



College of Public Health

Center for Health Outcomes, Policy and Evaluation Studies
5042 Smith Laboratory
174 West 18th Avenue
Columbus, OH 43210

Phone (614) 292-2129
Fax (614) 292-3572
HOPES@cph.osu.edu
<http://cph.osu.edu/hopes/>

**Pre-release HIV and other STD Testing
among Inmates in a State Prison:
Results of a Pilot Testing Program**

**Cynthia J. Sieck, Ph.D.
Allard E. Dembe, Sc.D.**

**The Ohio State University, College of Public Health
Center for Health Outcomes, Policy & Evaluation Studies
Contact: adembe@cph.osu.edu**

Abstract

Objectives. Research suggests that inmate populations are at a significant risk for STD infection while incarcerated and when inmates are released, that risk extends to the community beyond. This study presents the results of a pilot study examining the process of identifying HIV and other STDs among inmates prior to release from a state prison and documents the self-reported prevalence of STD-related risk behaviors during incarceration.

Methods. Approximately 4-6 weeks prior to scheduled release, inmates took part in a mandatory blood test and optional genital swab and physical exam to test for STDs. Rates of pre-release identification of STDs were compared with identification rates at intake into the prison and among those tested "for cause" during their prison term. At the time of pre-release testing, a behavioral risk and STD knowledge survey was also administered.

Results. Pre-release testing identified 50 new cases of STDs among the 916 inmates scheduled for release during the pilot period. Trichomoniasis and hepatitis C were the most common infections with one HIV infection identified. In comparison, intake and for cause testing identified 158 (13 HIV) and 51 (1 HIV) infections, respectively. Inmates reported engaging in risky behaviors during incarceration such as tattooing (36.5%) and drug use (19.5%).

Conclusion. Pre-release testing identified few new cases of STDs not identified through existing intake and for cause testing procedures. While inmates reported less risky behavior during incarceration compared to prior to incarceration, risky behaviors such as tattooing, drug use and sexual activity still persist.

Title:

Pre-release HIV and other STD testing among inmates in a state prison: Results of a pilot testing program

Program:

HIV/AIDS

Submitter's E-mail Address:

csieck@cph.osu.edu

Learning Objectives:

- Describe the issues related to STD transmission and identification in the prison system
- List actions prison systems can take to enhance identification measures

External Funding:

Ohio Department of Rehabilitation and Correction

Target Audiences:

Prison system administrators, inmate advocates

Consider for "Excellence in Abstract Submission among All Presenters--Award Winner" award

Keyword(s):

HIV Risk Behavior, Inmates

Learning Areas:

Protection of the public in relation to communicable diseases including prevention or control

Primary geographic focus of the program or study:

OH, USA

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Session Type: Roundtable

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Background

In 2005 and 2006, the Ohio State Legislature passed two bills related to sexually transmitted disease (STD) testing among inmates. House Bill 603 (2005) allowed STD testing of all inmates in Ohio prisons. House Bill 119 (2006) specifically authorized a STD testing reentry pilot program at the Mansfield Correctional Institution (MANCI). The Ohio State University Center for Health Outcomes, Policy and Evaluation Studies (Center for HOPES) was retained to conduct a pilot study of testing procedures and assessment of risk behaviors among inmates at MANCI.

Research studies conducted elsewhere in the U.S. have suggested that inmate populations are at a significant risk for STD infection while incarcerated. Some studies have estimated HIV infection rates among inmates, for example, to be as much as five times higher than among the general population (Hammett & Harmon, 1999, Maruschak, 2001). Research shows that as many as 50% of inmates report risky sexual behavior during incarceration and continue those behaviors after release (Seal, et al, 2004). Behaviors such as sexual activity and injection drug use that are risky outside of prison present even greater risks while in prison because access to harm reduction methods, such as condoms and needle sterilization equipment, is limited (Grinstead, et al, 2005). Because of the increased risk and the prevalence of behaviors associated with STD infection among the incarcerated, the Centers for Disease Control and Prevention recommend STD testing, education and prevention counseling for all inmates (CDC, 2001).

The risk of STD infection, however, extends beyond the inmate population once the inmate is released into the community. In one study, more than 87% of men with a primary female partner had unprotected sex with that partner in the month after release from prison (Grinstead, et al, 2005). Previously incarcerated men also report a higher prevalence of multiple new sexual partners than men who are not incarcerated (Khan, et al, 2007). Community studies of injection drug users demonstrate that those who have been in prison are more likely to be HIV positive than those who have never been incarcerated (Vlahov & Putnam, 2006). Thus the topic of STD infection among inmates is a potentially broad-reaching one.

Since inmates are required to receive medical care during incarceration, access to treatment and preventive care may be greater than available upon re-entry to the community. Thus, pre-release education and counseling may be useful from a standpoint of preventive education (Braithwaite & Arriola, 2003). Several states provide prerelease testing either on a voluntary or compulsory basis. Research suggests that pre-release education and treatment interventions may be particularly beneficial because they take place at a time when inmates are thinking about re-entry into the community and how their actions may affect loved ones (Braithwaite, et al, 2005). Because of the nature of incarceration, the inmate population represents an important and unique audience for STD prevention interventions.

Prior to this study, the ODRC has had intake STD testing and "for cause" testing procedures in place, which stayed in place during this pilot study. All inmates are tested at one of 3 intake centers upon entry into the Ohio prison system for HIV and syphilis. Also at intake, inmates complete a screening questionnaire to determine if hepatitis C intake testing is warranted. Inmates may also be testing during incarceration "for cause" which occurs with individuals who were involved in risky activities, such as fights in which blood was drawn or other exposure to bodily fluids, at the request of medical officials or by inmate request. These procedures have been in place since the early 1990's, with enhancements made in 2003.

Methods and Procedures

The Center for HOPES worked with ODRC and MANCI officials to develop protocols for testing all inmates within one month of their scheduled release from MANCI, and to develop a survey instrument to measure inmate risk behaviors and knowledge prior to and during the current prison term.

Pre-release testing consisted of a blood draw to test for HIV, hepatitis A, B & C, syphilis, as well as a physical examination for HSV and HPV, and a genital swab to test for gonorrhea, chlamydia and trichomoniasis. Though the legislation allowed the ODRC to examine and test all inmates, involuntarily if necessary, the ODRC elected to reserve involuntary testing for the blood test only, not the physical exam or the genital swab. The testing itself was conducted by an external private medical vendor organization selected by MANCI officials that was unaffiliated with Ohio State University or the Center for HOPES. In addition, a self-reported survey, which was also voluntary, concerning inmate self-reported behaviors and HIV knowledge both prior to incarceration and during the current prison term was conducted to better understand the connection between inmate behavior and STD infection.

ODRC intake and for cause testing policies, which were in place prior to the implementation of pre-release testing, make it possible to distinguish between “newly acquired” cases and “newly identified” cases for some STDs. *Newly acquired* cases are defined as those in which an inmate had previously tested negative for a STD and subsequently tested positive at the time of pre-release testing. *Newly identified* cases are defined as those in which the inmate had not been previously tested for a STD and tested positive at the time of pre-release testing. It is important to note, however, that the pilot program tests for more STDs than intake and for cause cover; therefore it is not possible to identify in all cases when the inmate acquired infections for all other STDs. It is possible that some newly identified cases may have been acquired prior to or during the prison term but not tested until the pre-release testing.

The survey questionnaire asked inmates who were shortly (within six weeks) scheduled to be released from prison to assess how frequently they engaged in various behaviors associated with increased risk for STDs including tattooing, sex, needle injections and other drug use both prior to and during the current prison term. Survey items included sociodemographic and background information such as age, ethnicity, education, sexual preference, height and weight, number of times in prison, and duration of current prison term. Behavioral questions assessed frequency of the following actions both before and during the current prison term: tattooing, alcohol consumption, drug use, sexual behavior, and use of condoms and other barrier protection. Overall health, questions concerning the presence of tattoos, use of medical services, and knowledge of means of HIV transmission were also included in the survey.

All inmates scheduled for release between November 2007 through November 2009 received a letter approximately six weeks before their scheduled release date describing the survey and explaining that their participation was entirely voluntary. The protocol for the study was approved by the Ohio State University Institutional Review Board. Inmates also received a letter from the prison warden describing the mandatory STD testing and telling them when to report to the medical clinic for the (voluntary) blood draw and physical exam and associated survey.

The Center for HOPES worked closely with the vendor’s medical team (composed of a physician and a nurse) to establish the testing and survey administration protocols. All inmates scheduled that day arrived at the medical clinic at the same time. While waiting for their examination, inmates were provided with the informed consent form and given the opportunity to complete the survey. Those who refused were asked to indicate their reasons for refusal from a checklist of options. They were also asked again if they wanted to take the survey after their physical exam was complete. Completed surveys were placed by the inmate in an envelope, sealed, and given to the nurse. The nurse/physician team worked with the research team to encourage inmates to participate fully in the testing and survey process. The order of administration of survey and physical exam was flexible to allow inmates to complete the survey while waiting for their exam. The importance of knowing test results and receiving treatment if needed prior to release back to one’s family was stressed in all communications with inmates.

Study Findings

STD identification

Pre-release testing identified 53 cases of STDs in a total of 50 inmates, reflecting a prevalence rate of 5.5% among inmates released from MANCI during this pilot period. Of these 53 infections, 50 were newly identified (5 hepatitis B, 15 hepatitis C, 2 chlamydia 19 trichomoniasis, 8 HPV) and 3 were newly acquired (1 HIV, 1 hepatitis C, 1 syphilis).

Risk Behaviors

The survey asked about inmate behaviors during this prison term separately from what their practices had been prior to the current prison term. During the current prison term, 12.4% of inmates reported having had at least one sexual partner. Condom usage ranged from 6.6% to 25.0% of those who had sex. Among those who had sex before this term, 80% reported having used a condom.

A significant percentage of inmates reported getting tattoos (36.5%) during their present term, and, of those, 40% reported having cleaned the tattoo needles. Only 0.6% reported using needles to inject drugs. By contrast, prior to this prison term, 52.6% had previously been tattooed, and 13.6% had used needles to inject drugs.

Approximately 14.5% of inmates reported having at least 2 drinks of alcohol per week and 31% reported smoking at least one pack of cigarettes per day. Drug use reported included use of marijuana (19.5% of inmates), heroin (1.6%), cocaine (4.3%), and methamphetamine (1.2%).

Comparisons of inmate who tested positively at pre-release testing and those did not test positive at pre-release testing showed similar rates of risky behaviors. Inmates who tested positively at pre-release testing were slightly less likely to use drugs than those did not test positively at the time of pre-release (12.0% vs. 18.2%), get a tattoo (31.7% vs. 36.9%), have sex (11.1% vs. 12.2%) and to not use a condom (81.3% vs. 84.8%). These inmates were more likely to have shared needles (2.4% vs. 0.3%) and were more likely to have not cleaning needles (33.3% vs. 32.1%).

Assessment of Testing Process

All inmates in the pre-release testing program except one individual upon whom the medical staff were unable to draw blood, participated in testing for HIV, hepatitis, and syphilis. Acceptance rates for the physical examination (to detect HPV and HSV) and for the genital swab (to detect gonorrhea, chlamydia and trichimoniasis) varied throughout the project. Initially, less than one-third of inmates agreed to the genital swab. By the end of the study, however, over 40% were willing to accept the genital swab. Acceptance rates for the physical exam varied as well, though not as greatly. Quarterly rates ranged from a low of 38.3% to a high of 53.6%.

Participation in the survey was entirely voluntary. Response rates were very good throughout the project with a range of 67.0% in the 7th quarter and a high of 95.3% in the 6th quarter. Overall during the study period, the survey participation rate was 81.2%.

Narrative Comments

Inmates responding to the survey were very willing to share free form narrative comments in their survey responses. The vast majority of inmates provided written comments. The inmates' verbal comments are summarized on pages 23-37.

Conclusions

This study, based on pre-release testing, showed little evidence of newly acquired or identified STD infection during incarceration. Only 5.5% of inmates tested positive for a STD infection through pre-release testing. Of newly identified cases, most were trichomoniasis and hepatitis C. Only one case of HIV infection acquired during incarceration was detected.

Inmates appeared to be relatively open to discussing health-related behaviors during the survey process. Many admitted to engaging in risky and prohibited behaviors during incarceration. A significant portion reported having sex, using drugs and getting tattoos during the present prison term. Clearly, these behaviors increase the risk of STD infection. Although the low rate of infections make comparisons between those infected and those not infected more difficult to interpret, in this pilot study, infected individuals showed similar rates of participation in these risky behaviors as inmates without the risky behaviors.

Rates of participation in all methods of STD testing and the risk behavior survey with relatively constant throughout the project, The Center for HOPES worked closely with the medical team to encourage inmate participation in all methods of STD testing as well as completion of the risk behavior survey. Providing flexibility in the order in which inmates could complete the survey and physical exam helped to increase participation. The medical team also offered several opportunities throughout the process so that inmates who initially refused could change their minds as well as reminders that many of these diseases have few symptoms so one can be infected but unaware.

There are several limitations to this study. To determine if an inmate had become infected during incarceration, lab results compared the final pre-release testing with any previous testing performed. For some inmates, this testing may have been prior to incarceration or at intake. A positive result at that time would appropriately indicate infection acquired prior to incarceration. It is possible, however, that an inmate may have acquired an infection shortly before incarceration but not yet converted to positive status, thus indicating a false negative at intake testing. Also, pre-release testing included more diseases than intake and "for cause" testing. Therefore, for several diseases, no consistent prior testing was conducted and it is not possible to determine if an infection was acquired prior to or during the prison term.

Secondly, because inmates could refuse the genital swab and physical exam, some infections may not have been detected. Rates of acceptance of these procedures were consistently moderate with slightly less than 50% of inmates agreeing to physical examinations and genital swabs. As a result, the actual rates of infection for chlamydia, gonorrhea, trichomoniasis, HPV and HSV may be higher than this study demonstrates. The most common reasons for refusal were "I just don't want to" and "I don't think I'm sick." The medical team worked hard to educate inmates on the importance of testing for disease even if one is not experiencing symptoms. Motivating inmates to accept these voluntary measures may prove more challenging.

Response Rates, Infection Rates and Refusal Rates, 10/6/07 to 10/7/09

Overall exam and survey completion		
	<u>Number</u>	<u>Percent</u>
Total number of inmates scheduled for testing	916	100.0%
Total number of blood tests	915	99.9%
Total number of physical examinations	409	44.7%
Total number of genital swabs	344	37.6%
Total number of lab results received	915	99.9%
Total number of surveys completed	744	81.2%

Lab Results				
	<u>Previously positive</u>	<u>Newly positive</u>		<u>Unavailable</u>
HIV	14	1 0.1%		1
HepA	20	0 0.0%		1
HepB	3	5 0.5%		1
HepC	137	16 1.7%		1
Gonorrhea	5	0 0.0%		572
Syphilis	10	1 0.1%		1
Chlamydia	3	2 0.6%		572
Trichomoniasis	0	19 5.5%		572
HPV	15	9 2.2%		507
HSV	5	0 0.0%		507
# with any STD	-	50 5.5%		-

Reasons for refusal of swab/physical exam		
	<u>Number</u>	<u>Percent</u>
I don't want to know the results	3	0.6
I don't think I'm sick	240	51.5
I don't want my body touched	19	4.1
I just don't want to	189	40.6
Other	15	3.2

Reasons for refusal of survey		
	<u>Number</u>	<u>Percent</u>
I don't think I'm sick	18	11.1
I don't want to talk about my sex life	12	7.4
I don't have time	10	6.1
I just don't want to	95	58.6
Other	27	16.7

Survey Results, 10/6/07 to 10/7/09

		Number	Percent
Q4: What was your sentencing county?	Cuyahoga	236	31.8
	Summit	109	14.7
	Stark	61	8.2
	Lorain	34	4.6
	Richland	32	4.3
	Other	270	36.4
	Did not answer	2	-
Q5: Length of current prison term	Less than 1 year	211	30.8
	1-2 yrs	148	21.6
	2-3 yrs	180	26.2
	3+ yrs	146	21.3
	Did not answer	59	-
Q6: How many times have you been in prison before?	0	154	22.2
	1	159	22.9
	2	140	20.2
	3-4	153	22.8
	5+	87	12.6
	Did not answer	51	-
Q7: What is your race and ethnicity?	Black	410	56.5
	White	281	38.7
	Asian	1	0.1
	Hispanic	22	3.0
	Other	12	1.7
	Did not answer	18	-
Q8: What was the highest grade in school you finished?	None	4	0.6
	1 st -5 th grade	4	0.6
	6 th -8 th grade	39	5.3
	9 th grade	63	8.6
	10 th grade	127	17.4
	11 th grade	135	18.5
	12 th grade	146	20.0
	Some college	184	25.2
	College graduate	28	3.8
	Did not answer	14	-
Q9: How tall are you? Q10: What is your weight? Responses calculated as a Body Mass Index range	Normal (<25 BMI)	237	34.3
	Overweight (25 to <30 BMI)	301	43.5
	Obese (30 to <35 BMI)	117	16.9
	Severely obese (35 to <40 BMI)	24	3.5
	Morbidly obese (40+ BMI)	13	1.9
	Did not answer	52	-
Q11: What is your sexual preference?	Straight	687	95.4
	Gay	7	1.0
	Bisexual	18	2.5
	Doesn't matter	5	0.7
	Other	3	0.4
	Did not answer	24	-
Q12: Do you have any tattoos?	Yes	503	69.6
	No	220	30.4
	Did not answer	21	-

Survey Results, 10/6/07 to 10/7/09 (continued)

		Number	Percent
Q13: What was your overall health?	Very good	265	37.6
	Good	298	42.3
	Fair	119	16.9
	Poor	21	2.0
	Bad	2	0.3
	Did not answer	39	-
Q14: Did you have any of these medical conditions? (put an X next to all that apply)	Heart problems	39	5.3
	Diabetes	16	2.2
	Lung problems	51	6.9
	Bad injury	34	4.6
	Cancer	7	0.9
	Other	24	3.5
Q15: Did you have any of these other diseases that could be spread by having sex? (put an X next to all that apply)	HIV/AIDS	12	1.6
	Syphilis	2	0.3
	Gonorrhea	4	0.5
	Hepatitis A,B,C	70	9.4
	Genital herpes	18	2.4
	Other	11	1.5
Q16: Did you see any doctors or go to any medical clinics?	Never	167	27.7
	Sometimes	352	58.3
	Often	84	13.9
	Did not answer	141	-
Q17: How often did you drink alcohol?	0-1 drinks/week	316	85.2
	2-6 drinks/week	20	5.4
	1 drink/day	9	2.4
	2 drinks/day	9	2.4
	3+ drinks/day	16	4.3
	Did not answer	374	-
Q18: How often did you smoke tobacco?	Never	182	27.7
	<1 pack/day	272	41.3
	1 pack/day	158	24.0
	2 packs/day	33	5.0
	3+ packs/day	13	2.0
	Did not answer	86	-
Q19: Did you use any of these drugs?	Marijuana	145	19.5
	Heroin	12	1.6
	Cocaine	32	4.3
	Meth	9	1.2
	Other	9	1.2
Q20: Have you used needles to inject drugs?	Never	650	99.4
	Sometimes	4	0.6
	Often	0	0.0
	Did not answer	90	-
Q21: Have you ever shared needles with other people?	Never	643	99.4
	Sometimes	3	0.5
	Often	1	0.1
	Did not answer	97	-

Survey Results, 10/6/07 to 10/7/09 (continued)

		Number	Percent
Q22: How often did you get tattooed?	Never	405	63.5
	Sometimes	177	27.7
	Often	56	8.8
	Did not answer	106	-
Q23: If you got tattooed. Were the tattooing needles cleaned and sterilized?	Never	119	21.1
	Sometimes	8	1.4
	Always	219	38.8
	I don't know	20	0.4
	Does not apply	199	35.2
	Did not answer	179	-
Q24: If the tattooing needles were cleaned, how were they cleaned?	Water	24	3.2
	Soap and water	68	9.2
	Bleach	141	19.0
	I don't know	32	4.3
	Does not apply	287	38.7
Q25: How many different sex partners did you have?	None	545	87.6
	1	11	1.8
	2	11	1.8
	3-5	12	1.9
	6-10	12	1.9
	11-49	16	2.6
	50+	15	2.4
	Did not answer	122	-
Q26: What was your sexual preference?	Straight	465	92.1
	Gay	7	1.4
	Bisexual	17	3.4
	Didn't matter	8	1.6
	Other	8	1.6
	Did not answer	239	-
Q27: What type of sex did you have? (put an X next to all that apply)	None	465	62.6
	Had any type of sex this term	90	12.1
	Vaginal	55	7.4
	Oral	68	8.8
	Anal	29	3.9
	Other	6	0.8
	Did not answer	191	-
Q28: Did you ever exchange sex for something like money, food, cigarettes or drugs?	Never	621	98.1
	Sometimes	10	1.6
	Often	2	0.3
	Did not answer	111	-
Q29: Did you ever have sex that was not consensual (it was forced or rape)?	Never	609	99.5
	Sometimes	1	0.2
	Often	2	0.3
	Did not answer	132	-

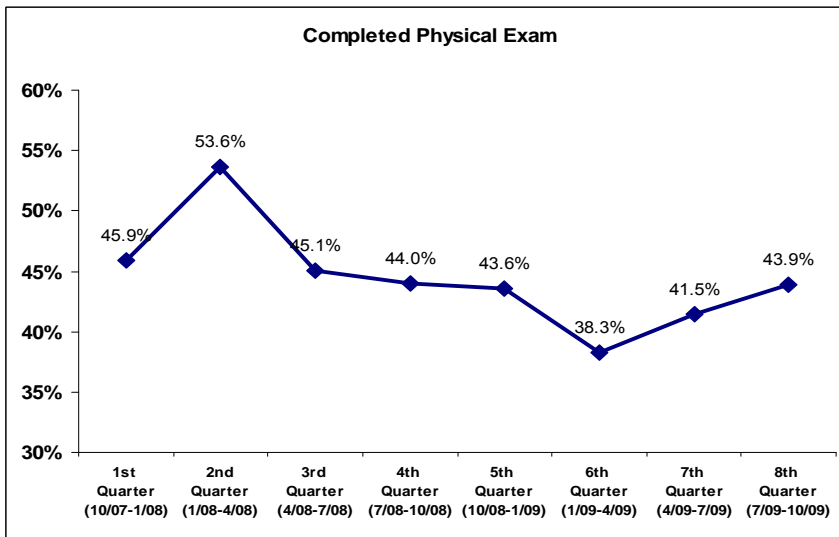
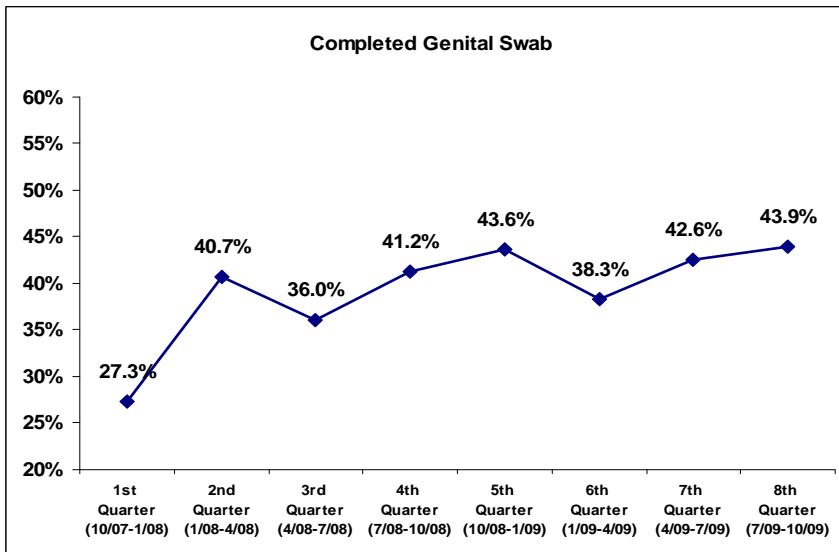
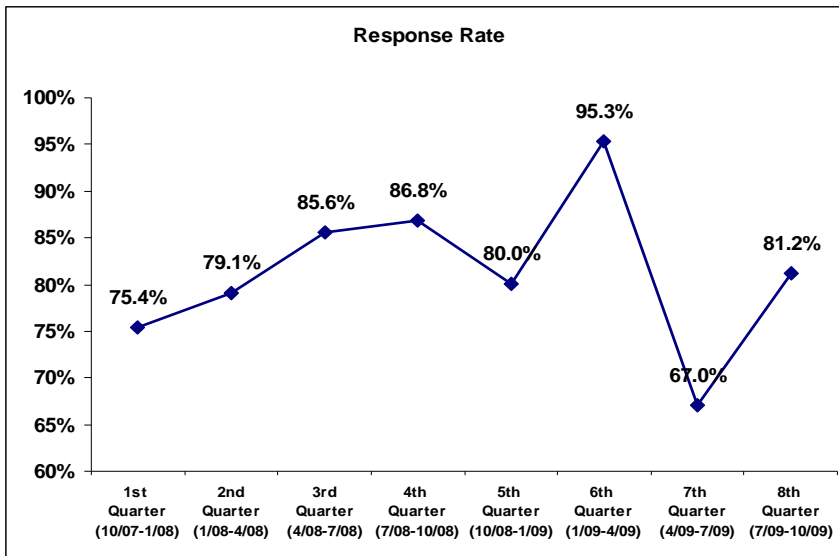
Survey Results, 10/6/07 to 10/7/09 (continued)

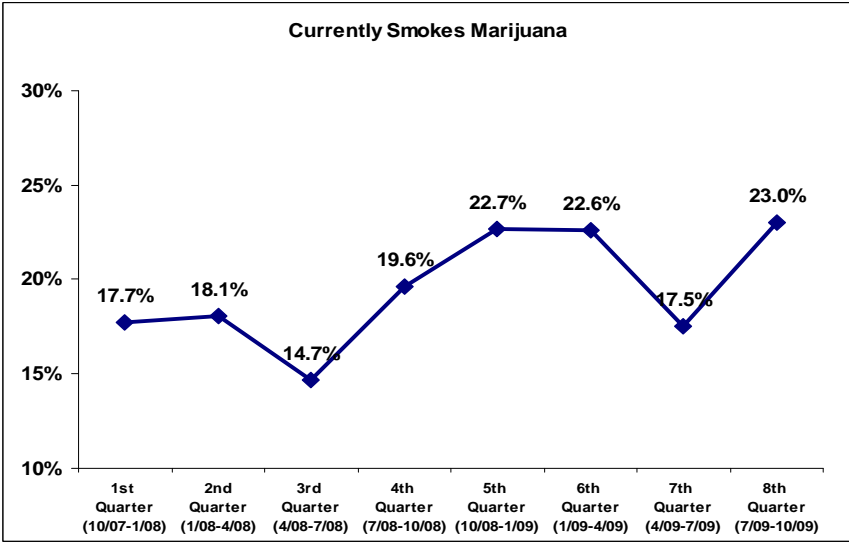
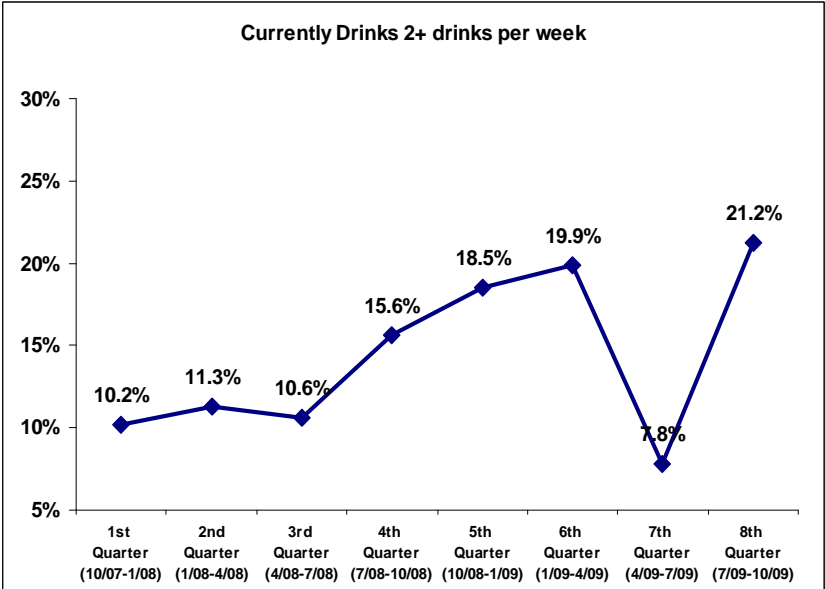
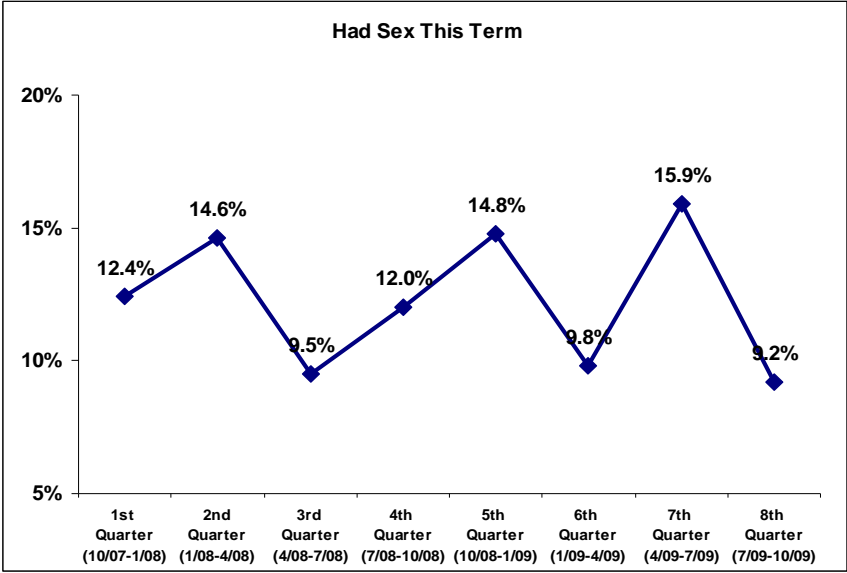
		Number	Percent
Q30: Did you use a condom when you had sex?	Never	247	84.6
	Sometimes	31	10.6
	Often	14	4.8
	Did not answer	452	-
Q31: Did you use some kind of barrier protection other than a condom when you had sex? (put an X next to all that apply)	None	231	31.1
	Latex/rubber gloves	10	1.4
	Plastic wrap	3	0.4
	Other	3	0.4
Q32: Did you talk to your partner(s) about how to prevent getting a disease from sex?	Never	183	79.2
	Sometimes	33	14.3
	Often	15	6.4
	Did not answer	513	-
Q33: Did you know that HIV/AIDS can be spread by: (put an X next to all that apply)	Answered the question	346	46.5
	Having sex	346	100.0
	Using needles	325	93.9
	Tattooing	313	90.5
	Contact with blood	343	99.1
	Did not answer question	398	-
Q34: In your opinion, what actions should prison officials take to prevent the spread of these diseases?:	Separate homosexuals	110	19.4
	Distribute condoms	73	12.9
	Better enforcement	45	8.0
	Nothing else can be done	32	5.7
	Education about the risks	31	5.5
	Conjugal visits	19	3.4
	More medical testing	46	8.1
	Other	208	36.8
	Subtotal	565	-
	No comment made	349	-

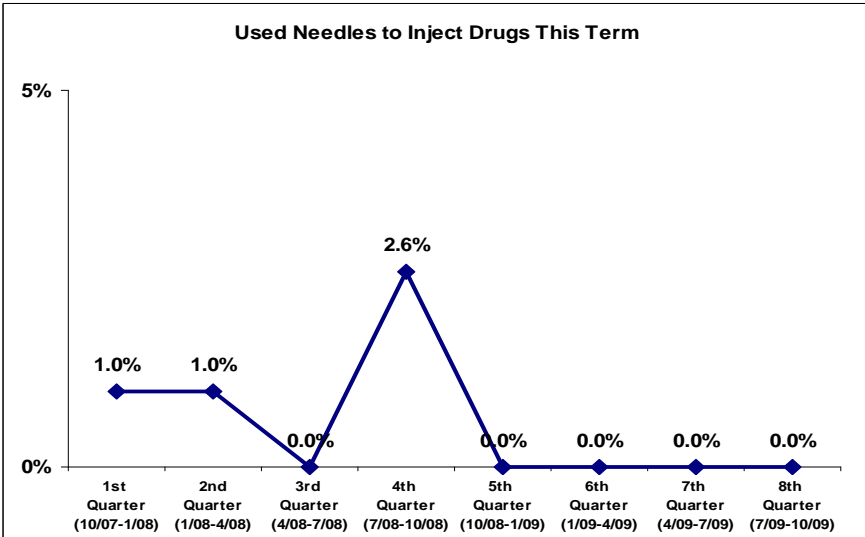
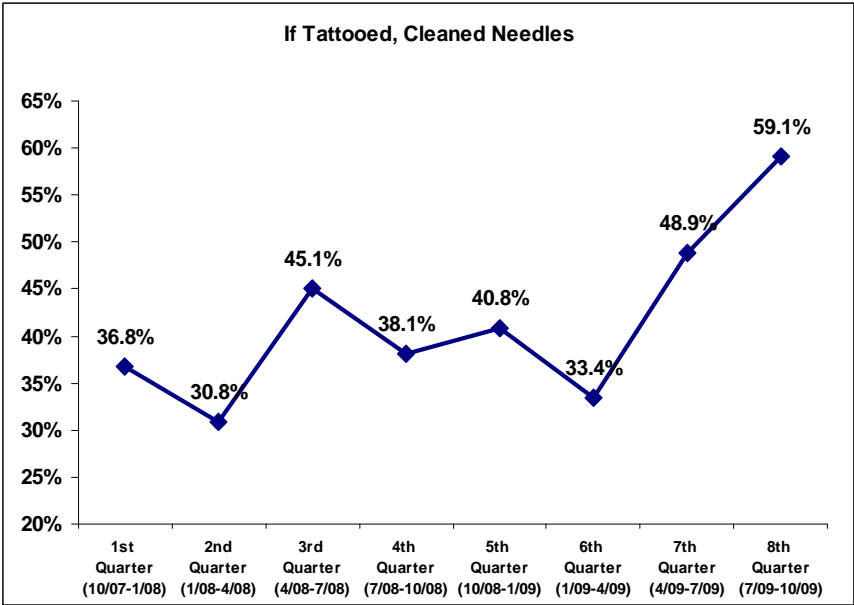
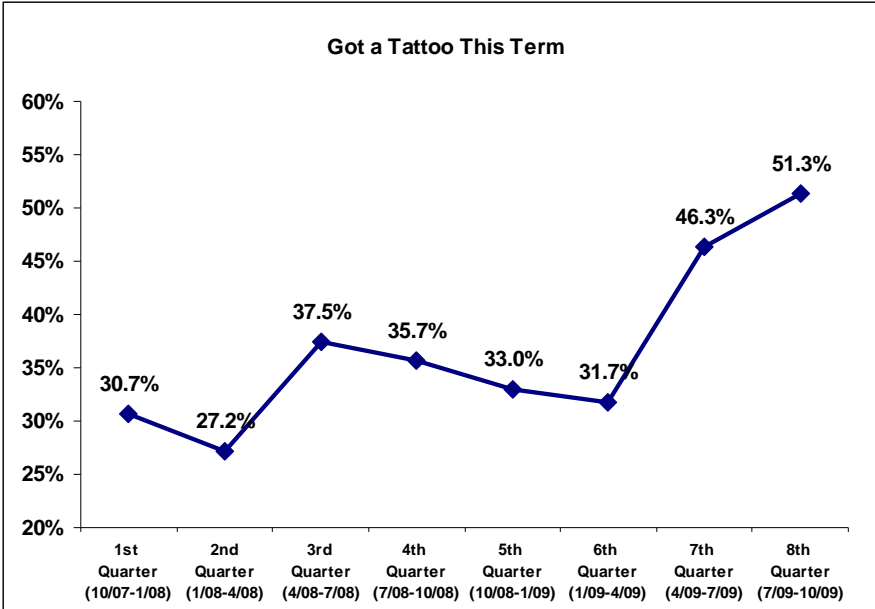
Trends Over the Course of The Project

	<u>First Quarter 10/6/07- 12/31/07</u>	<u>Second Quarter 1/1/08- 3/31/08</u>	<u>Third Quarter 4/1/08- 6/30/08</u>	<u>Fourth Quarter 7/1/08- 9/30/08</u>	<u>Fifth Quarter 9/30/08- 12/31/08</u>	<u>Sixth Quarter 1/1/09- 3/31/09</u>	<u>Seventh Quarter 4/1/09- 6/30/09</u>	<u>Eighth Quarter 7/1/09- 10/7/09</u>	<u>Cumulative 10/6/07- 10/7/09</u>
Survey response rate	75.4%	79.1%	85.6%	86.8%	80.0%	95.3%	67.0%	81.3%	81.2%
Completed physical examination	45.9%	53.6%	45.1%	44.0%	43.6%	38.3%	41.5%	43.9%	44.7%
Completed genital swab	27.3%	40.7%	36.0%	41.2%	43.6%	38.3%	42.6%	43.9%	37.6%
New positives (HIV)	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.1%
New positives (Hep B)	0.6%	2.4%	0.0%	0.0%	2.2%	1.0%	0.0%	0.0%	0.5%
New positives (Hep C)	2.5%	2.4%	0.0%	0.0%	2.2%	1.8%	2.1%	1.9%	1.7%
Trichomoniasis	1.3%	2.4%	1.8%	0.6%	0.0%	3.7%	2.1%	2.1%	5.5%
HPV	1.3%	0.0%	1.8%	0.2%	0.0%	0.0%	1.1%	0.0%	2.2%
Currently has a tattoo	60.7%	65.0%	72.5%	71.9%	67.8%	73.3%	73.8%	75.6%	69.6%
Currently has HIV/AIDS	3.5%	1.0%	1.1%	2.2%	2.3%	0.0%	0.0%	2.3%	1.8%
Currently has Hepatitis (A,B,or C)	11.5%	7.8%	15.8%	8.7%	8.0%	5.9%	12.7%	9.2%	10.6%
Currently drink 2+ drinks per week	10.2%	11.3%	10.6%	15.6%	18.5%	19.9%	7.8%	21.2%	14.8%
Currently smokes	75.3%	76.0%	84.9%	88.0%	66.7%	73.5%	70.6%	50.0%	72.3%
Currently uses marijuana	17.7%	18.1%	14.7%	19.6%	22.7%	22.6%	17.5%	23.0%	19.5%
Got tattooed this term	30.7%	27.2%	37.5%	35.7%	33.0%	31.7%	46.3%	51.3%	36.5%
If tattooed, cleaned needles	36.8%	30.8%	45.1%	38.1%	40.8%	33.4%	48.9%	59.1%	40.2%
Used needles to inject drugs this term	1.0%	1.0%	0.0%	2.6%	0.0%	0.0%	0.0%	0.0%	0.6%
Had sex this term	12.4%	14.6%	9.5%	12.0%	14.8%	9.8%	15.9%	9.2%	12.1%
Used condom when having sex	6.6%	18.4%	8.1%	20.6%	18.2%	12.1%	25.0%	19.5%	15.4%
*Knowledge: HIV spread by sex	84.1%	85.4%	86.3%	93.9%	100.0%	100.0%	100.0%	100.0%	100.0%
*Knowledge: HIV spread by needles	84.1%	76.7%	86.3%	84.8%	87.2%	91.7%	97.1%	93.6%	93.9%
*Knowledge: HIV spread by tattooing	78.8%	75.7%	82.1%	78.8%	82.1%	87.5%	88.2%	93.6%	90.5%
*Knowledge: HIV spread by blood	87.6%	79.6%	88.4%	100.0%	92.1%	97.9%	97.1%	95.7%	99.1%
*of those answering the question									

Project Trend Lines







Inmates testing positive at pre-release compared to those not testing positive at pre-release

		Positive at Pre-release	Not Positive at Pre-release
Number of Inmates		50 (5.5%)	867 (94.5%)
Length of Prison Term	Average (years)	3.0	3.4
# times in Prison	Average	2.1	2.8
Race/Ethnicity	% black	60.5%	56.2%
Education	% less than high school	59.1%	50.4%
BMI	% normal or underweight	42.9%	33.7%
Sexual Preference	% straight	93.2%	95.6%
Has tattoo	% with tattoo	62.8%	70.0%
Had previous STD	% had previous STD	18.0%	19.0%
Overall Health	%poor or bad	2.3%	3.3%
Used drugs this term	% used drugs	12.0%	18.2%
Shared needles this term	% shared needed	2.4%	0.3%
Got tattoo this term	% got tattoo	31.7%	36.9%
Cleaned needles when tattooed	% did not clean needles	33.3%	32.1%
Had sex this term	% had sex	11.1%	12.2%
Had non-consensual sex this term	% had non-consensual sex	0.0%	0.5%
Used condom this term	% did not use condom	81.3%	84.8%
Used other protection this term	% did not use other protection	28.9%	31.3%

Length of Prison Term and Times in Prison by Pre-release Testing Infection Status

		Positive at Pre-release		Not Positive at Pre-release	
		No.	Percent	No.	Percent
Length of Current Term	Less than 1 yr	10	26.3	200	30.9
	≥1yr and < 2 yrs	10	26.3	138	21.3
	≥2yr and < 3 yrs	5	13.2	101	15.6
	≥3yr and < 5 yrs	4	10.5	89	13.8
	5+ yrs	9	23.7	119	18.4
	Did not answer	12	-	220	-
Number of Times in Prison	0	6	14.3	148	22.7
	1	11	26.2	148	22.7
	2	2	4.8	138	21.2
	3-4	13	30.1	140	21.5
	5+	10	23.8	77	11.8
	Did not answer	8	-	216	-

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