS cases could have been diagnosed during a prior arrest. The study revealed that 48.6% (1961/4036) of those diagnosed with HIV had at least one prior arrest before they first tested positive for HIV (Duffus, et al., 2009). It was revealed that 65.6% (1286/1961) were probably HIV positive at the time of their prior arrest. Of those who tested positive, 46% (694) did not develop AIDS within one year of testing, indicating that they were diagnosed relatively soon after contracting the virus. However, 54% (694) developed AIDS within one year of testing, indicating that they were tested late for HIV, resulting in significant health deterioration after the missed opportunity for intervention.

A blinded serosurvey was conducted to determine the prevalence of HIV among a city jail in New York, which showed that 68.9% (6411) of prisoners who entered the jail were tested for HIV and 5.2% were diagnosed with the virus. Of this group, 28.1% were newly diagnosed. In addition, only 11.5% were diagnosed during the testing of self-
identified high risk individuals, thus potentially missing at least 16.6% of infected inmates (Begier et al., 2010).

A prospective controlled trial in an urban men’s jail in New Haven, Connecticut was conducted to assess the ideal time in which opt-out HIV testing should be routinely offered to newly incarcerated inmates (Kavasery, Maru, Sylla, Smith, & Altice, 2009); the primary objective was to increase the rates of men who consent to testing. Two hundred and ninety-eight participants were offered routine opt-out HIV testing on the day of incarceration, the next day, or 7 days after incarceration. The researchers found that 53% of the participants who were offered HIV testing on the same day of their incarceration consented, compared to 45% who were offered testing the next day, and 33% who were offered testing 7 days after incarceration (Kavasery, Maru, Sylla, et al., 2009). Thus, routine opt-out HIV testing produced higher rates of testing when offered within the first 24 hours of incarceration.

Similarly, in Kavasery et al.’s (2009) prospective controlled trial of routine opt-out HIV testing among 323 newly incarcerated females in a Connecticut jail, 55% of the women who were offered HIV testing on the day of incarceration consented, compared to 73% who consented on the next day, and 50% who consented to testing 7 days after incarceration (Kavasery et al., 2009). In this case, testing rates were highest when offered the day after incarceration. All reviewed studies point to the unique opportunity prisons have to access and provide HIV testing to hard to reach, high-risk populations, thus identifying undiagnosed HIV infections and facilitating early treatment.
E. Barriers to HIV Testing

The health belief model (HBM) is a conceptual framework which incorporates the concepts of perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy to explain and predict health behaviors (Zak-Place & Stern, 2004). The model stipulates that a person’s intention to engage in preventive health action are influenced by their assessment of perceived benefits and barriers to engaging in the behavior – in this case, HIV testing. We will therefore apply variables from the HBM in our study to better understand inmates’ decision-making processes about HIV testing.

While no such study has been conducted in the prison system there are few from other settings. Lyons, Lindsell, Fichtenbaum, & Camargo (2007) conducted a review which interpreted and implemented the 2006 CDC recommendations for HIV testing in health care settings. The researchers found that perceived barriers to testing included fear of being stigmatized or discriminated against, being segregated, and stereotyping.

Riley & Baah-Odoom (2010) examined the perceived barriers of stigma, blame, and stereotyping. Blaming and stereotyping specific to HIV/AIDS as a disease, which is primarily spread through sexual contact, made the individual feel at greater risk for such discrimination. Therefore, the individual reported that they were more likely to engage in safer sexual practices rather than risk contracting the disease and the resulting stigmatization (Riley & Baah-Odoom, 2010). When a prisoner enters the correctional environment, lack of trust may keep them from disclosing to staff their medical or high-risk behavior history for fear that it will not be kept confidential. Though it is important to maintain HIV confidentiality in all settings, it is especially critical in a prison setting
(Wakeman & Rich, 2010), where a breach in confidentiality could lead to stigmatization or even create a potential for inmate violence. Routine rapid HIV testing of all inmates in correctional settings is one method of reducing stigmatization (Wakeman & Rich, 2010).

Another barrier to HIV testing is the perception that a prisoner’s past behavior will have a bearing on their current criminal charges. Upon entry to the correctional setting, reporting behaviors such as IV drug use or multiple sexual partners may make the prisoner feel that this could affect the criminal charges they are facing, as reported by Spaulding, Arriola, Hammett, Kennedy, & Tinsley, (2009). As a result, inmates may not accurately report their history and thus may not be offered HIV testing. Again, making this mandatory for all inmates might mitigate such fears and result in better disclosure or at least identification of HIV, regardless of potentially questionable self-reporting.

The relationship between self-efficacy in coping with HIV, HIV related stigma, and acceptance of HIV testing was examined among incarcerated men in the Jamaican prison system (Andrinopoulos, et al., 2010). The study participants, a sample of 298 randomly selected men, completed a cross-sectional quantitative survey. The prisoners who were more likely to agree to test for HIV included those who reported a high HIV coping self-efficacy, some perceived risk of HIV, and low perceived HIV testing stigma. Barriers that influenced testing were related to self-efficacy, including external and internal HIV stigma, lack of a social support system, and lack of knowledge about the disease (Andrinopoulos, et al., 2010). The study demonstrated that HIV stigma is a barrier that can influence testing.

In addition to these perceived prisoner-related barriers that may discourage testing, there are also provider-related barriers that can limit testing. Sabharwal et al.
(2010) conducted a survey which examined provider-related barriers to testing. Some of the most common challenges that resulted in limitations on testing included staffing shortages, lack of privacy or space, and excessive paperwork. In addition, some of the barriers reported by providers working in correctional settings included insufficient time for intake screening, while also trying to complete other responsibilities specific to correctional settings (Sabharwal, et al., 2010).

F. Benefits to HIV Testing

It has been estimated that approximately 21% of the US population are unaware of their HIV status (CDC, 2010; Mahoney, Fogler, Weber, & Goldschmidt, 2009). Early diagnosis of HIV is important since early treatment increases optimal outcomes and for preventing further spread of the disease. If HIV testing is increased to include a greater number of prisoners, inmates could be identified earlier, receive timely and appropriate medical care, and get the necessary treatment to prevent clinical progression and transmission (Mahoney, Fogler, Weber, & Goldschmidt, 2009).

Studies have shown (Maruschak as cited in Rapposelli et al., 2002) that AIDS-related deaths have decreased from 33% in HIV positive inmates in 1995 to slightly over 8% in 2000. This is a direct result of both federal and state prison systems providing early initiation of highly active antiretroviral therapy to inmates infected with the disease.

The CDC’s Initiative on Advancing HIV Prevention organized a demonstration project, which was aimed at increasing routine rapid HIV testing in short-stay correctional facilities. The project revealed that 39% of the 269 newly identified prisoners who tested positive were those who most commonly reported engaging in unprotected heterosexual intercourse (Spaulding, Arriola, Hammett, Kennedy, & Tinsley,
2009). If testing was done only on prisoners with traditionally identified HIV high-risk behaviors (IV drug use, multiple sexual partners, etc.), these 269 individuals may have not been tested and properly diagnosed, revealing the importance of HIV testing for all inmates regardless of “low-risk” reported behaviors.

In 2006-2007, a pilot study was conducted at the Rhode Island Department of Corrections central jail to determine the benefits of different HIV counseling and testing methods (rapid vs. delayed results) among those with risky behaviors who tested negative for HIV. Risk behaviors were assessed among 264 newly incarcerated inmates at baseline and six weeks after being released from jail (Beckwith, et al., 2010). One hundred thirty-two of the participants received standard HIV counseling and testing and individualized counseling sessions. Fifty-nine percent of the participants completed the follow-up. All participants who received the rapid HIV testing received their results, whereas only 28% of those using conventional testing received their results due to the participant being released from the jail. The study revealed the importance of offering HIV rapid testing to increase follow-up for test result as well as awareness of HIV status and decrease at risk behaviors (Beckwith, et al., 2010).

As part of a study about the prevalence and correlation of high-risk behaviors on rates of HIV, hepatitis B, and hepatitis C among inmates in an Indonesian prison (Nelwan et al., 2010), researchers examined voluntary counseling and testing of prisoners, and access to HIV treatment upon entry to prison. Of the 639 inmates, 7.2% were HIV positive and 68% of these were treated during their prison stay. The study revealed the importance of HIV testing among inmates upon initial entry into the prison system to increase the detection and improve treatment options of HIV positive inmates.
G. Strategies in Correctional Setting to Improve HIV Testing

Many incarcerated individuals have had limited access to health care prior to their arrest. This may have been due to homelessness, lack of insurance, or prevention or medical care being seen as a lesser priority. When these prisoners enter jail, it is often their first introduction to the health care system since childhood (Goldenson & Hennessey, 2009). This makes it possible for prison systems to diagnose, treat, manage, and prevent the spread of different preventable and infectious diseases such as HIV, which has an impact on the health of the nation as a whole. If individuals with HIV are not identified and treated while within the correctional system, they are likely to re-enter the community (Shiraldi as cited in Rapposelli et al., 2002) and possibly add to incidence of the disease.

Traditionally, correctional institutions tend to concentrate HIV testing on prisoners with high-risk behavior i.e. a history of IV drug use, multiple sexual partners, sexually transmitted diseases, etc. As a result, more than one in three prisoners are never tested (Wakeman & Rich, 2010). The Bureau of Justice Statistics reported that in 2006, less than half of state prisons tested all inmates for HIV, whether it be upon admission, while in custody, or prior to release (Federal Bureau of Prisons, 2009). In addition, 45 states and the Federal Bureau of Prisons reported testing only if the inmates had HIV-related symptoms.

There are different types of HIV testing methods: mandatory, voluntary (opt-in), and routine opt-out (option to decline) testing. Some have proven to be more effective in different settings. Current HIV testing strategies in correctional institutions were examined to determine the most effective strategy. Basu et al. (2005) concluded that
mandatory testing was the most preferred testing method for those incarcerated. They also recommended establishing policies for continued counseling and follow-up of those identified as HIV positive once they are released back into the community.

A routine, voluntary HIV testing program was evaluated in a Massachusetts county prison (Liddicoat et al., 2006). HIV testing was offered to all sentenced inmates upon entry to the prison. In this program, the number of inmates who were tested increased when compared to their previous testing method, which involved testing only upon inmate or physician request. There was a 73% (734/1004) HIV testing acceptance rate. Even though the testing rate increased with this routine voluntary method, there are other recommended methods to increase testing in correctional facilities.

In the 2009 HIV Testing Implementation Guidance for Correctional Settings, the CDC has recommended routine opt-out HIV screening to all jail inmates upon intake as the most comprehensive HIV testing strategy. In addition, it was recommended that the medical staff of the correctional facility should be included in the decisions of when and how to test for HIV within the institution (Federal Bureau of Prisons, 2009).

Rapid HIV testing is another recommended strategy for correctional settings. Studies (Macgowan et al., 2009) have shown that rapid HIV testing in jails has identified a significant number of previously undiagnosed individuals testing positive for the virus. Macgown et al. (2009) conducted a study with four state health departments and area jails in Florida, Louisiana, New York, and Wisconsin from December 2003 to May 2006. In the study period, rapid HIV testing was done on 33,211 inmates; of these, 409 (1.2%) tested positive, 269 (0.8%) of which were new or previously undiagnosed (Macgowan, et
al., 2009). Of particular interest, 40% of the newly diagnosed HIV cases were inmates who had only reported a history of heterosexual contact.

Although several different HIV testing strategies have been studied and discussed, our study will examine voluntary opt-out HIV testing, using HBM constructs, to all inmates entering the Metropolitan Detention Center in Los Angeles. This is believed to improve the detection and early diagnosis of HIV among inmates as well as better connect them to needed services. It could also prevent infection through the counseling of individuals testing negative and treatment of those testing positive, resulting in improved health and significantly reduced health care costs within and without the prison system.

H. Conclusions

Inmate contact with the prison health care system provides a unique opportunity for public health officials and preventive care specialists to offer HIV testing to a high risk, hard to reach population. HIV testing within our prisons and jails is important, since undiagnosed HIV affects both the individual and the community they return to after incarceration.

It is estimated that approximately 60% of pretrial inmates in the BOP are not sentenced and not routinely offered voluntary HIV testing unless they meet the criteria as stated in the BOP’s Clinical Practice Guidelines. One of the 2020 Healthy People Objectives is to increase the proportion of adults who have been tested for HIV in the past year. Our study aims to addresses this need in a particularly vulnerable and high-risk population, thus helping to reduce the burden of the disease among federally incarcerated inmates.
A review of the literature on HIV testing revealed that the Federal Bureau of Prisons has not conducted research regarding strategies to prevent and reduce HIV among inmates. With an environment different than those of most studies (i.e. state and county jails), there is a need for the BOP to conduct studies about the feasibility and need for HIV testing among those incarcerated in the federal system. Our study provided important information to help BOP administration to re-evaluate current policies and guidelines, as well as explore the perceived benefits and barriers to HIV testing for HIV positive inmates housed at the Federal Detention Center, where the research was conducted.

The resulting information of our study can increase the ability of preventive care specialists to provide HIV testing for federally incarcerated adult males.
CHAPTER 3

METHODS

A. Study Design

A cross-sectional mixed method study was conducted in the Federal Bureau of Prisons at a large urban detention center in accordance with the protection of human subject research guidelines at the Federal Bureau of Prisons and Loma Linda University; the target population was males incarcerated at this detention center. In Phase one, the qualitative phase, key informant interviews were conducted with randomly selected inmates and prison health care professionals. In the second quantitative phase, all pretrial and sentenced who entered the detention center between August 2012 and June 2013 were offered voluntary anonymous testing and invited to complete a brief cross-sectional survey.

B. Participants

Phase one participants included key informants that consisted of three sentenced inmates and four prison health care professionals.

Participants for phase two included all male inmates, both pre-trial and sentenced, who entered the federal detention center between August 2012 and June 2013. Although the detention center houses both male and female inmates, male inmates were selected since the majority of the population at MDC-LA is male and the prevalence of HIV positive rates is higher in males than females. Hence, the sample would be more representative of an HIV positive prison population.

Participants included 721 male inmates between the age of 20 and 80 years. Unsentenced high-risk and low-risk inmates, who would not routinely be offered HIV
testing, were compared to the sentenced high and low-risk inmates who would usually be offered HIV testing. Participants were recruited during their initial admission to incarceration and recruitment for the two groups ceased once sufficient numbers were recruited.

C. Data Collection and Procedures

1. **Training and IRB Preparation of Data Collection Staff:**

Medical staff from the detention center was selected to participate in key informant interviews, the development of the survey instrument, or questionnaire, and the administration of the questionnaire to the inmate population. The medical staff consisted of a health services administrator, assistant health services administrator, dentist, pharmacist, physicians, mid-level providers, registered nurses, infectious disease/improving operations program coordinator, dental assistant, pharmacist assistant, medication technician, medical secretary, and medical records technician. In addition to a training session that clearly outlined study procedures, all medical staff involved in administering the questionnaire completed the protection of human subjects trained offered online by the National Institutes of Health (NIH) prior to administering the questionnaire.

2. **Phase 1 – Qualitative Procedures:**

Seven key informant interviews were conducted. The key informants consisted of 4 medical staff members, who were providing health care services to the inmate population at MDC-LA and knowledgeable about inmate HIV risk behaviors.
Three sentenced inmates who agreed to a semi structured interview were selected for the key informant interviews.

a. Recruitment and Sampling: A systematic convenience sample from the Health Services Department at MDC-LA was taken to recruit participants for the key informant interviews; a convenience sample also was taken to recruit from the sentenced inmate population. Staff participants were eligible if they had some knowledge and experience regarding voluntary HIV testing and HIV risk behaviors in the inmate population.

b. Mixed Method Key Informant Interviews: Upon recruitment, key informants completed a questionnaire which was made up of three questions using a 5-point Likert-type scale (strongly agree to strongly disagree), as well as three open ended questions with probes (adapted from the Health Belief Model, which was used as a theoretical framework). The questionnaire was used to explore issues regarding inmates' decision making about HIV testing, i.e., their opinion regarding the likelihood of inmates to volunteer for HIV testing when offered during intake screening. In addition, the key informants were interviewed in an open-ended fashion using a semi-structured key informant outline that explored the inmate’s perceived benefits and barriers to HIV testing.

Key informant interviews were conducted on a one on one basis with both staff and inmate key informants, the staff interviews done in person or over the telephone, and the inmate interviews done in person. Written informed consent was obtained from both staff and inmate key informants. The researcher conducted the key informant interviews and each lasted for no more than 30 minutes. The purpose of the staff interviews was to
obtain the perspective of persons who are knowledgeable and experienced with working and providing health care, including HIV testing, to the inmate population; the inmate interviews were conducted to obtain the inmates’ perspective. Data obtained from the key informant interviews was used in the development of the questionnaire, which was administered to the inmates in Phase 2 of the study.

   c. Instrument Development: Information from the key informant interviews was used to develop the questionnaire that was administered to the inmate population entering the facility between August 2012 and June 2013. Subsequent to revisions, the questionnaire was submitted to the LLU and BOP IRB’s for review and approval prior to being administered to the inmate population. Once approved by the IRB, the survey was pilot tested in a small (N=5) group of inmate volunteers. Written, informed consent was obtained and the inmates were encouraged to give feedback for improvement of the questionnaire.

3. Phase 2 – Quantitative Procedures:

   a. Study Procedures: Male inmates admitted to the detention center between August 2012 and June 2013 were scheduled for routine screening in the medical department of the detention center. During the visit, inmates were offered HIV testing and asked if they were willing to participate in a study regarding benefits and barriers to HIV testing. The inmates were assured that the HIV testing was voluntary and that it was being offered to all inmates admitted to MDC-LA. Inmates were invited to complete the study questionnaire whether or not they opted to be tested for HIV. If the inmate agreed to participate in the study, verbal as well as written informed consent for participation in the study was obtained by the researcher and/or medical staff conducting the visit. A
questionnaire was provided and completed through self-administration or interview depending on inmate preference. Given the large number of Spanish speaking inmates, the short survey was also available in a certified Spanish translated version, which was utilized by 87 Spanish speaking only inmates. Upon completion of the questionnaire, inmates were provided with a copy of an educational handout (Appendix I) regarding HIV. If the inmate then also consented to HIV testing, it was ordered and blood was drawn within 5 business days of intake. Prior to collection of the blood sample for testing, consent for the blood draw was given by signing the BOP HIV Counseling Documentation (Appendix J). In addition, inmates agreeing to test received additional HIV pre-test counseling by the researcher. If the inmate did not consent to participate in the study but wanted to be tested for HIV, they were referred to the Infectious Disease Coordinator for follow-up HIV testing and counseling.

The HIV test results were available within a week of testing. Once the results were available, the inmates received HIV post-test counseling within 2 weeks by the Infectious Disease Coordinator. In addition, they were provided with an educational post-test counseling handout, HIV Post-Test Counseling Negative (Appendix K) or HIV Post-Test Counseling Positive (Appendix L). All inmates with a positive HIV test result were referred to a physician for further evaluation in accordance with BOP guidelines. In addition, inmates who tested positive for the virus were referred to the Psychology Department at MDC-LA for evaluation and counseling.

Study participants' HIV test results were linked to the survey to allow for statistical analysis of the proposed research questions. In the prison setting, the potential exists for patient confidentiality to be either minimal or non-existent due to staff or other
inmates having access to their personal belongings. Therefore, to eliminate the potential for a violation of confidentiality and to protect the inmates from other inmates or staff from seeing the positive results, copies of HIV results were not released to the inmate while in custody as per current BOP policy. The inmates were informed that they could request a copy of the results to be mailed to their homes upon a written request to the Medical Records Department.

If the inmate was released or transferred from MDC-LA prior to receiving the results of their HIV test, it was scanned into their electronic medical record. Inmates were informed that if they transferred to another BOP facility, they would receive their HIV results at the receiving institution. If they were released from the BOP to another agency or home before results were available, they could request results by writing to the BOP’s Office of General Counsel. This information was explained to the inmate when they consented to be in the study. If the HIV test results were positive, it was reported to Los Angeles County Public Health Department according to California state laws and regulations. No new HIV positive inmates were released to the community from the detention center during this reporting period.

D. Measures

1. Dependent Variable

The dependent variable for this study is HIV testing (yes or no) and if testing rates differed in low-risk versus high-risk sentenced and unsentenced inmates. If the inmate agreed to voluntary HIV testing, they provided written consent and blood was drawn for the test. A secondary outcome variable is sero-status for those tested.

2. Independent Variables
The independent variables for the study include demographic variables such as gender, age, relationship status (categorical list), ethnicity (categorical list), highest level of education completed (in years), and HIV risk status (low-risk versus high-risk). Variables were assessed that under current regulations would have placed the respondent into the “offered testing” category. Descriptive variables of HIV risk behaviors were collected, including the number of male and female sexual partners in the past 5 years (categorical), and the frequency of condom use (categorical list) in general and at last sexual encounter, as well as tattooing history.

An inmate’s perception of his susceptibility to the virus, its severity and the benefits and barriers to HIV testing were measured utilizing multiple items that measured the variable. These dimensions of the HBM were assessed on a 5-point Likert-type scale (strongly agree to strongly disagree). Examples of the types of questions include: (1) I believe that HIV infection is very serious and (2) I want to know if I have HIV in order not to infect someone else. The responses vary from strongly agree to strongly disagree. Perceived benefits and barriers were measured utilizing a checklist. Some of the barriers listed include lack of confidentiality, fear of knowing status, stigma, and discrimination, etc. Some of the benefits listed include early identification of HIV to allow for early treatment, to find out one’s status, etc.

**E. Data Analysis**

1. **Phase 1 – Qualitative:**

   The interviews were transcribed and analyzed using a systematic coding approach informed by Grounded Theory methods. The information obtained was used to
develop a more responsive questionnaire and to better understand the context of inmate decision-making regarding HIV testing.

2. **Phase 2 – Quantitative:**

Prior to the quantitative data analysis, all inmates’ identifying information was removed to ensure confidentiality and an ID number was assigned to the data that allowed us to link the survey data to the HIV test results while maintaining confidentiality. Only the primary researcher had access to identifying and linking information. All data was verified for accuracy. Any data not de-identified was stored electronically in password-protected and encrypted files.

A statistician utilizing Version 22 of the Statistical Package for the Social Sciences (SPSS) software conducted all statistical analyses (IBM Corporation, 2013). Please see the table outlining the statistical method that was used with each research question in Appendix N.

F. **Power Analysis**

To explore our research questions, we utilized descriptive statistics, odds ratio, chi-square, multivariable logistic regression, independent sample t-test, and multiple linear regression. PASS Power and Sample Size Calculation was used to calculate the sample size. A logistic regression of a binary response variable (HIV – yes/no) on a binary independent variable (low/high risk) with a sample size of 865 observations (of which 25% were categorized as low risk and 75% as high risk) was set as a target to achieve 80% power at a 0.050 significance level to detect a change in probability (HIV positive) from the baseline value of 0.02 to 0.07. This change corresponds to an odds ratio of 3.688. The method of analysis was adjusted since a multiple regression of the
independent variable of interest on the other covariate variables in the logistic regression obtained an R-squared of 0.10.

G. Strengths and Limitations

The current study contributed to the limited existing literature regarding HIV testing in federal prison settings, also provided data to inform policy changes regarding HIV testing in the federal prison system. In addition, information about inmates’ thoughts regarding testing and their perceptions about HIV severity, susceptibility, and benefits and barriers to HIV testing were identified, which we hope will assist detention center medical staff to better serve the inmates, which may lead to more testing and its associated benefits.

The setting (only one of many federal detention centers), the cross sectional study design, and few resources created some limitations of the study. In any cross-sectional study design, determination of causality is impossible and any conclusions are limited to the associations observed. However, the mixed method design helped provide some contextual thoughts about this issue, which somewhat helped to address this limitation.

Also, while not all inmates decided to test, the self-report data and cross sectional limitations were somewhat addressed by the HIV test results which were explored through self-report. Another limitation of the study was the short stay of pretrial inmates. Although researchers contacted pre-trial inmates as soon as possible upon intake, some inmates may have been released prior to being offered testing. Since the study participants represent a convenience sample of male inmates at the participating urban federal detention center, selection and sample bias are additional limitations of the study.
Hence, the results of the study have limited generalizability and are specific to inmates in the participating facility.

**H. Research Ethics**

We are very aware of the sensitive and vulnerable nature of prisoners as a study population; therefore, steps were taken to assure non-coercion and fully informed consent for each of the study procedures. Subjects appeared able to freely choose to complete the questionnaire without testing for HIV, or test for the virus but not complete the questionnaire. The study adhered to the Belmont Report (1979) principles of respect for persons, beneficence, and justice. The researcher is also certified by the NIH Office of Extramural Research on Protection Human Research Participants. The researcher received approval for the study from the Institutional Review Boards of Loma Linda University and the Federal Bureau of Prisons before commencing the study. Subject participation was voluntary and the subjects were well informed about the study aims and their rights as participants. Verbal and written consent was obtained from all participants.

There were minimal risks associated with the study, consisting of some personal and sensitive questions on the questionnaire as well as during counseling. All inmates entering the jail were offered the opportunity to participate in the study, and there were no incentives offered to participate. All inmates were given an educational handout on HIV and the importance of testing.

Confidentiality and security of participating inmates’ personal information was followed and maintained: all inmate identifiers including name, date of birth, and register numbers was removed to ensure confidentiality. All questionnaires, recordings, and
measures were coded, and only the primary researcher had access to identifying information. All data were stored in a locked cabinet, and electronic files were password protected, encrypted and only accessible by the researcher. Any information obtained in connection with this study will remain confidential and not be disclosed without consent or as required by BOP policy. Upon completion of the study, all documents will be maintained for 1 year. After a year, all documents will be destroyed using a cross cutter shredder. The primary researcher will be responsible for ensuring that the documents are properly destroyed.
CHAPTER 4
FIRST PUBLISHABLE PAPER

Benefits and Barriers to HIV Testing in a Population of Federal Detention Inmates

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Benefits and Barriers to HIV Testing in a Population of Federal Detention Inmates

ABSTRACT

Early HIV testing has reduced the rate of new infections and has been shown to improve the health and life expectancy of those living with HIV. There remain several high risk populations that are hard to enlist in voluntary community based HIV testing, including men who have sex with men, as well as men who have sex with women, and drug users. To address this, many health professionals have argued for intentionalizing HIV testing in US prisons and jails but many questions regarding implementation remains. In light of this, we conducted a cross-sectional study with 721 inmates in a large urban federal prison between 2012 and 2013 who agreed to participate in a voluntary survey to help us better understand inmate perceptions about testing, including perceived barriers and benefits of HIV testing, as well as their perceived susceptibility to and the severity of HIV/AIDS. Bi-variable and multivariate analyses were used to determine which constructs were associated with an inmate’s decision to participate in voluntary testing. The results revealed that age, ethnicity, sentencing status, sexual orientation, and risk status contributed inmates’ willingness to take an HIV test. Findings from this study will could help guide HIV testing policies for federal prisons, as well as providing important information about inmates’ decision making about HIV testing.

Keywords: HIV testing; benefits of and barriers to HIV testing; Federal detention inmates;
INTRODUCTION

While treatment options for the human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS) have made them chronic conditions, these diseases continue to be major public health concerns, especially for sub-groups of individuals who are not reached by screening efforts for early identification and treatment. Indeed, as stated in the Executive Summary of the National HIV/AIDS Strategy for the United States (The White House – Executive Order, 2013), one American is infected with HIV every nine and a half minutes. Currently, there are over 1 million people in the U.S. who are infected with the virus, and it is estimated that among these at least 1 in 5 (18.1%) are unaware of their HIV status (Centers for Disease Control & Prevention [CDC], 2013).

In July 2010, the White House released the first comprehensive National HIV/AIDS Strategy for the United States. The three primary goals for the strategy include: (a) reducing the number of people who become infected with HIV; (b) increasing access to care and optimizing health outcomes for people living with HIV; and (c) reducing HIV-related health disparities (Executive Order – HIV Care Continuum Initiative, 2013). To reach these goals, the President is calling for broad support from a variety of entities that include the Federal government, state, tribal and local governments, faith communities, scientific and medical communities, and educational institutions to implement multiple strategies.

In the U.S., there are currently about 2 million people incarcerated in either state or federal prisons. Adding individuals who are either on probation or parole the number of people connected with the prison system is tripled (Maruschak & Beavers, 2009).
According to internal prison data, the number of inmates currently housed in federal prison is approximately 219,000 (Federal Bureau of Prisons Weekly Population Report, 2013). Many of the individuals entering the prison system have a history of behaviors such as unprotected sex, multiple sexual partners, intravenous drug (IV) use, tattooing, etc. which put them at increased risk for HIV/AIDS (Altice, et al., 2005; Hammett, 2006; Hellard & Aitken, 2004). Though prohibited, these behaviors continue to occur in prison, calling for concerted efforts to test these individuals while incarcerated to limit further spread of the virus (Andrinopoulos, Kerrigan, Figueroa, Reese, & Ellen, 2010; Maruschak & Beavers, 2009).

According to Bureau of Justice Statistics, in 2010 there were a reported 20,093 inmates, or approximately 1% of the total custody population in state or federal prison, identified as infected with HIV. Although the rate of HIV/AIDS among inmates in both state and federal prison has declined from 194 cases per 10,000 in 2001 to 146 per 10,000 in 2010, the rates of AIDS-related deaths in federal prison remained unchanged at 7 in both 2009 and 2010 (Maruschak, 2012,).

In 2008, the Federal Bureau of Prisons (BOP) adopted CDC recommendations to include offering voluntary HIV testing to all individuals convicted of a Federal offense who are sentenced to a period of six months or more. Additional requirements to the voluntary testing included assessing an inmate’s risk factors and HIV screening to determine if the inmate has had a recent HIV test, if they are exhibiting signs or symptoms of HIV, or if they have had a recent exposure to HIV. This screening is performed during initial entry and then periodically during their incarceration. The BOP will test an inmate with any of the following risk factors for HIV:
- Signs/symptoms of acute HIV infection or HIV-related condition
- Pregnancy
- Recent exposure or victim of a sexual assault
- Active tuberculosis (TB) or a positive TB skin test or,
- When otherwise clinically indicated (i.e. risky behavior, sexually transmitted disease (STDs), exposure-related, etc. (Federal Bureau of Prisons Clinical Practice Guidelines, 2013).

Using these criteria, in October 2013, internal prison data found approximately 219,017 sentenced inmates in the BOP who would qualify for voluntary HIV testing. However, the BOP also currently houses both sentenced and pretrial inmates. Since current guidelines suggest voluntary testing for sentenced inmates only, approximately 11,000 pretrial (unsentenced) inmates in the BOP each year who are not routinely tested for HIV unless they meet the Clinical Practice Guidelines as one of the self-identified risk groups. However, some retrospective studies revealed that a significant number of HIV cases could have been identified if testing had been done during a prior incarceration (Duffus, et al., 2009).

As a result there has been much discussion among health care professionals and administrators about offering voluntary HIV testing to all inmates, whether sentenced or pre-trial weighing inmate health against the societal benefits and costs of such policies. Clearly, HIV/AIDS continues to be a serious disease laden with a number of social and emotional barriers to testing. Many inmates may be afraid of finding out that they are HIV positive, and avoid getting screened (Sabharwal, et al., 2010); others fear the stigma or being segregated from the general prison population. Therefore, in addition to the need
for providers to create an environment that stresses confidentiality and explains the benefits of HIV testing, it is important to learn more about inmates’ beliefs and attitudes regarding HIV testing (Zak-Place & Stern, 2004).

The purpose of this study was to use selected constructs of the Health Belief Model (HBM) to explore the perceptions of high and low risk inmates, both sentenced and pre-trial, about the severity of HIV and their susceptibility to contracting the disease, while identifying what they viewed as barriers and benefits to HIV testing. Study findings will also be helpful in examining if current BOP policy of testing only high risk, sentenced inmates sufficient to Health Services Administrative staff and the Medical Director of the BOP.

METHODS

Participants

Participants for this study included male inmates who entered a large urban federal detention center between August 2012 and June 2013. The inmates enter our system as self-surrenders or transfers from other facilities (federal and non-federal). A total of 721 male inmates entered the facility in this period and were invited to participate in a study regarding HIV testing in federal detention centers. Prior to receiving their intake physical exam, each of the 721 inmates were offered voluntary HIV testing, and asked by medical staff if they wanted to participate in the survey. Of these, 396 (55%) completed the voluntary survey, which took between 10-15 minutes to complete. If an inmate agreed to testing, they provided written consent and had their blood drawn. All participation was voluntary; inmates gave verbal as well as written consent for inclusion
in the study. All study discussions and consent documents were also available in Spanish.

**Measures**

The dependent variable for our analyses was the inmate’s decision whether or not to be tested for HIV (yes or no) after the offer of voluntary testing was made to all inmates, whether sentenced or unsentenced (pre-trial). Independent variables included standard demographics such as age (in 10 year intervals), race/ethnicity (White, African American, Hispanic, Asian, other); relationship status (single, married, divorced, widowed, other); education (0-6; 7-12 grade level, some college, college graduate, other); primary language spoken (English, Spanish, other); incarceration history (first time offense, parole violation, repeat charge); and sentencing status (unsentenced vs. sentenced). Participants also completed a brief standard risk (high vs. low) assessment, based on CDC standards to determine their risk of contracting HIV. Questions included the number of male and female sexual partners in the past 5 years; frequency of condom use in general and at last sexual encounter; injection drug use; history of tuberculosis; sexually transmitted infections; and tattooing history (Centers for Disease Control, 2013).

Constructs from the Health Belief Model (HBM) for perceived susceptibility to contracting HIV, perceived severity of HIV/AIDS, and perceived benefits and barriers to HIV testing were measured utilizing multiple items for each dimension. Perceived susceptibility and severity were assessed on a 5-point Likert-type scale (strongly agree to strongly disagree) while barriers and benefits were assessed utilizing a checklist. Cronbach’s alphas on each of the HBM scales were performed to assess their internal reliability and while low, were still in the acceptable range of 0.61-0.69.
Statistical Analysis

To allow us to link the survey data to the HIV test results while maintaining participant confidentiality, an ID number was assigned to the HIV test and the survey. Only the primary researcher had access to identifying and linking information, and all data was verified for accuracy. Any information obtained in connection with this study remains confidential and will not be disclosed without participant consent or as required by BOP policy.

Statistical analyses performed included descriptive analyses of participants by sentencing status (pretrial or sentenced), and decision to test for HIV. Using the survey data, we then explored HBM constructs by testing decision. Finally, we used a standard model building approach of conducting bi-variable analyses between demographic and HBM model variables and HIV testing with an inclusion criteria of \( p < .1 \) to select candidate variables for the logistic regression. Multiple logistic regression analysis was then used to estimate the effect of the independent variables on the binary outcome variables (testing for HIV – yes/no) exploring the demographic profiles of inmates who decided to participate in HIV testing.

Statistical analyses were performed utilizing IBM Version 22 of the Statistical Package for the Social Sciences (SPSS) software (IBM Corporation, 2013). Alpha was set at a significance level of 0.05.

RESULTS

The study sample included 721 male inmates housed in the study site, a detention center in a large urban area. Of the 721, 31% (223) were sentenced and 69% (498) were pretrial inmates. In both sentenced and pretrial inmates, 62.6% were between 18–40
years of age. Three hundred and ninety-seven (55%) inmates completed the questionnaire that measured perceptions of HIV severity and susceptibility, as well as barriers and benefits of HIV testing. Of these, 59.4% identified as Hispanic. In the pretrial population, 24.7% were single and 22.9% married. Of the sentenced population, 21.4% identified as single and 13.4% as married. Compared to the sentenced inmates, the pretrial inmates were more educated, with 30% of the pretrial population reporting 7-12 years of education compared to 16.5% among the sentenced inmates. The majority of both pretrial (31.2%) and sentenced (17.1%) inmates reported that this was their first time in jail or prison (Table 1).

Table 2 describes the outcomes of the offer of HIV testing: who tested positive, negative or decided to not get tested among pretrial inmates and sentenced inmates by risk status (high vs. low). Of pretrial inmates deemed high risk, 26% decided not to get tested, 4.2% tested positive, and 69.8% tested negative. Among low-risk pretrial inmates, none tested positive, 82.7% tested negative, and 17.3% decided not to test. Among sentenced high-risk inmates, 62.7% were negative, 2.4% were positive, and 34.9% decided not to be tested. Among low risk sentenced inmates, 66% were negative, none were positive, and 34% decided not to be tested. Overall, more sentenced inmates decided not to be tested (34.5% vs. 21.1%), and a slightly higher proportion of pre-trial inmates vs. sentenced inmates were HIV positive (1.8% vs. 1.4%).

Table 3 illustrates the percentage of inmates who tested for HIV based upon their demographic and risk behaviors. Age, ethnicity, sentencing status, and sexual orientation were all significant factors for engaging in voluntary HIV testing. The majority of inmates who tested for HIV were Hispanics with a mean age between 31-40 years (p
Pretrial inmates accepted voluntary HIV testing more frequently than sentenced inmates (72.9% vs. 27.1%). In addition, heterosexual inmates were more likely to test for HIV when compared to inmates who were homosexual, bisexual, or transgender ($p = 0.077$).

With respect to HBM model variables and voluntary testing, our descriptive exploration indicates that all constructs were associated with testing in the desired direction, inmates who felt that they were more susceptible to contracting HIV were more likely to get tested. Inmates who felt that HIV testing was beneficial were more likely to be tested (Table 4).

However, results of the logistic regression indicate that despite inclusion of only variables that were bi-variably associated with the decision to test only perceived benefits remained significant positive predictors of testing at $p<.05$. Perceived severity (in the direction of being more likely to test) approached significance at $p=.079$ as did sexual orientation (heterosexuals being more likely to test) $p=.083$, and being “other” vs. Caucasian being less likely to test ($p=.051$).

**DISCUSSION**

Many individuals who become incarcerated have had limited access to health care prior to their arrest. When these prisoners, especially male prisoners, enter jail, it is often their first exposure to health care since childhood (Goldenson & Hennessey, 2009). In the U.S., people who are incarcerated have higher rates of health problems and chronic disease compared to the general population (Goldenson & Hennessey, 2009). The prison population also is disproportionately burdened with infectious diseases, such as HIV (Spaulding, et al., 2002).
In 2006, the Centers for Disease Control and Prevention (CDC) recommended that correctional facilities perform HIV testing as part of a routine medical evaluation for anyone 13-64 years of age. Clearly, the federal prison system, with many individuals at higher risk for HIV infection, is in a position to help reduce the number of new HIV infections by developing, evaluating, and implementing effective preventive strategies such as early HIV testing and prevention education.

Basu, Smith-Rohrberg, Hanck, & Altice (2005) recommend that HIV testing be offered to all inmates, both sentenced and those awaiting sentencing (pretrial) regardless of risk factors. This, they believe, is the best testing strategy in correctional institutions to detect HIV early enough for control of transmission and improving the health of seropositive individuals. However, although testing is offered to all sentenced inmates, current BOP policy only offers HIV testing to pretrial inmates if they meet certain criteria. In contrast, our study offered HIV testing to all inmates entering the detention center. As is the standard pattern in this detention center, most of our study participants were pretrial inmates (69%). In our study, there was significant acceptance of HIV testing: among all study participants, 75% of those offered, accepted and were tested for HIV. The rate of HIV testing was higher among pretrial inmates than those already sentenced: 78.9% of those awaiting sentencing (pretrial) were tested for HIV compared to 65.5% of sentenced inmates. Incarceration is considered a risk factor for HIV, but we further stratified the pretrial inmates to determine if there was a difference in the seropositivity of low-risk versus high-risk pretrial inmates. This is important as it is standard practice to offer testing only to those who self-report as being high risk (according to the BOP Clinical Practice Guidelines). The results suggest two issues: first
pretrial inmates are often not in the detention center long enough to receive a medical exam and thus are not assessed for HIV risk. In our study, in which we deliberately approached all new pretrial inmates for medical exams very soon after arrival, the standard risk assessment identified nine cases of HIV among those who were classified as high risk (9.2%). Secondly, we learned that the current policy of offering testing only to pretrial inmates who were classified as high risk based on self-report was effective, since the only cases of HIV were identified in this self-defined high risk group; no new cases were found in the low-risk group. However, our study also revealed that high-risk inmates are least likely to test for HIV when offered. Therefore, there may be a population of inmates who are HIV positive but choose not to take a voluntary HIV test.

We should keep in mind that each testing opportunity, even those which end in a negative test result, implicitly underscores the importance of STI prevention, and is provides another window in which to answer questions and reinforce safe sex practices.

Perceived susceptibility to HIV, severity of HIV, and the benefits of and barriers to testing were also explored. We determined that perceived benefits increased the likelihood of inmates to test for HIV. Providing information about the benefits to HIV testing such as early detection of the disease, reduced transmission, and prolonging one’s quality of life reduced barriers to testing and increased testing rates in our study when compared to previous HIV testing methods (Beckwith et. al, 2010). An inmate’s understanding of the benefits or the importance of HIV counseling and testing is essential for early HIV/AIDS detection to facilitate optimal treatment, prevention of complications, decreasing transmission, and improving outcomes, and most importantly,
willingness to test. It is important to evaluate inmates’ understanding of the benefits and to educate them about the benefits before they make a decision whether or not to test.

Although voluntary HIV testing was offered to all inmates, there was a population of inmates who did not accept testing when offered; sentenced inmates with less than two years to serve on their sentence were less likely to test for HIV. Additional studies to further explore the barriers to HIV testing in this population are needed.

Yet another population of inmates who were possibly less likely to test for HIV was the gay, bisexual, and transgender inmates. These self-identified groups had very low numbers, but some of the information gained from them is instructive. The barriers to HIV testing far outweighed the benefits leading to not testing in this group of inmates; very few of them agreed to test. Some of the barriers for these groups included being afraid to get an HIV test, seeing HIV as an unbearable stigma, lack of confidentiality, and how testing positive for HIV would affect their incarceration. Alternatively it is possible that these individuals may have tested outside of prison and already knew their status.

Several studies have been conducted examining the different barriers to HIV testing in other correctional settings. Some barriers included fear of being stigmatized or discriminated against, being segregated from the rest of the jail population, and stereotyping as a man who has sex with men or an IV drug user, etc. (Lyons, Lindsell, Fichtenbaum, & Camargo, 2007; Riley & Baah-Odoom, 2010). As seen in our survey, these same barriers existed in our population of inmates as well. Because these barriers exist, measures to reduce them should be implemented, and offering routine rapid HIV testing to all inmates in correctional settings is one way of doing so (Wakeman & Rich, 2010; Spaulding, et al., 2009).
The rates of HIV infection in our study for sentenced (2.4%) and pretrial inmates (4.2%) are much higher than the 1.5% seropositivity rates of the state and federal prison general population (CDC, 2013). However, due to self-selection bias, many inmates, both sentenced and pretrial, did not test, which could have affected the seropositivity rate in our study. Although none of the low-risk individuals who agreed to test were found to be HIV positive, other studies will most likely find a higher seropositivity rate among low risk inmates.

There are some strengths and limitations to this study. Our study contributed to the limited existing literature regarding HIV testing in federal prison settings. In addition, it provided support to the BOP’s current Clinical Practice Guidelines regarding HIV testing in the federal prison system, and provided another opportunity to educate inmates on the benefits of HIV testing. One limitation is that the questionnaire was based on self-reports; therefore, some of the information regarding high-risk behaviors and history may be inaccurate. In addition, since study participants were chosen from a self-selected convenience sample of mostly Hispanic male inmates housed at a large urban federal detention center, selection and sample bias could mean the results are not generalizable to other settings and populations.

In conclusion, HIV testing in a prison setting represents an important strategy for early detection of HIV and improving the quality of life for those living with HIV in a high-risk population. While our study showed that a significant number of inmates are willing to be tested for HIV when offered, there is still a population of inmates, some of whom are at higher risk for contracting the virus, that do not normally accept testing when offered. HIV testing within our prisons and jails is extremely important, not only
for the individual but also for the public health of our nation. Undiagnosed HIV has an impact on both the individual and the community they return to after incarceration, specifically transmission of the virus and linkage to care for seropositive individuals (Vlahov & Putnam, 2006). Therefore, it is imperative that jails, state prisons, and the BOP address the barriers to HIV testing, whether administrative or patient centered.
ACKNOWLEDGEMENTS

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REFERENCES


Table 4.1. Demographic Profile of Federal Detention Inmate Sample Population

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<th></th>
<th>PRETRIAL Inmates</th>
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<tbody>
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<td>Weighted %</td>
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<tr>
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<tr>
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<td>69.0</td>
</tr>
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<td>Age group (N=721)</td>
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<tr>
<td>21-30</td>
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</tr>
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<tr>
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Weighted equals percentage of inmates according to demographics
Table 4.2. Rates of HIV Seropositivity in Low-Risk Versus High-Risk Pretrial and Sentenced Inmates

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<td>n</td>
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<tr>
<td>Low</td>
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<td>82.7%</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
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</table>

<table>
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<tr>
<td>Total</td>
<td>143</td>
<td>64.1%</td>
<td>3</td>
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</table>

* Did not test for HIV
<table>
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<td>Number of female sexual partners in the past five years. (n=397)</td>
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<td>6-10</td>
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<td>Number of male sexual partners in the past five years. (n=397)</td>
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<tr>
<td>1-5</td>
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<td>5.6%</td>
<td>15</td>
</tr>
<tr>
<td>6-10</td>
<td>4</td>
<td>1.9%</td>
<td>6</td>
</tr>
<tr>
<td>10+</td>
<td>3</td>
<td>1.4%</td>
<td>7</td>
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<tr>
<td>High risk/Low risk (n=721)</td>
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<td>High</td>
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<tr>
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<td>82</td>
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### Table 4.4. HBM Constructs and HIV Testing Decisions

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<th>Variable</th>
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<th>Mean</th>
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<tr>
<td>Benefits</td>
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<td>215</td>
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<td>.59209</td>
<td>&lt;0.001</td>
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<tr>
<td>Barriers</td>
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### Table 4.5. Logistic Regression Model of HIV Testing Decision in Federal Sentenced and Unsentenced Inmates

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<tr>
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<th>p-value</th>
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<td>1.101</td>
<td>.909</td>
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<td>.551</td>
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<td>.372</td>
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<td>Hispanics vs. Caucasians</td>
<td>-.029</td>
<td>.926</td>
<td>.971</td>
<td>.523</td>
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<td>Others vs. Caucasians</td>
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<td>.051</td>
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<td>High risk vs. Low risk</td>
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<td>.898</td>
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<td>Sentenced vs. Pre-Trial</td>
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<td>.879</td>
<td>.967</td>
<td>.625</td>
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<tr>
<td>Others vs. Heterosexuals</td>
<td>-.729</td>
<td>.083</td>
<td>.483</td>
<td>.212</td>
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<td>Susceptibility</td>
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<td>.025</td>
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<td>Constant</td>
<td>-1.880</td>
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p<0.05
CHAPTER 5
SECOND PUBLISHABLE PAPER

Policy Brief: HIV Testing in Federal Detention Centers

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Note: The formatting and referencing style is not in accordance with dissertation
guidelines and is according to journal specifications.
Policy Brief: HIV Testing in Federal Detention Centers
EXECUTIVE SUMMARY

This policy brief summarizes the evidence and recommendations of HIV testing in federal detention centers. It provides HIV testing guidance to administrators and clinicians who provide care to inmates in detention centers of the Federal Bureau of Prisons.
INTRODUCTION

The prevalence of HIV and AIDS among inmates incarcerated in state and federal prisons is a serious public health concern. In 2010, according to the Bureau of Justice Statistics (BJS), 20,093 inmates in state or federal prison were infected with HIV, an 8.6% decrease from 2008. In 2009, there were 1,590 inmates with HIV/AIDS in federal prison and in 2010, the number of inmates decreased to 1,578 (Maruschak, 2012). While there was a slight decrease in the number of incarcerated persons infected with HIV/AIDS, the rate of AIDS-related deaths for federal inmates remained the same at seven inmate deaths in both 2009 and 2010 (Maruschak, 2012).

Early voluntary HIV testing for all inmates is a strategy recommended by the CDC to detect early new cases of HIV for the prevention, control of transmission, and improving the health of those incarcerated, early voluntary HIV testing is recommended. Studies (Andrinopoulos, et al., 2010; Duffus et al., 2009) have shown that if HIV testing was not performed during an early incarceration period, several cases of undiagnosed HIV may have occurred.

Infection with the human immunodeficiency virus (HIV), can lead to the disease of acquired immune deficiency syndrome (AIDS), which can be deadly if left untreated or undetected. The risk of transmission is greatly diminished if treatment with antivirals is started early. HIV is transmitted through high-risk behaviors such as unprotected sexual intercourse, intravenous drug use, unregulated tattooing, etc. Many individuals who enter the federal prison system have a history of the very behaviors that put them at high risk and many continue some of these behaviors although they are officially forbidden (Altice, et al., 2005). However, in another study Altice et al. (2005) suggest
that voluntary HIV testing and counseling policies are not effective in all correctional facilities in reaching high risk groups, which hinder efforts to decrease HIV prevalence. Thus to reach a broader range of high-risk groups, use of saliva vs. blood tests, rapid serologic tests, and more routine testing in high risk and prevalence areas, such as federal detention centers is recommended. The CDC agrees that HIV testing should be offered soon after entering detention centers to help identify new cases of infection among this high-risk group (CDC, 2013).

BACKGROUND AND PROBLEM IDENTIFICATION

In 2008, the Federal Bureau of Prisons (BOP) adopted CDC recommendations to include offering voluntary HIV testing to all individuals convicted of a Federal offense who are sentenced to a period of six months or more. Additional requirements included assessing an inmate’s risk factors and HIV screening during initial entry and throughout their incarceration period. The BOP Clinical Practice Guidelines on HIV and Preventive Health currently state that voluntary screening for HIV infection is to be offered at intake or during the initial physical examination, which is to be completed within 14 days of admission. The BOP also requires that HIV testing be offered to all inmates with any of the following risk factors identified during the intake assessment:

- Signs/symptoms of acute HIV infection or HIV-related condition
- Pregnancy
- Recent exposure or victim of a sexual assault
- Active tuberculosis (TB) or a positive TB skin test or,
• When otherwise clinically indicated (i.e. risky behavior, sexually transmitted disease (STDs), exposure-related, etc. (Federal Bureau of Prisons Clinical Practice Guidelines, 2013).

However, testing is not offered to the many persons in federal prisons who await sentencing – a stay that can last from weeks to years.

METHODS

To explore another substantial opportunity for testing in hard to reach, at risk populations, we conducted a cross-sectional study with 722 male inmates (18-61+ years) in a large urban Federal Detention Center. All inmates who came into the system between August 2012 and June 2013 were seen by a health care provider and offered voluntary HIV testing whether they were sentenced or awaiting trial (See Table 1 for a demographic profile on study participants). Inmates were also invited to participate in a sub-study that involved completing a short behavioral survey assessing their attitudes and thoughts about barriers to and benefits of HIV testing. Of these, 55% (N=397) agreed to participate in the sub-study. A university and a federal institutional review board approved all procedures. Our main aim was to determine if more new cases of HIV would be identified when testing was expanded to include those who would not normally be offered HIV testing under the current clinical practice guidelines. Health professionals see every test as an opportunity for inmates to ask questions about HIV and re-examine their health habits and sexual practices.

RESULTS

Table 2 describes the results of the offer of voluntary testing: which pretrial or sentenced inmates, whether high risk or low risk, tested positive, negative or decided not
to be tested. Among high-risk pretrial inmates, 26% decided not to be tested, 4.2% tested positive, and 69.8% tested negative. Among low-risk pretrial inmates, none tested positive, 82.7% tested negative, and 17.3% decided not to test. Among high-risk sentenced inmates, 62.7% tested negative, 2.4% tested positive, and 34.9% decided not to test. Among low-risk sentenced inmates, none were positive, 66% were negative, and 34% decided not to test. Overall more sentenced inmates decided not to test (34.5% vs. 21.1%) and a slightly higher proportion of pre-trial inmates vs. sentenced inmates were HIV positive (1.8% vs. 1.4%). Interestingly, substantial numbers of high-risk inmates decided not to test (34% of high risk sentenced and 26% of high risk pretrial inmates).

Thus, while the study did not reveal an increase in seropositivity among the low risk pretrial inmates (those who would not normally be offered HIV testing), new cases were found in high-risk pretrial inmates. Though these inmates would be offered HIV testing if they were at the facility long enough to receive a health screening and its accompanying behavioral assessment, this is the ideal scenario and a daily reality. This seems to be a unique opportunity to reach high-risk men who have not yet been sentenced, since they accepted the offer of testing at a higher rate than sentenced inmates.

Our study also identified a population of inmates (sentenced and pretrial) who were less likely to accept testing when offered; sentenced inmates with less than two years to serve were less likely to test for HIV (27.1%) compared to pretrial inmates (72.9%) (Table 3a-c). In addition, gay, bisexual, and transgender inmates were less likely to test for HIV compared to heterosexual inmates.

While HIV testing is encouraged as a preventive strategy for the early identification of the disease, simply acknowledging the need for more testing is not
sufficient. It is also important to understand the potential benefits and barriers to testing from an inmate’s standpoint in order to develop effective approaches to overcoming these barriers. In addition to determining an increase in the number of inmates agreeing to test, our study used a theory driven survey to evaluate the psychosocial constructs important to understanding inmates’ concerns, readiness, and needs around testing. Perceived susceptibility to the virus, its severity, and the benefits of and barriers to HIV testing were examined. Our study results suggest that the perceived benefits of HIV testing increased the likelihood of inmates to test for HIV. It also identified several self-reported barriers that decreased the likelihood of testing for HIV, including: fear of being tested for HIV; fear that testing positive would create an unbearable stigma; worries about lack of confidentiality. Some inmates reported having a concern about how a positive HIV status would affect their psychosocial relationship with both inmates and staff.

**STRATEGIES TO IMPROVE HIV TESTING IN FEDERAL DETENTION CENTERS**

Many individuals who enter the prison system have had limited access to health care prior to their arrest. This may have been due to homelessness, lack of insurance, or prevention or medical care being seen as a lesser priority. In addition, since many voluntary outreach prevention efforts are tied to often stigmatizing or illegal high-risk behaviors, men may be reluctant to participate. When these prisoners enter jail, it is often their first introduction to the health care system since childhood (Goldenson & Hennessey, 2009).
This makes it possible for prison systems to diagnose, treat, manage, and prevent the spread of multiple preventable and infectious diseases such as HIV and creates an opportunity to improve the health of the nation as a whole. If the opportunity to provide health care and HIV testing is missed in the correctional system, these cases then re-enter the community (Shiraldi as cited in Rapposelli et al., 2002) and possibly add to incidence of the disease.

Traditionally, correctional institutions tend to concentrate HIV testing on prisoners with high-risk behavior. As a result, more than one in three prisoners are never tested (Wakeman & Rich, 2010). Routine, voluntary HIV testing for all inmates who enter federal detention centers is recommended. As seen in our study, the demographics and risky behaviors are the same in both the pre-trial and sentenced inmates. The BOP has the opportunity to take the first step in providing care, initiating treatment, and possibly preventing future cases of HIV if testing is performed and an early diagnosis provided. Our study revealed that more HIV tests were performed when offered to all prisoners, both sentenced and pretrial, during medical intake screening upon entry into the detention center, compared to previous testing methods, which allowed for testing only according to the clinical practice guidelines. Without baseline data to show the testing rates prior to this study, the nearly 75% testing acceptance rate represents a positive outcome. Although testing rates increased with this routine voluntary method, there are other recommended methods to increase testing in correctional facilities.

When a prisoner enters the correctional environment, they are faced with several barriers to HIV testing. The model we used to explore prisoners’ attitudes and beliefs about testing showed that their assessment of the perceived benefits and barriers to
testing influenced their decision-making. In other words, if the inmate focused on the benefits, the more likely he was to be tested. However, if the inmates perceived that there were more barriers, they were less likely to test. As revealed in our study, benefits increased the likelihood of HIV testing and barriers decreased the likelihood of testing. Measures need to be implemented to increase inmates’ perceptions of the benefits and decrease their perceptions of the barriers to HIV testing. Offering routine voluntary HIV testing to all inmates in correctional settings and educating inmates are two methods to reduce the barriers of HIV testing and counseling.

CONCLUSION

Inmate contact with the prison health care system provides a unique opportunity for clinicians to offer HIV testing to a high risk, hard to reach population. HIV testing within our prisons and jails is important, since undiagnosed HIV affects both the individual and the community they return to after incarceration.

It is estimated that approximately 60% of pretrial inmates in the BOP are not routinely offered voluntary HIV testing unless they meet the criteria as stated in the BOP’s Clinical Practice Guidelines. One of the 2020 Healthy People Objectives is to increase the proportion of adults who have been tested for HIV in the past year. Our study aims to addresses this need in a particularly vulnerable and high-risk population, thus helping to reduce the burden of the disease among federally incarcerated inmates.

A review of the literature on HIV testing revealed that the Federal Bureau of Prisons has not conducted research regarding strategies to prevent and reduce HIV among inmates. With an environment different than those of most studies i.e. state and county jails, there is a need for the BOP to conduct studies about the feasibility and need for HIV
testing among those incarcerated in the federal system. Our study provided important information to help BOP administration re-evaluate current policies and guidelines, as well as explore the perceived benefits and barriers to HIV testing for HIV positive inmates housed at the Federal Detention Center, where the research was conducted. We found that several sub-groups of high-risk men – gays, bisexuals, and transgender – were less likely to seek voluntary testing. Knowing that these groups are less likely to test and understanding prisoners’ viewpoints on the perceived barriers to and benefits of testing, physicians, physician assistants, nurse practitioners, nurses, and health care administrators can gain important insights and awareness about the complexity of issues faced by prisoners when deciding to accept voluntary HIV testing. This knowledge could prove useful in shaping recommendations to increase voluntary HIV testing in a high-risk population in need of early intervention. Furthermore, for those inmates who test sero-negative for HIV, it would likely provide an opportunity for education and counseling regarding risk behaviors.
ACKNOWLEDGEMENTS

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Centers for Disease Control and Prevention (CDC). (2013). Routine HIV Screening During Intake Medical Evaluation at a County Jail - Fulton County, Georgia, 2011-2012. *MMWR. Morbidity and Mortality Weekly Reports, 62*(24), 495-497. Retrieved November 13, 2013 from [http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6224a3.htm?s_cid=mm6224a3_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6224a3.htm?s_cid=mm6224a3_w)


Table 5.1. Demographic Profile of Federal Detention Inmate Sample Population

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<td>Inmates</td>
<td>Weighted %</td>
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<td></td>
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<td>0-6 years</td>
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<td>4.0</td>
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<td>7-12 years</td>
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<td>66</td>
<td>16.5</td>
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<td>Some college</td>
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<td>13.9</td>
<td>55</td>
<td>13.9</td>
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<td>3.8</td>
<td>15</td>
<td>3.8</td>
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<tr>
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<td>2.5</td>
<td>10</td>
<td>2.5</td>
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<td>Spanish</td>
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<td>52</td>
<td>13.1</td>
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<tr>
<td>Other</td>
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<td>11</td>
<td>2.8</td>
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<td>Incarceration charge (N=397)</td>
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<td>17.1</td>
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<td>Parole violator</td>
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<td>15.6</td>
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<td>New charge (not first time)</td>
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<td>9.3</td>
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Table 5.2. Rates of HIV Seropositivity in Low-Risk Versus High-Risk Pretrial and Sentenced Inmates

<table>
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<tr>
<th>Pretrial Inmates (N=498)</th>
<th>Negative</th>
<th>Positive</th>
<th>N/A*</th>
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<tr>
<td>Risk</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>n 150</td>
<td>% 69.8%</td>
<td>n 9  4.2%</td>
</tr>
<tr>
<td>Low</td>
<td>n 234</td>
<td>% 82.7%</td>
<td>n 0  0.0%</td>
</tr>
<tr>
<td>Total</td>
<td>n 384</td>
<td>% 77.1%</td>
<td>n 9  1.8%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sentenced Inmates (N=223)</th>
<th>Negative</th>
<th>Positive</th>
<th>N/A*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>n 79</td>
<td>% 62.7%</td>
<td>n 3  2.4%</td>
</tr>
<tr>
<td>Low</td>
<td>n 64</td>
<td>% 66.0%</td>
<td>n 0  0.0%</td>
</tr>
<tr>
<td>Total</td>
<td>n 143</td>
<td>% 64.1%</td>
<td>n 3  1.4%</td>
</tr>
</tbody>
</table>

* Did not test for HIV

Table 5.3a. Rates of HIV Testing among High and Low-Risk Inmates in a Federal Detention Center (n=721)

<table>
<thead>
<tr>
<th>Tested for HIV</th>
<th>Weighted %</th>
<th>Weighted %</th>
</tr>
</thead>
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<tr>
<td>Yes</td>
<td>44.7%</td>
<td>55.3%</td>
</tr>
<tr>
<td>No</td>
<td>54.9%</td>
<td>45.1%</td>
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p<0.05

Table 5.3b. Rates of HIV Testing in a Federal Detention Center: Sentenced Versus Pretrial Inmates (n=721)

<table>
<thead>
<tr>
<th>Tested for HIV</th>
<th>Weighted %</th>
<th>Weighted %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>27.1%</td>
<td>72.9%</td>
</tr>
<tr>
<td>No</td>
<td>42.3%</td>
<td>57.7%</td>
</tr>
</tbody>
</table>

p<0.05

Table 5.3c. Rates of Voluntary HIV Testing According to Sexual Orientation in a Federal Detention Center (n=397)

<table>
<thead>
<tr>
<th>Sexual Orientation</th>
<th>Voluntary</th>
<th>HIV Testing</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Heterosexual</td>
<td>n 204</td>
<td>% 94.9%</td>
<td>n 163</td>
</tr>
<tr>
<td>Gay/Lesbian</td>
<td>n 5</td>
<td>% 2.3%</td>
<td>n 6</td>
</tr>
<tr>
<td>Bisexual</td>
<td>n 2</td>
<td>% 0.9%</td>
<td>n 7</td>
</tr>
<tr>
<td>Transgender</td>
<td>n 1</td>
<td>% 0.5%</td>
<td>n 5</td>
</tr>
<tr>
<td>Unsure</td>
<td>n 3</td>
<td>% 1.4%</td>
<td>n 1</td>
</tr>
</tbody>
</table>

p<0.05
CHAPTER 6

OTHER FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

One purpose of our study was to identify inmates who are HIV positive; more specifically, we sought to determine if there was a difference in seropositivity rates among high-risk versus low-risk sentenced and pretrial inmates, to determine if current BOP policy of targeted testing is sufficient in identifying HIV positive patients. While our study identified 4.2% (9) high-risk pretrial inmates and 2.4% (3) high-risk sentenced inmates who were positive for HIV, all self-reported a high risk behavior or prior HIV positive testing history. However, we did not further explore their HIV history to determine how long they had been diagnosed and if they were diagnosed in a jail or community setting. This information may have provided additional validity to the study, emphasizing the importance of HIV testing in jails.

Our study also discovered that among pretrial inmates, 26% of those who were considered high-risk and 17.3% of those who were considered low-risk did not test for HIV. Among the sentenced inmates, 34.9% of high risk and 34% low risk did not test. Overall, there were more sentenced inmates (34.5% vs. 21.1%) who did not test when compared to the pretrial inmates. Further examining why the inmate did not want to test may also have provided more insight to the study. However, this is outside of the scope of our study. Several of the sentenced inmates had been transferred from other BOP institutions, finishing up their sentences and preparing to re-enter the community. It is possible that these inmates may have tested at their previous facility and not have felt it necessary to re-test. On the other hand, pretrial inmates are entering the detention center from the community or other agencies and may have recently tested for HIV. Both of
these situations were revealed during the data collection phase, however, this information was not collected and therefore could not be explored.

As discussed earlier, since the detention center is a short stay facility, it is important to offer HIV testing when the inmate first arrives to the facility. If the inmate leaves before testing results are available, BOP policy requires that results will be forwarded to the facility where the inmate is being transferred. Most importantly, if the inmate tests positive, the result will be reported to the Public Health Department and every effort will be made to notify the inmate to ensure continuity of care. During the study, there was an inmate who upon intake screening revealed that he was HIV positive. Further investigation revealed that the inmate was at the detention center 4 months prior to this incarceration however; he was not tested for HIV during his first incarceration at the detention center. Had he been tested the first time he entered the facility, his HIV status would have been identified earlier and treatment would not have been delayed.

A. Strengths & Limitations

There are several strengths and limitations to this study. Our study contributed to the limited existing literature regarding HIV testing in the federal prison system. In addition, it provided support to the BOP's current Clinical Practice Guidelines regarding HIV testing in the federal prison system. The importance of educating inmates about the benefits of HIV testing to increase testing rates was identified as another strength of the study. Another strength was that the primary researcher was able to collect the majority of the data. While this took longer than anticipated, it ensured that the data collection was accurate and unbiased, and contributed to the generalizability of the data.
One limitation of the study involved the questionnaire. Since it was self-administered and based on self-reports, some of the information regarding high-risk behaviors and history may be inaccurate, especially given the setting. Another limitation of the study was the short stay of pretrial inmates; some inmates were released prior to being offered testing, receiving testing, or receiving their test results. Lastly, with study participants from a self-selected, convenience sample of male inmates (majority Hispanic) at a large urban Federal Detention Center, selection and sample bias are additional study limitations. Hence, the results of the study have limited generalizability outside the Metropolitan Detention Center, which due to its in Southern California location had a high percentage of Hispanic inmates.

B. Preventive Care

As stated in the National HIV/AIDS Strategy for the United States, HIV testing is a critical public health need; specifically, increasing the proportion of new HIV infections diagnosed before they progress to AIDS is a Healthy People 2020 Objective. Acknowledging the need for more HIV testing in detention centers is necessary but not sufficient. Not only did our study reveal the rates of HIV seropositivity among low-risk and high-risk pretrial and sentenced inmates, it also provided HIV testing guidance to preventive care specialists who provide care to adults in the prison population. Applying the HBM, we identified inmates’ perceived susceptibility to HIV, severity of the disease, benefits of and barriers to inmates’ concerns, and inmates’ readiness and needs around testing. With this information, preventive care specialists involved in inmate health care delivery will gain important insight into the meaning, fears, and complexity of HIV testing among the inmates they serve. This information can then be applied to their
practice by providing recommendations to increase voluntary HIV testing in a high-risk population in need of early intervention. Furthermore, for those inmates who test seronegative for HIV, it likely provided a unique opportunity for education and counseling of risk behaviors, and for behavior change regarding risk behaviors. Finally, we found several inmates who were HIV seropositive, and will be able to connect them to much needed care and counseling, both well-known pillars of secondary prevention and better health outcomes.

C. Conclusions & Recommendations

As previously mentioned, the goals of the National HIV/AIDS Strategy include reducing new HIV infection, improving health outcomes for people living with HIV, and reducing HIV-related health disparities. Our study addressed these needs by offering HIV testing to all in a particularly vulnerable and high-risk population, thus helping to reduce the burden of the disease among federally incarcerated inmates. We urge that HIV testing continue to be offered to all inmates as they enter the prison setting. In addition, we recommend that additional studies be conducted in the Federal Prison system to further explore feasibility and motivations for HIV testing among incarcerated persons.
REFERENCES


Susanne Montgomery, PhD, MPH
Director, Center for Health Research
Dissertation Chair
Loma Linda University School of Public Health
Loma Linda, CA 92350

RE: Nicole Knight Dissertation

Dear Dr. Montgomery,

I am pleased to write a preliminary letter of support for Nicole Knight’s dissertation proposal titled: Routine HIV Testing in Federal Detention Centers: Implications for Improving Early HIV Diagnosis.

The Federal Bureau of Prisons and the Health Services Division view evaluation of our HIV testing program as a priority for our infection control program. Thus, we conceptually endorse Ms. Knight’s proposal.

Upon approval from Loma Linda’s IRB, this project will then require review and approval by the Bureau of Prisons IRB per BOP policy.

Sincerely,

[Signature]

RADM Newton S. Kendig
Assistant Director, Health Services
APPENDIX B

INFORMED CONSENT FOR KEY INFORMANT QUESTIONNAIRE (STAFF)

STUDY TITLE: BENEFITS AND BARRIERS TO HIV TESTING IN A POPULATION OF FEDERAL DETENTION INMATES

Dear Participant:

I am a Doctoral candidate in the School of Public Health at Loma Linda University. You are invited to participate in a research study to examine HIV testing and some of the perceived barriers and benefits to HIV testing in the inmate population of the Metropolitan Detention Center- Los Angeles. If you agree to participate, you will be asked to complete a brief questionnaire either face to face or via the telephone. The questionnaire will take approximately 20 minutes to complete. Please keep in mind that:

- This questionnaire is completely voluntary.
- It is an anonymous questionnaire. Your name and contact information will not be linked to your responses.
- You may refuse to participate or discontinue participation without any penalty or loss of benefits.

You may be inconvenienced by having to take time out of your scheduled work related duties to complete the questionnaire. We recognize that your participation in this research study is an investment of your time and we appreciate your willingness to participate in our study.

Even though you will not personally benefit from this study, we hope that it will be a positive experience that will allow you to provide information, which may improve HIV testing guidelines within the Federal Prison system. Your participation will not only help us provide guidance for policy changes regarding HIV testing in the Federal Prison System, but it will also assist the medical staff in better serving the inmate population.

Should you have any questions about the research and research subjects’ rights, please feel free to contact the student researcher, Nicole Knight, Loma Linda University, School of Public Health at (213) 485-0439 ext. 5410 or Dr. Susanne Montgomery, Loma Linda University, School of Public Health at (909) 558-8745. If you have any concerns about the study, please contact the Bureau’s Research Review Board at (202) 307-3198

Thank you for your time
APPENDIX C

INFORMED CONSENT FOR KEY INFORMANT QUESTIONNAIRE (INMATE)

STUDY TITLE: BENEFITS AND BARRIERS TO HIV TESTING IN A POPULATION OF FEDERAL DETENTION INMATES

Dear Participant:

I am a Doctoral candidate in the School of Public Health at Loma Linda University. You are invited to participate in a research study to examine HIV testing and some of the perceived barriers and benefits to HIV testing in the inmate population of the Metropolitan Detention Center- Los Angeles. If you agree to participate, you will be asked to complete a brief questionnaire that will take approximately 20 minutes to complete. Please keep in mind that:

- This questionnaire is completely voluntary.
- It is an anonymous questionnaire. Your name and contact information will not be linked to your responses.
- You may refuse to participate or discontinue participation without any penalty or loss of benefits.
- Your decision whether or not to participate will not affect your release date, parole eligibility, or legal status.

You may be inconvenienced by having to take time out of your scheduled duties to complete the questionnaire. We recognize that your participation in this research study is an investment of your time and we appreciate your willingness to participate in our study.

Even though you will not personally benefit from this study, we hope that it will be a positive experience that will allow you to provide information, which may improve HIV testing guidelines within the Federal Prison system. Your participation will not only help us provide guidance for policy changes regarding HIV testing in the Federal Prison System, but it will also assist the medical staff in better serving the inmate population.

Should you have any questions about the research and research subjects’ rights, please submit a request to speak to Nurse Practitioner Knight in the Health Services Department or you may write to Susan Montgomery at Loma Linda University School of Public Health Nichol Hall Room 1408 Loma Linda, CA 92350. If you have any concerns about the study, please contact the Bureau’s Research Review Board at (202) 307-3198

Thank you for your time
APPENDIX D

INFORMED CONSENT FOR PILOT RESEARCH
U.S. DEPARTMENT OF JUSTICE  FEDERAL BUREAU OF PRISONS

STUDY TITLE: BENEFITS AND BARRIERS TO HIV TESTING IN A POPULATION OF FEDERAL DETENTION INMATES

Researcher: Nicole Knight, Doctoral Candidate, Loma Linda University

INTRODUCTION
I am a Doctoral candidate in the School of Public Health at Loma Linda University. As part of my degree requirement, I am conducting a study called "Benefits and Barriers to HIV Testing in a Population of Federal Detention Inmates". The study is evaluating HIV testing in a Federal Detention Center. The results of the study will help to provide information regarding the rates of HIV testing as well as the rates of HIV positive inmates in a Federal Detention Center. In addition, the study will provide information regarding some perceived benefits and barriers to HIV testing. I will publish the study as part of my college degree requirements.

PROCEDURES
If you agree to be in this pilot study, you will complete a survey with questions about your demographics, sexual history, attitudes, beliefs, and knowledge of HIV testing. The survey takes approximately 10 minutes to complete.

BENEFITS
You will receive no direct benefit from being in this study, but we hope that it will be a positive experience that will allow you to think about aspects of your life that will improve your life. It is important that I receive feedback from you to improve the questionnaire. The results of the study may help improve future prison guidelines in regards to HIV testing.

RISKS OR DISCOMFORTS
I am not aware of any risks caused from being in this study. You may experience some emotional discomforts from answering some of the questions. Personal information about you could be revealed if I do not properly protect the data.

STEPS TAKEN TO ALLEVIATE RISKS OR DISCOMFORTS
Upon completion of the questionnaire, there will be an opportunity to discuss your emotional discomforts related to completing the questionnaire. You will be given a study ID number. This number will be used on your survey and other research papers instead of your name and register number. Please help us make sure you cannot be identified as a participant in this study; PLEASE DO NOT write your name or register number on any of the following pages.

CONFIDENTIALITY
I will do everything that I can to protect the confidentiality of your personal information.
All information will be handled in the strictest confidence, and only the researcher working on the project will have access to information that is traceable to you. All materials related to the study will be kept in a locked cabinet accessible only by the primary investigator. Your data will be used for research purposes only, and you will not be individually identified in any reports or publications. The only exception to this policy of confidentiality is information about intent to commit a future crime or to hurt yourself or someone else.

RIGHT TO REFUSE OR WITHDRAWAL
Your participation in this study is voluntary, and you may refuse to participate at any time without penalty. Your decision whether or not to participate will not affect your release date, parole eligibility, or legal status.

CONTACT INFORMATION
If you have any questions about the study please submit a request to speak to Nurse Practitioner Knight in the Health Services Department or you may write to Susan Montgomery at Loma Linda University School of Public Health Nichol Hall Room 1408 Loma Linda, CA 92350. If you have concerns about the study, please contact the Bureau’s Research Review Board at (202) 307-3198. You may have a copy of this form if you would like.

PARTICIPANT’S AGREEMENT
I have read the above information (or it has been read aloud to me). The study has been explained to me. My questions have been answered. I voluntarily agree to be in this study.

<table>
<thead>
<tr>
<th>Name (print)</th>
<th>Register #</th>
</tr>
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<tbody>
<tr>
<td>Signature</td>
<td>Date</td>
</tr>
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</table>

I give the researcher permission to review my Medical file for the reason described in this consent form.

<table>
<thead>
<tr>
<th>Name (print)</th>
<th>Register #</th>
</tr>
</thead>
<tbody>
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<td>Signature</td>
<td>Date</td>
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</table>

WITNESS’ STATEMENT: The information in this consent form was accurately conveyed to the participant.

<table>
<thead>
<tr>
<th>Witness’ Name (print)</th>
<th>Signature</th>
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</table>
APPENDIX E

INFORMED CONSENT FOR RESEARCH
U.S. DEPARTMENT OF JUSTICE                     FEDERAL BUREAU OF PRISONS

STUDY TITLE: BENEFITS AND BARRIERS TO HIV TESTING IN A POPULATION OF FEDERAL DETENTION INMATES

Researcher: Nicole Knight, Doctoral Candidate, Loma Linda University

INTRODUCTION
I am a Doctoral candidate in the School of Public Health at Loma Linda University. As part of my degree requirement, I am conducting a study called “Benefits and Barriers to HIV Testing in a Population of Federal Detention Inmates”. The study is evaluating HIV testing in a Federal Detention Center. The results of the study will help to provide information regarding the rates of HIV testing as well as the rates of HIV positive inmates in a Federal Detention Center. In addition, the study will provide information regarding some perceived benefits and barriers to HIV testing. I will publish the study as part of my college degree requirements.

PROCEDURES
If you agree to be in the study, you will complete a survey with questions about your demographics, sexual history, attitudes, beliefs, and knowledge of HIV testing. The survey takes approximately 10 minutes to complete. In addition, you will be offered HIV testing, if you agree to be tested, you will be scheduled to have your blood drawn within 5 working days in the Health Services Department.

BENEFITS
You will receive no direct benefit from being in this study, but we hope that it will be a positive experience that will allow you to think about aspects of your life that will improve your life. The results of the study may help improve future prison guidelines in regards to HIV testing. It is important that we have as many people participate as possible so that our information is as accurate as possible.

RISKS OR DISCOMFORTS
I am not aware of any risks caused from being in this study. There is a small chance that you may experience some emotional discomforts such as anxiety about having your blood drawn or the results of your HIV test. A referral to Psychology will be done if necessary. There is also a minimal risk that personal information about you or your test results could be revealed if I do not properly protect the data. However, I will be taking EXTRA measures such as removing your name and register number to ensure that your personal information is not revealed unless it is required by law. The law requires the reporting of HIV positive test results to the Los Angeles County Department of Public Health to ensure that you receive proper medical care.
STEPS TAKEN TO ALLEVIATE RISKS OR DISCOMFORTS
You will receive pre- and post- HIV test counseling by a health care provider. The counseling session will provide information about HIV as well as provide an opportunity to discuss your emotional discomforts related to HIV testing. You will be given a study ID number. This number will be used on your survey and other research papers instead of your name and register number. Please help us make sure you cannot be identified as a participant in this study; PLEASE DO NOT write your name or register number on any of the following pages.

CONFIDENTIALITY
I will do everything that I can to protect the confidentiality of your personal information. All information will be handled in the strictest confidence, and only the researcher working on the project will have access to information that is traceable to you. All materials related to the study will be kept in a locked cabinet accessible only by the primary investigator. Your data will be used for research purposes only, and you will not be individually identified in any reports or publications. The only exception to this policy of confidentiality is information about intent to commit a future crime or to hurt yourself or someone else as well as reporting as required by law of health care providers. All materials related to the study will be maintained for 1 year after completion of the study. After 1 year, the documents will be destroyed using a cross cutter shredder.

RIGHT TO REFUSE OR WITHDRAWAL
Your participation in this study is voluntary, and you may refuse to participate at any time without penalty. Your decision whether or not to participate will not affect your release date, parole eligibility, or legal status.

CONTACT INFORMATION
If you have any questions about the study please submit a request to speak to Nurse Practitioner Knight in the Health Services Department or you may write to Susan Montgomery at Loma Linda University School of Public Health Nichol Hall Room 1408 Loma Linda, CA 92350. If you have concerns about the study, please contact the Bureau’s Research Review Board at (202) 307-3198. You may have a copy of this form if you would like.

COPY OF TEST RESULTS
BOP CUSTODY
Per BOP policy, we are unable to provide you a copy of HIV results while incarcerated in the BOP. If you would like a copy of you HIV test results, you can submit a request to medical records with the specific request along with a copy of the address where you would like the results to be sent.

RELEASED FROM BOP CUSTODY
If you are released and would like a copy of your test results, you must submit a written request to:
FOIA/PA Section
Office of General Counsel, Room 841
Federal Bureau of Prisons
320 First Street, N.W.
Washington, DC 20534

The request **must specifically describe the records being sought** and provide identifying data, such as date of birth and register number, if known. Also, to ensure that private information is not released to anyone else, the **requester must verify his/her identity** either by a notarized original signature or by submitting an original signed Form DOJ-361, Certification of Identity.

**PARTICIPANT'S AGREEMENT**
I have read the above information (or it has been read aloud to me). The study has been explained to me. My questions have been answered. I voluntarily agree to be in this study.

<table>
<thead>
<tr>
<th>Name (print)</th>
<th>Register #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature</td>
<td>Date</td>
</tr>
</tbody>
</table>

I give the researcher permission to review my Medical file for the reason described in this consent form.

<table>
<thead>
<tr>
<th>Name (print)</th>
<th>Register #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature</td>
<td>Date</td>
</tr>
</tbody>
</table>

**WITNESS’ STATEMENT**: The information in this consent form was accurately conveyed to the participant.

| Witness’ Name (print) | Signature |
APPENDIX F

KEY INFORMANT (STAFF) HIV TESTING QUESTIONNAIRE

2. Are you:
   ______ Male
   ______ Female

2. Indicate your age group
   ______ 18-20
   ______ 21-30
   ______ 31-40
   ______ 41-50
   ______ 51-60
   ______ 61 +

3. Indicate your discipline
   ______ Physician
   ______ Mid-Level Provider (PA, NP, FMG)
   ______ Registered Nurse
   ______ Dentist
   ______ Pharmacist
   ______ Other (please specify) ____________________

4. How many years have you been practicing? ________________

5. How many years have you been practicing in a correctional setting? ________________

Please indicate whether you agree or disagree with the following statements. Select only ONE response for each statement.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>

6. All inmates should be offered HIV testing upon intake? ______ ______ ______ ______ ______

7. Only inmates with a history of high risk behaviors should be offered HIV testing ______ ______ ______ ______ ______

8. Offering HIV testing to all inmates upon intake will take too much time and will interfere with my job duties ______ ______ ______ ______ ______
9. What do you think are some barriers to HIV testing in the inmate population?

10. What do you think are some benefits to HIV testing in the inmate population?

11. Do you have any suggestions for improving HIV testing in the inmate population?

Thank you very much for your participation
# APPENDIX G

## KEY INFORMANT (INMATE) HIV TESTING QUESTIONNAIRE

1. Are you:
   - [ ] Male
   - [ ] Female

2. Indicate your age group
   - [ ] 18-20
   - [ ] 21-30
   - [ ] 31-40
   - [ ] 41-50
   - [ ] 51-60
   - [ ] 61 +

3. Indicate your sentencing status
   - [ ] Sentenced
   - [ ] Unsentenced (Pretrial)

4. How many times have you been to jail? ____________

5. How many years have you been in jail? ____________

Please indicate whether you agree or disagree with the following statements. Select only ONE response for each statement.

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
</table>

6. All inmates should be offered HIV testing upon intake? ___ ___ ___ ___ ___

7. Only inmates with a history of high risk behaviors should be offered HIV testing ___ ___ ___ ___ ___

8. Offering HIV testing to all inmates upon intake will take too much time and will interfere with my job duties ___ ___ ___ ___ ___

9. What do you think are some barriers to HIV testing in the inmate population?
10. What do you think are some benefits to HIV testing in the inmate population?

11. Do you have any suggestions for improving HIV testing in the inmate population?

Thank you very much for your participation
APPENDIX H

HIV TESTING QUESTIONNAIRE

Purpose

Thank you for participating in this research study to share your thoughts and beliefs about issues related to HIV testing. Please complete the questionnaire below, answering each question honestly and to the best of your ability. Your answers will provide useful information about HIV testing in the prison setting. Please **DO NOT** put your name or register number on this questionnaire, as your responses are kept confidential.

SECTION A: Demographics

1. Gender
   - [ ] Male
   - [ ] Female

2. Indicate your age group
   - [ ] 18-20
   - [ ] 21-30
   - [ ] 31-40
   - [ ] 41-50
   - [ ] 51-60
   - [ ] 61 +

3. What is your relationship status?
   - [ ] Single
   - [ ] Married
   - [ ] Divorced
   - [ ] Widow
   - [ ] Other (please specify) ________________________________

4. What is your ethnic background?
   - [ ] Caucasian
   - [ ] African American
   - [ ] Hispanic
   - [ ] Asian
   - [ ] Other (please specify) ________________________________

5. What is your primary language?
   - [ ] English
   - [ ] Spanish
1. What is your highest level of education?
   _______0-6 years
   _______7-12 years
   _______Some College
   _______College graduate
   _______Other (Specify)

SECTION B

1. Which of the following describes this incarceration charge?
   _______New Commit (First time in jail/prison)
   _______Parole violator
   _______New charge (Not your first time in jail/prison)

2. Which describes your sentencing status?
   _______Pre-trial
   _______Sentenced

3. Which of the following best describes you?
   _______Heterosexual
   _______Gay/Lesbian
   _______Bisexual
   _______Transgender
   _______Unsure

4. Describe the number of female sexual partners you have had in the past five years.
   _______0
   _______1-5
   _______6-10
   _______More than 10

5. Describe the number of male sexual partners you have had in the past five years.
   _______0
   _______1-5
   _______6-10
   _______More than 10

6. Which one of the following best describes your condom use?
   _______Never
   _______Sometimes
   _______Usually
   _______Always

2. Did you use a condom on your last sexual encounter?
3. Do you have any tattoos?
   _______ Yes  
   _______ No

4. Have you ever received a tattoo while you were in jail or prison?
   _______ Yes  
   _______ No

5. Have you ever been diagnosed with (check all that apply)
   _______ HIV
   _______ Hepatitis B or C
   _______ Positive TB test

6. Do you have a history of drug use?
   _______ Yes
   _______ No (skip to Section C)

7. Do you or have you ever used (check all that apply)
   _______ Marijuana
   _______ Cocaine
   _______ Heroin
   _______ Methamphetamine
   _______ Other (Specify) _______________________

SECTION C: The following questions are about HIV Testing

1. When was the last time you were tested for HIV?
   _______ never tested (Skip to #3)
   _______ less than a year
   _______ 2-5 years
   _______ more than 5 years

2. What was the result of your last HIV test? (Skip to #4)
   _______ Negative  _______ Positive

3. If you have NOT been tested for HIV, check the MAIN reason why you have not been tested.
   _______ The chances of you being exposed to HIV is unlikely
   _______ You were afraid to find out if you were HIV positive
   _______ You don’t need to think about HIV because you are healthy
   _______ You don’t like needles
   _______ You don’t trust that your results will be confidential
   _______ You believe that your results will affect your incarceration
4. If you have been tested for HIV, check the MAIN reason why you were tested.

   _____ You just wanted to find out
   _____ You had sex with a new partner
   _____ You had unprotected oral, anal, and/or vaginal sex
   _____ You have/had a partner who was HIV positive
   _____ Your partner ask you to have the test
   _____ It was ordered by your medical provider as a result of another illness
   _____ You used needles for illegal drug injection
   _____ Other (please specify) _______________________________________

5. Do you think that you are at risk for being infected with HIV?

   ______ Yes         ______ No

6. How concerned are you about becoming infected with HIV?

   ______ Very concerned
   _____ Somewhat concerned
   _____ Not too concerned
   _____ Not at all concerned
   _____ Don’t know/no response

SECTION D: The following questions are about HIV and AIDS

Please select ONE response for each statement.

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
<th>DON’T KNOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. AIDS is not a serious disease, it is like having a cold</td>
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<td></td>
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<tr>
<td>2. AIDS is a disease which destroys the body’s immune system</td>
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<tr>
<td>3. There is no cure for HIV/AIDS</td>
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<tr>
<td>4. AIDS is caused by a virus</td>
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<tr>
<td>5. You can get HIV from sharing needles</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>6. You can get HIV from having unprotected sex</td>
<td></td>
<td></td>
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<tr>
<td>7. You can get HIV from sharing the toilet seat with someone who is infected with HIV.</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
8. Only men who are gay get HIV

Please indicate whether you agree or disagree with the following statements. Select only ONE response for each statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. People like me do not get HIV</td>
<td></td>
<td></td>
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<tr>
<td>10. I am healthy so I cannot get HIV</td>
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<tr>
<td>11. I am not worried that I might become infected with HIV</td>
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<tr>
<td>12. I believe that HIV infection is very serious</td>
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<tr>
<td>13. I believe that HIV infection is life threatening</td>
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<tr>
<td>14. I am at risk for HIV/AIDS</td>
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</tbody>
</table>

Please indicate whether you agree or disagree with the following statements. Select only ONE response for each statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>15. Everyone who enters prison should get tested for HIV</td>
<td></td>
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<tr>
<td>16. I plan to get HIV tested when offered</td>
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<tr>
<td>17. I am confident that getting an HIV test will reduce the transmission of HIV</td>
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</tbody>
</table>
18. Taking an HIV test would give me a sense of security

19. Getting an HIV test before sex tells my partner that I care about my and her/his health

20. If I had HIV, I would rather not know about it

21. It is not important to know if I have HIV, because fate will decide if I live or die

22. I want to know if I have HIV, in order not to infect someone else

23. I am afraid to get an HIV test

24. I prefer HIV testing without counseling

25. Counseling before and after HIV testing is beneficial

26. If I test positive, it is an unbearable stigma

27. Lack of confidentiality is an issue with HIV testing in prisons

28. Lack of access to medical treatment in prison if I
test positive is a barrier to
HIV testing

29. If I am HIV positive, it
may affect my
incarceration

30. In general what are the barriers to HIV testing for you? (Check all that apply)
   _____ Lack of confidentiality
   _____ Fear of knowing my status
   _____ Rejection by family and friends
   _____ I would be discriminated against
   _____ Stigma
   _____ It may prolong the time before I am transferred to another prison
   _____ It may affect where I am housed while in prison
   _____ Other (Specify) _______________________

31. In general what are the benefits to HIV testing for you? (Check all that apply)
   _____ To find out the results
   _____ Early identification of HIV allows for early treatment
   _____ So that those who are HIV positive can be separated from those who are
       negative
   _____ So that those who are HIV positive can request bail in order to receive
       treatment outside of prison
   _____ Treatment prolongs life and protects my partner(s) from getting it
   _____ Other (Specify) _______________________

Thank you very much for your participation
APPENDIX I

HIV INFORMATION SHEET

PROVIDE COPY TO INMATE AT PRE-COUNSELING SESSION

This information is to help you understand about the human immunodeficiency virus (HIV), how it's spread, what risks increase the chances of becoming infected and, about the test that determines if you are infected.

HIV is found in the blood, semen, vaginal secretions of an infected person. This virus is associated with the development of the disease commonly known as the acquired immunodeficiency syndrome (AIDS), which can weaken the body’s ability to fight off infection, resulting in an increased risk of infection that is life threatening. This test determines if you have HIV antibodies in your blood and are infected with HIV. It is not a test for AIDS.

RISK FACTORS THAT MAY INCREASE THE CHANGES OF BECOMING INFECTED

___ 1. Have had sex with a man.

___ 2. Have had sex with a woman.

___ 3. Injected drugs.

___ 4. Have had sexual relations with a person of the opposite sex with any of the following:

___ 1. intravenous/injection drug use

___ 2. bisexual male

___ 3. person with bleeding disorder (e.g. hemophilia)

___ 4. transfusion recipient with documented HIV infection

___ 5. transplant recipient with documented HIV infection

___ 6. person with HIV infection or AIDS, or unknown risk

___ 5. Received clotting factors for bleeding disorder:

___ 6. Received an organ transplant or had artificial insemination

___ 7. Have worked as health care or laboratory worker with contact with blood or other potentially infectious bodily fluids

___ 8. Have a tattoo that was administered in jail or prison.

Some commonly asked questions about testing are listed below:

1) **Who will see my test results?**

The results of your test are confidential and revealed only on a “need to know” basis, such as to your health care provider(s) or the state health department if required by State law. No one else outside of the Bureau of Prisons or health department can be given your test results unless you authorize a release of information.
2) **What are the possible test results?**

A negative test result means no HIV antibodies are detected in your blood at this time.

A positive test result means there is an infection with HIV. It does not mean a person has AIDS.

A test can rarely be inconclusive which means it's neither negative or positive. Your provider will discuss the need for retesting, should this occur.

3) **Could the test results be inaccurate?**

Based on the steps processed by the laboratory to confirm the test, the results are considered more than 99% accurate. It is highly unlikely that the result is inaccurate.

Inaccurate HIV antibody results are termed *false negative* or *false positive*.

A *false negative* means the test indicates no evidence or infection when the individual is actually infected.

A *false positive* means the test indicates evidence of infection when the individual is actually not infected. This is extremely rare.

4) **Why would a false negative occur?**

A *false negative* usually occurs because the test may not detect infection that's in the early stage. This happens because the test measures proteins (antibodies) in the blood that develop over weeks to months as the body reacts to infection with the virus. Antibodies may be detected as early as a month after infection with HIV, but can take up to 6 months to be measurable. Therefore, if a person was recently infected, the HIV antibody test may be negative. This is an example of a false negative. If you think you are at risk of being infected or have recently engaged in risky activity and your test result is negative, you should discuss the need for retesting with your medical provider.

5) **Why would a false positive occur?**

A *false positive* can be associated with past injecting drug use, pregnancy, certain blood abnormalities, other related-viruses, and even contamination of the blood sample. Although this is very rare, a small chance of this occurring still exists. If you are absolutely certain you have none of the risk factors and received positive test results, discuss your concerns with your health care provider.

6) **What if my results are positive?**

If your results are positive, you are infected with HIV. Your doctor will advise you of additional testing and recommended treatment options for HIV infection. Remember, a positive result does not mean you have AIDS and with current treatments, persons with HIV infection are living longer and healthier lives.

7) **How long do I have to wait for the test results?**

The test results are usually available in about two weeks. Check with your provider on the process for obtaining your test results.
9) **How can I protect myself from HIV infection?**

**During incarceration:**

Abstain from sexual activity with other inmates, do not inject drugs, do not share razors or toothbrushes with other inmates, or get a tattoo, and avoid all other high risk behaviors. If you have a history of using illegal drugs or have a problem with alcohol abuse, seek advice on drug treatment programs available during incarceration and upon release from health care staff, social workers, psychology staff, or drug counselors.

Upon release:

Abstain from sexual activity or have sexual intercourse with only one partner and know whether he or she is infected or not. Talk honestly with your sexual partner and if they do not know if they are infected, encourage them to get tested. If you do choose to engage in sexual activity, the best current method of prevention is to use a condom or "rubber" to prevent contact with your partner's body fluids. This is no absolute protection, since condoms can tear. Becoming pregnant or getting a woman pregnant when infected which may pass HIV infection to the unborn child. You should seek further advice and HIV education on more specific methods of preventing infection from your health care provider or from community AIDS prevention organizations upon release.

Abstain from injecting drugs, which is strongly associated with many health risks including infection with the hepatitis B virus, hepatitis C virus, and HIV. Many local health departments and community AIDS prevention organizations can refer you to drug treatment programs and other support services in the community.

If you do continue to engage in injection drug use, you should use clean needles whenever possible, and never share your needles or other injection drug use equipment with others. You may reduce your changes of infection by rinsing the "works" with a bleach solution but this is not always effective or safe. You should contact a health care provider knowledgeable in this area to get specific instructions.

If you have any future questions, discuss them with your health care provider.
APPENDIX J

HIV COUNSELING DOCUMENTATION  CDFRM
U.S. DEPARTMENT OF JUSTICE  FEDERAL BUREAU OF PRISONS

Directions:

Use the following criteria to counsel the patient who is tested for the HIV antibody. Check off each item as they are discussed. Write NA beside any item that is inappropriate to the situation. The reverse side of this form will be utilized to document seronegative and inconclusive test results. File in the patient's record, documenting in progress notes that counseling was completed.

Explained in: (circle) English  Spanish  Other________________ (specific language)

PRE-TEST:

1. Explain purpose of session.
2. Explain confidentiality.
3. Explain HIV antibody test.
   a. What AIDS is
   b. What the test is
   c. Test Procedure
   d. Meaning of test results
   e. Inability of detecting early infection (false negatives)
   f. Potential need for additional testing
   g. Significance of a positive test.
4. List risk factors/clinical signs: (check all that apply)
   a. Injecting drug use, sharing drug or tattoo equipment
   b. Unprotected or multiplex sex partners
   c. Treated for: sexually transmitted infections, hepatitis, or TB
   d. Clinical s/s: fever or illness of unknown cause, symptoms of AIDS opportunistic infections.
   e. Exposure: recent occupational or non-occupational exposure/incident.
   f. Pregnant female
   g. Other:
5. Obtain informed consent (when applicable)
7. Patient Reactions/Comments.
8. Explain how the patient will be notified of the results.

The above information has explained to me in a language I can understand.

<table>
<thead>
<tr>
<th>Signature of Inmate</th>
<th>Signature of Staff Counselor</th>
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<tr>
<td>Date:</td>
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Inmate Name:

Register No.:

Institution

File in the Medical Record: Section 6.
**HIV Post Counseling Documentation**

### Seronegative

1. Explain purpose of session.
2. Review confidentiality.
3. Test Information
   - a. Inform patient of negative test result.
   - b. Explain purpose of test.
   - c. Identify remaining risks.
   - d. Explain inability of test to detect early infections (false negatives)
4. Explain risk reduction behaviors (high risk)
5. Discuss follow-up testing (high risk)
6. Give additional education material if requested.
7. Patients Reaction/Level of Understanding/Comments

The above information has been explained to me in a language I can understand.

<table>
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<tr>
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<th>Date:</th>
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### Inconclusive Test: (neither seronegative or seropositive)

1. Explain purpose of session.
2. Confidentiality review.
3. Test Information
   - a. Inform patient of inconclusive test results.
   - b. Explain meaning of test results.
   - c. Identify remaining risks.
4. Explain risk reduction behaviors.
5. Discuss when and how repeat testing will occur.
6. Patients Reaction/Level of Understanding/Comments

The above information has been explained to me in a language I can understand.

<table>
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<tr>
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<th>Date:</th>
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**Prescribed by P6190**

This Form Replaces BP-S489.061 Dtd APR 99

111
This session is to inform you of your recent HIV test results, review how HIV is transmitted, and discuss how to decrease your chances of becoming infected.

Your recent test for evidence of infection with the human immunodeficiency virus (HIV) has been determined to be negative. HIV is associated with the disease known as AIDS, and the negative result means there is no evidence of HIV infection or risk of developing AIDS.

Commonly asked questions are listed below:

1) **Even though the test is negative, can I still be positive?**

As mentioned in the pre-test handout, there are *false negatives*. This is generally the case when people have recently been infected due to the fact that it takes some time, up to 6 months, for viral antibodies to be detected.

2) **Does this mean I should be retested?**

This question should be answered for your individual situation by your health care provider. In general, if you have not been involved in any high-risk behaviors, and this continues to be the case, there is little reason to be concerned with developing a positive test.

3) **What is "high-risk" behavior?**

These are behaviors that can result in transmission of HIV from one person to another. High-risk activities are listed below:

a) **Unsafe sexual activity** - Having unprotected sex with a male or female partner who may be infected.

b) **Contact from a work injury** - Work-related contact with blood or other contaminated body fluids that were taken into your skin, eyes, nose or mouth.

c) **Receiving a blood transfusion or organ transplant** - This risk has been dramatically reduced since accurate screening tests for HIV infection became available in 1985.

d) **Having sex with partners at risk** - Having unprotected sexual contact with male or female partners: (1) who are infected or you are uncertain as to whether they are infected; (2) who inject drugs; (3) who have received a blood transfusion, organ transplant or artificial insemination from a person with documented HIV infection.

e) **Sharing equipment** - Sharing injecting (IV) needles, tattoo equipment, razors or other items contaminated with an infected person's blood. If the equipment has been in contact with another person's blood it can come into contact with the virus which then can be transferred to your body from the equipment.

4) **Can I still become infected?**

Yes, by engaging in any of the "high-risk" behaviors.

5) **Can I spread the infection?**

Since your test is negative, probably not. However, remember there is a time lapse between infection and the time when your test turns positive. This was discussed under the first question. Anyone with a *false negative* could still spread the infection.
APPENDIX L

Directions: Use the following criteria to counsel the patient who has had a positive result to the test for the HIV antibody. File in the patient's record, documenting in progress notes that counseling was completed.

Your recent testing for evidence of infection with the human immunodeficiency virus (HIV) has returned, and the results are positive. This indicates that you are infected with the virus. This virus is associated with the disease known as AIDS.

Commonly asked questions are listed below:

...
4) How did I get the HIV infection?

Infection with this virus occurs as a result of engaging in "high-risk" behaviors.

5) What are "high-risk" behaviors?

These are behaviors that make you more likely to contract infection with the virus. High-risk activities are listed below:

a) Having sex with partners at risk - Having unprotected sexual contact with partners: (1) who are infected or you are uncertain as to whether they are infected, (2) who inject drugs (3) who have received a blood transfusion, organ transplant or artificial insemination from a person with documented HIV infection.

b) Sharing equipment - Sharing injection (IV) needles, tattoo equipment, razors or other items contaminated with an infected person's blood. If the equipment has been in contact with another person's blood it can come transferred to your body from the equipment.

c) Contact from a work injury - Work-related contact with blood or other contaminated body fluids that were taken into your skin, eyes, nose or mouth.

d) Receiving a blood transfusion or organ transplant - This risk has been dramatically reduced since accurate screening tests for HIV became available in 1985.

6) Can I spread the infection to other people like my sexual partner or my children?

Studies have shown that children of AIDS patients are no more at risk for developing this disease than any one else. Basically, the normal activities of daily home life, such as kissing your child, running, using the same eating utensils, sharing the same bathroom facilities, etc., are not risk factors for spreading this illness. You can spread infection to your unborn child by becoming pregnant or making your female partner pregnant.

You can spread HIV infection through sexual contact with a male or female partner. Discuss with your physician what means you may want to use to prevent this spread. The safest prevention is to abstain from sex. The next best means is to use barrier protection during sexual intercourse with a condom or "rubber." This is not a foolproof measure, since condoms sometimes tear or leak.

You should strongly consider discussing your HIV infection with anyone with whom you've had unprotected sex or engaged in high risk behaviors in the past, so they can take steps to be tested for HIV infection and receive treatment.

To best protect those around you who may come in contact with your blood or body fluids, you should refrain from:

a) having any unsafe sexual activity with men or women.

b) having any sexual activity with a man or woman without discussing your HIV infection.

c) sharing any needles or injection drug use equipment with others.

d) sharing personal hygiene items with others that may be contaminated with blood such as razors or toothbrushes.

e) donating any blood or organs.
7) What do I do now with respect to medical care?

Your physician will conduct a baseline evaluation and obtain blood tests to determine the stage of your infection. He or she will then advise you as to what medical treatments are recommended.

<table>
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<tr>
<th>Signature of Inmate</th>
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APPENDIX M

U.S. Department of Justice

Certification of Identity

Privacy Act Statement. In accordance with 28 CFR Section 16.41(d) personal data sufficient to identify the individuals submitting requests by mail under the Privacy Act of 1974, 5 U.S.C. Section 552a, is required. The purpose of this solicitation is to ensure that the records of individuals who are the subject of U.S. Department of Justice systems of records are not wrongfully disclosed by the Department. Requests will not be processed if this information is not furnished. False information on this form may subject the requester to criminal penalties under 18 U.S.C. Section 1001 and/or 5 U.S.C. Section 552(a)(3).

Public reporting burden for this collection of information is estimated to average 0.50 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Suggestions for reducing this burden may be submitted to the Office of Information and Regulatory Affairs, Office of Management and Budget, Public Use Reports Project (1103-0016), Washington, DC 20503.

Full Name of Requester 1

Citizenship Status 2 Social Security Number 3

Current Address

Date of Birth Place of Birth

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct, and that I am the person named above, and I understand that any falsification of this statement is punishable under the provisions of 18 U.S.C. Section 1001 by a fine of not more than $10,000 or by imprisonment of not more than five years or both, and that requesting or obtaining any record(s) under false pretenses is punishable under the provisions of 5 U.S.C. 552a(q)(3) by a fine of not more than $5,000.

Signature 4 Date

OPTIONAL: Authorization to Release Information to Another Person

This form is also to be completed by a requester who is authorizing information relating to himself or herself to be released to another person.

Further, pursuant to 5 U.S.C. Section 552a(q), I authorize the U.S. Department of Justice to release any and all information relating to me for

Print or Type Name

1 Name of individual who is the subject of the record(s) sought.

2 Individual submitting a request under the Privacy Act of 1974 must be either "a citizen of the United States or an alien lawfully admitted for permanent residence," pursuant to 5 U.S.C. Section 552a(a)(2). Requests will be processed as Freedom of Information Act requests pursuant to 5 U.S.C. Section 552, rather than Privacy Act requests, for individuals who are not United States citizens or aliens lawfully admitted for permanent residence.

3 Providing your social security number is voluntary. You are asked to provide your social security number only to facilitate the identification of records relating to you. Without your social security number, the Department may be unable to locate any or all records pertaining to you.

4 Signature of individual who is the subject of the record sought.
## APPENDIX N

### RESEARCH QUESTIONS AND STATISTICAL METHOD

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Statistical Method</th>
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<tbody>
<tr>
<td>1. What are rates of HIV testing in the inmate population housed in a Federal Detention Center that offers HIV testing to everyone as part of its medical intake procedures?</td>
<td>Descriptives in the form of number of HIV testing and its percentage out of the inmate population housed in a Federal Detention Center that offers HIV testing to everyone as part of its medical intake procedures.</td>
</tr>
<tr>
<td>2. Does the rate of voluntary HIV testing differ between unsentenced low risk inmates and unsentenced high-risk inmates?</td>
<td>Odds ratio to compare the rate of voluntary HIV testing (dependent variable is HIV testing Yes/No) differ between unsentenced (pretrial) low risk inmates and un-sentenced high-risk inmates. Multivariable logistic regression was used to assess the effect of the number of male and female sexual partners in the past 5 years and frequency of condom use as well as demographic profiles on the odds ratio before adding the these variables.</td>
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</table>
Independent samples t test for quantitative variables and chi-square test for categorical variables will be used for the initial bivariate analysis.

<table>
<thead>
<tr>
<th>3. What are the perceived severity and susceptibility of HIV, and the perceived benefits and barriers to HIV testing in this Federal Detention Center population that is offered HIV testing?</th>
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<tbody>
<tr>
<td>Descriptives in the form of mean +/- standard deviation or median with range will be used to summarize perceived severity and susceptibility as well as perceived benefits and barriers to HIV testing.</td>
</tr>
<tr>
<td>Multiple linear regression will be used to assess the effect of those who are offered the program versus those who are not on perceived severity and susceptibility of HIV and the perceived benefits and barriers to HIV testing in this Federal Detention Center. Additional variables such as the number of male and female sexual partners in the past 5 years and frequency of condom use as well as demographic profiles will also be potentially added to the multivariable regression model.</td>
</tr>
<tr>
<td>4. What are the rates of HIV seropositivity among a population of inmates housed at a Federal Detention Center that is tested for HIV?</td>
</tr>
<tr>
<td>5. Does the rate of HIV seropositivity differ between unsentenced (pretrial) low-risk inmates and unsentenced high-risk inmates?</td>
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bivariate analysis.