New Jersey Syringe Access Program
Demonstration Project

INTERIM REPORT

“Blood-borne Disease Harm Reduction Act”

January 2010

New Jersey Department of Health & Senior Services
Division of HIV/AIDS Services

Heather Howard, Commissioner

In Cooperation with
UNIVERSITY OF MEDICINE AND DENTISTRY OF NEW JERSEY (UMDNJ)
SCHOOL OF PUBLIC HEALTH
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ACKNOWLEDGEMENTS

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Community organizations at the five SAPs
South Jersey AIDS Alliance partnering with the City of Atlantic City Health Department
Camden Area Health Education Center (AHEC) partnering with the City of Camden
Well-of-Hope Drop-In-Center partnering with the Paterson Counseling Center
North Jersey Community Research Initiative (NJCRI)
Hyacinth AIDS Foundation

Collaborative Partnering Agencies
Drug Policy Alliance of New Jersey, Roseanne Scotti, Executive Director
New Jersey Department of Human Services, Division of Addiction Services
PUBLIC STATEMENTS

“All of Broadway [Paterson] was an active spot for injection drug use, but now we don’t see that anymore” “...it’s not just preventing the spread of HIV...it’s helping to wean them off drugs.” -Mayor Jose “Joey” Torres (The Record of Bergen County, March 18, 2009).

"...I have seen over and over and over again the change it (syringe exchange program) makes in people's lives. It's the first day they move toward making positive change toward their life. It's a huge step." Roseanne Scotti, Drug Policy Alliance.

"...Once you get here [SAP], it opens up other doors for you..."James a longtime heroin and cocaine injector and a Newark SAP participant to a Star Ledger reporter, April 13, 2009.

“If you look at the number of people served, which is over 500, and then you figure out how many times a day they shoot up, that is thousands of times we have prevented the spread of deadly infections.” Karen Walker, Director of HIV Services, Paterson Counseling Center (The Record, March 12, 2009).

“Every established medical, scientific, and legal body to study the issue concurs in the efficacy of improved access to sterile syringes to reduce the spread of infectious diseases...” Drug Policy Alliance.

“I think needle exchange programs are part of a complete public health model for dealing with addiction.” Gil Kerlikowske, Director, White House Office of Drug Control Policy (Interview with Wall Street Journal, May 14, 2009).

SAPs as part of a “comprehensive strategy, are an effective public health intervention that reduces the transmission of HIV and does not encourage the use of illegal drugs.” Report, US Department of Health and Human Services, Surgeon General David Satcher (March 17, 2000).

“They (syringe exchanges) seem to be working, with more than 3,000 people registered with the programs, which are simple, cheap and a proven way to combat the spread of HIV and AIDS. A clean needle costs about a dime. Treating a single AIDS patient now costs up to $600,000. This is a smart investment, sound public policy and I’m pleased to see New Jersey and the nation headed strongly in the right direction on the issue,” Senator Joe Roberts 12/09.

U.S. Rep. David Obey (D-WI), chairman of the subcommittee and also chairman of the Appropriations Committee, said, “Scientific studies have documented that needle exchange programs, when implemented as part of a comprehensive prevention strategy, are an effective public health intervention for reducing AIDS/HIV infections and do not promote drug use. The judgment we make is that it is time to lift this ban and let State and local jurisdictions determine if they want to pursue this approach.

“I believe needle exchange is another important method of the prevention of HIV/AIDS transmission,” part of the response given by Barack Obama to AIDSVOTE.ORG presidential candidate questionnaire, 2008
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INTRODUCTION/LEGISLATIVE MANDATES
Injection drug use (IDU) is one of the most common methods of transmission for a number of preventable life-threatening diseases, including the human immunodeficiency virus (HIV) and hepatitis C (HCV). Thus, stopping the spread of injection-related diseases is a primary public health concern. Along with drug treatment and behavioral health interventions, syringe access programs are an important component in attempting to prevent/reduce the risks associated with injection drug use.

On December 19, 2006, Governor Jon Corzine signed P. L. 2006, c.99, the “Blood-borne Disease Harm Reduction Act” (the “Act”), which allows a maximum of six (6) municipalities in New Jersey to establish a demonstration syringe access program. Included in this legislation, is an appropriation of $10,000,000 to the Department of Human Services (DHS), Division of Addiction Services (DAS) for inpatient and outpatient drug treatment services.

The Division of HIV/AIDS Services (DHAS), which is located within the Public Health Services Branch of the Department of Health and Senior Services (DHSS), was charged with implementing the provisions of the law. Important first steps for the DHSS in meeting its legislative mandates included the preparation of the New Jersey Syringe Access Program (SAP) Guidelines, as well as conducting activities designed to closely collaborate and partner with local departments of health and community agencies interested in establishing an SAP in their communities. To date, SAPs are operational in five municipalities (Atlantic City, Camden, Paterson, Newark and Jersey City).

An independent evaluation of the New Jersey SAPs is required by the Act, which outlines nine (9) evaluative elements. The New Jersey DHSS identified the University of Medicine and Dentistry of New Jersey (UMDNJ) to perform the evaluation. UMDNJ established an experienced evaluation team that has been collecting both quantitative and qualitative data since the inception of the SAPs to fulfill the legislative mandates and objectives outlined in the Blood-Borne Disease Harm Reduction Act. This document presents findings on the evaluation of the New Jersey Syringe Access Demonstration Project based on data collected from the inception of the first SAP site in New Jersey from November 27, 2007 through December 31, 2009.

EXECUTIVE SUMMARY
- Five (5) municipalities were authorized by the DHSS, DHAS to establish SAPs: Atlantic City; Camden; Paterson; Newark; and Jersey City.
- A total of 4,482 participants have enrolled in the New Jersey SAPs during the period November 2007 through December 2009.
- An additional 1,324 non-SAP participant IDUs received clean syringes and needles through secondary exchangers.
- Seventy-eight percent (78%) of the SAP participants reported their reason for enrollment was to stay clean, safety reasons or to avoid sharing of syringes. An additional 10% enrolled as a first step to eliminating drug use.
• SAP enrollments in Atlantic City and Camden for the age group of 18 to 25 was higher than expected, 286 (24%) and 233 (19.5%) respectively. Overall, the SAPs enrolled 835 (18.6%) 18 to 25 year olds. Nationally, rates of HCV infection are four times higher in young injection drug users than rates of HIV infection and after five years of injecting, as many as 90% of IDUs are infected with HCV¹.

• Nine hundred and ninety-eight (998) SAP participants were successfully enrolled in drug treatment under the DAS Needle Exchange Treatment Initiative (NETI). This represents 49% of the total referred (2043).

• The DAS reports that there have been 65 successful housing placements through their NETI Supportive Housing Program, 32 in Atlantic City and 33 in Camden. Twenty-three (23) of these referrals were generated by the SAP. Twenty-four percent (24%) of those referred were new to drug treatment.

• The Camden SAP referred twelve pregnant women to drug treatment and supportive housing. Nine (9) women are illicit drug free, in treatment and receiving prenatal care. Three of the women have given birth to healthy babies.

• Seven mothers and their children are in various stages of reunification and one female SAP participant avoided losing her children as a result of acquiring housing through the NETI Supportive Housing Program.

INTERIM CONCLUSIONS
The evaluation findings indicate beneficial program outcomes in terms of reducing HIV risks and increasing access to drug treatment and other social services for IDUs, without any increase in harmful effects on the rates of crime or syringe disposal. The program holds great promise in preventing the transmission of blood-borne pathogens.

INTERIM RECOMMENDATIONS
On the basis of the preliminary evaluation findings, the following interim recommendations are made:

Allow Demonstration Project SAPs to continue to operate: The program is off to an excellent start and serves a hard-to-reach population with tremendous promise in preventing the transmission of blood-borne pathogens. Based on the evaluation’s findings, it is recommended that the program continue.

Increase outreach efforts: SAPs should pay special attention to increasing the enrollment of African Americans, particularly in Atlantic City and Camden where the HIV epidemic is disproportionately impacting this population. The report recognizes that the programs are operating with very limited resources and that expanded outreach may not be possible within the limits of current budgetary constraints.

Maintain funding to support substance abuse treatment and education: Access to HIV prevention services as well as health and social services such as medical, housing and employment services is crucial in meeting the needs of this special population. These services are important in creating stability in the lives of IDUs, improving health outcomes and in promoting psychological and social well being.

Continue to focus on addressing other risky behaviors of clients: To succeed in effectively reducing the transmission of HIV and other blood-borne infections, programs must consider a comprehensive approach to working with IDUs. Such an approach incorporates a range of pragmatic strategies that address both drug use and sexual risk behaviors.
**Encourage preventive health counseling at SAP sites:** Provide hepatitis A, B, and influenza vaccination (including H1N1) to high-risk adults and provide on-site SAP facilitated HIV testing, case management, hepatitis screening, immunizations, pregnancy testing, and referral to treatment, and promote/coordinate access to the health care system.

**Enhance relationships with law enforcement:** It is recommended that the DHSS work with the Office of the Attorney General to establish stronger relationships with local law enforcement to foster a better understanding of the goals, operations and functions of SAPs in designated communities. Further discussion related to funding and staffing is necessary to support follow-up and/or periodic education and training sessions to provide up-to-date information to law enforcement personnel.

The accomplishments and positive experiences that have occurred during the course of conducting the New Jersey Syringe Access Program Demonstration Project should serve to strengthen support for programs of its type in New Jersey and lessen the fears and concerns of the opposition. Significant public health and social benefits can be realized, over time, as these types of programs are fully integrated into the fabric of communities disproportionately affected by injection-related diseases and associated problems.
PROJECT BACKGROUND

INJECTION DRUG USE AND THE SPREAD OF INFECTIONOUS DISEASES

HIV/AIDS: Injection drug use (IDU) is one of the most common methods of transmission for a number of preventable life-threatening diseases, including the human immunodeficiency virus (HIV) and hepatitis C (HCV). The Centers for Disease Control and Prevention (CDC) estimates that approximately 1.1 million persons are living with HIV in the United States. Since the epidemic began, injection drug use has directly and indirectly accounted for more than one-third (36%) of all AIDS cases in the United States.

Racial and ethnic minority populations in the United States are most heavily affected by IDU-associated AIDS. IDU-associated AIDS accounted for 26% of all AIDS cases among African American and 31% among Hispanic adults and adolescents, compared with 19% of all cases among white adults/adolescents. IDU-associated AIDS accounts for a larger proportion of cases among adolescent and adult women than among men. Since the epidemic began, 57% of all AIDS cases among women have been attributed to injection drug use or sex with partners who inject drugs, compared with 31% of cases among men.

Across the states, New Jersey has the fifth highest number of cumulative AIDS cases, and New Jersey ranks third among other states in the disproportionate impact of HIV on minorities. Twenty-five percent of the transmissions were associated with injection drug use (IDU), 2nd highest in the nation, and New Jersey has the highest proportion of women among those living with AIDS.

As the number of people living with HIV in the United States continues to grow, opportunities for HIV transmission and the burden on the health care system also intensifies. This is particularly important, as the projected life expectancy for individuals in treatment has now increased from 6.8 years to 24.2 years since the introduction of anitretroviral therapy. The lifetime per person HIV care cost is now $618,900.

Hepatitis C: According to recent studies, the number one cause of hepatitis C virus (HCV) transmission is injection drug use. Additionally, rates of HCV infection are four times higher in young injection drug users than rates of HIV infection. After five years of injecting, as many as 90% of IDUs are infected with HCV.

It is estimated that about 4 million people in the United States are infected with HCV, which is about 2% of the population. hepatitis C, a viral disease that destroys liver cells, is the most common blood-borne infection in the United States. According to the CDC, approximately 36,000 new cases of acute hepatitis C infection occur each year in the United States. Injecting drug users (IDUs) contract hepatitis C by sharing contaminated needles and other drug injection paraphernalia. One recent study found that 64.7% of IDUs who had been injecting for one year or less were already infected with the virus. Overall prevalence of HCV was 76.5% among IDUs who had been injecting drugs for six years or less.

New Jersey is facing a growing epidemic of hepatitis C, 60% of which is related to injection drug use. The CDC estimates that up to 80% of injection drug users nationally are infected with hepatitis C. It is estimated that over 144,000 New Jerseyans are infected with HCV, resulting in over 450 deaths per year.

Drug Use and Treatment

Linkages between SAPs and drug treatment programs are a critical step toward expanding the effectiveness of interventions to reduce public health risks and human suffering from drug abuse. The collaborative efforts of the Division of HIV/AIDS Services and the Division of Addiction Services have facilitated efficient systems for referrals and linkages and have supported the SAP as a conduit to drug treatment.

Among substances of abuse, drug use ranks third in terms of costs at $110 billion annually after alcohol ($166 billion) and smoking ($157 billion). The cost to society (cost of crime, court, family disruption,
incarceration, etc] of illicit drug abuse alone amounts to a staggering $181 billion annually. When combined with costs associated with alcohol and tobacco, the price tag exceeds $500 billion including healthcare, criminal justice, and lost productivity. Untreated substance abuse and addiction add significant costs to families and communities, including those related to violence and property crimes, prison expenses, court and criminal costs, emergency room visits, health care utilization, child abuse and neglect, lost child support, foster care and welfare costs, reduced productivity and unemployment.  

SYRINGE EXCHANGE AS A PUBLIC HEALTH INTERVENTION
Even though the use of federal funds for syringe exchange programs has been restricted by Congress since 1989, research has generally supported the contention that “syringe exchange programs, as part of a comprehensive HIV prevention strategy, are an effective public health intervention that reduces the transmission of HIV and does not encourage the use of illegal drugs.”

Every established medical, scientific, and legal body to study the issue concurs in the efficacy of improved access to sterile syringes to reduce the spread of infectious diseases: the National Academy of Sciences, American Medical Association, American Public Health Association, National Institutes of Health Consensus Panel, Centers for Disease Control and Prevention, Office of Technology Assessment of the U.S. Congress, American Bar Association, President Bush’s and President Clinton’s AIDS Advisory Commissions, and others. In July 1997, the U.S. Conference of Mayors formally endorsed federal and state policy changes to improve access to sterile syringes. In October 1999, the American Medical Association, the American Pharmaceutical Association, the Association of State and Territorial Health Officials, the National Alliance of State and Territorial AIDS Directors, and the National Association of Boards of Pharmacy issued a joint statement in support of removing legal barriers to pharmacy sale of syringes without a prescription.

According to Lurie and Drucker [4], if the United States government had embraced harm reduction and implemented a national needle exchange program from 1987 through 1995, a conservative estimate of between 4,394 and 9,666 HIV infections could have been prevented. (http://www.harmreductionjournal.com/content/1/1/2)

PROJECT IMPLEMENTATION AND SERVICES
The main goal of SAPs is to reduce the risk of transmission of blood-borne pathogens such as HIV, hepatitis B virus (HBV), and HCV through sharing of contaminated syringes and needles by IDUs. SAPs achieve this goal in three major ways: 1) by providing access to sterile syringes and needles for IDUs, 2) by enhancing IDUs’ knowledge about safe and proper way of disposing needles and syringes, and 3) by providing counseling and referral to programs that are relevant to their health, housing, social services, employment and other needs. SAPs provide IDUs with a reliable bridge to drug treatment programs.

Every participant who was enrolled in one of the five SAPs was registered through a computerized spreadsheet program developed by UMDNJ. Each SAP uses an algorithm which includes SAP staffs submit the first two letters of the participant’s mother’s name, their date of birth and the two-digit year of birth of the participant into the spreadsheet, and a four digit unique identification number is automatically generated for that client. SAP participants receive a uniform identification card with their unique identification number. This unique identification number is associated with the participant’s survey. It is also used to track returning participants for subsequent surveys. The unique identification number enumerates IDU SAP participants who are utilizing the program on an on-going basis after initiation of the program in each of the project cities. The unique identification number is also associated with referrals to drug treatment.
Referrals are made to drug treatment, HIV testing, HCV testing, hepatitis A and B vaccinations, housing, mental health services, dental, primary medial care, HIV medical care and case management, overdose training and education, HIV prevention interventions, and routine connectivity to a variety of services as the participant moves toward a readiness for referrals. Supplies provided to clients include sterile injection equipment, sharps containers, cookers, cotton, alcohol pads, and water bottles as well as condoms, dental dams, and lubricant.

Along with sterile injection equipment, sterile/safer injection techniques are taught. Health professionals, prevention professionals and the users themselves have brought information into SAPs on effective methods for reducing other forms of injection related harm such as abscesses, severely damaged veins, and identifying poisonous substances in drugs (or dangerously strong drugs).

SAPs are working collaboratively with outreach teams that operate to identify and serve high-risk individuals and mobile screening vans that offer HIV testing and counseling to link prospective clients to substance abuse treatment and ancillary services.

PILOT SYRINGE ACCESS PROGRAM IMPLEMENTATION

The Atlantic City Syringe Access Program was the first to start, opening on November 27, 2007. The Atlantic City Department of Health and Human Services has designated the South Jersey AIDS Alliance (SJAA) to implement its SAP at 32 South Tennessee Avenue in Atlantic City. The SAP operates out of the SJAA drop-in center (Oasis) on Tuesdays and Thursdays from 10:00 AM to 2:00 PM, and Wednesdays from 3:30 PM to 5:30 PM.

The drop-in center offers a full range of services, including outreach, case management and traditional services of a drop-in center designed to reach marginalized populations living with HIV disease and/or at high risk for acquiring HIV including access to showers, laundry, referrals, and support groups. The Atlantic City Department of Health and Human Services provides HIV testing on demand during SAP hours.

The Camden Syringe Access Program “LifeWorks” started on January 5, 2008 and is open on Tuesdays from 1:30 PM to 4:30 PM. The program is operated by the Camden Area Health Education Center (AHEC) using a mobile outreach van, which is located on a street corner between Fairview Street and Broadway Avenue in Camden.

The Camden SAP teams up with the Camden AHEC mobile health van offering a combination of services including HIV and syphilis screenings, blood pressure and diabetes screening, wound care, information about and referrals to drug treatment, supportive housing and other social services.

The Paterson Syringe Access Program opened on January 30, 2008 and serves clients on Mondays, Wednesdays and Fridays from 10:00 AM to 2:00 PM and Thursdays from 12 PM to 6 PM at a drop-in center called the Well of Hope. The program serves under the authority of the Paterson Counseling Center and is located at 207 Broadway in Paterson.

The drop-in center reaches out to individuals at high-risk for acquiring HIV, offering HIV prevention and education services as well as services for HIV positive clients including substance abuse treatment (individual/group counseling), case management, and outreach. Particular emphasis is placed on identifying and serving Latino and African American minority populations. In addition, the drop-in center provides showers, laundry, telephone/fax, referrals, support groups and refreshments as incentives to engage and
maintain clients in care. The Paterson Health Department’s mobile van is present during SAP operating hours to draw blood and perform HIV testing for SAP participants.

The Newark Syringe Access Program “Project Access” started on February 19, 2008 and is open on Mondays and Tuesdays from 1:00 PM to 4:00 PM and Wednesdays through Fridays from 10:00 AM to 1:00 PM, and mobile exchange on Thursdays and Fridays from 2:30 PM to 4:15 PM. Mobile outreach takes place at the Newark Community Health Center, an FQHC. The program is operated by the North Jersey Community Research Initiative (NJCRI) at a fixed site located at 393 Central Avenue in Newark.

NJCRI operates the Newark SAP in its main facility addressing the concerns and disparities of access to health care faced by minority populations. HIV prevention, testing, and care services compliment non-HIV related services that include behavioral research, chronic illness management education, street outreach, substance abuse treatment, transportation, food pantry, and technical assistance to other community-based organizations.

The Jersey City Syringe Access Program started on July 6, 2009, and provides services on Wednesdays from 10:00 AM to 4:00 PM. at a drop-in center, and on Thursdays from 8:00 PM to 7:00 PM at Hudson Pride Connections. The program is operated by the Hyacinth AIDS Foundation.

The drop-in center provides a full range of services, including case management, outreach, referral, and personal upkeep. Hyacinth also locates their mobile unit at the two sites during operational hours to provide HIV testing.

CHALLENGES
1. Lack of resources remains the single biggest challenge to the programs. The SAPs have been able to secure small, time limited foundation grants to initiate services. However, the limited dollars and uncertainty regarding continuation of funding over time seriously hampers the scope of the programs and intensity of services.

   The establishment of a secure funding stream would greatly enhance the programs’ ability to conduct more outreach to engage participants, collect data, and enhance linkages with other community based services.

2. Congress lifted the federal funding ban on syringe exchange on December 13, 2009, reinforcing its commitment to science-based health policy; removing one obstacle in transmission of HIV and its co-morbidities, like hepatitis C, and offer injection drug users a safe gateway to treatment.

3. There is a continuing need to foster a better understanding within the law enforcement community of the benefits of SAPs, which are more successful when strong partnerships are formed with law enforcement entities.

LEGISLATIVE QUESTIONS
1. Determine the number of consumers participating in the SAPs and assess their reasons for participating in the programs.
Number of consumers participating: The first SAP site opened on November 27, 2007 in Atlantic City, followed by the Camden and Paterson sites on January 5th and 30th, 2008, Jersey City July 6, 2009, respectively. The Newark site started operation on December 31, 2009. Since the program began on November 27, 2007 in Atlantic City, a total of 4,482 participants have enrolled in the Syringe Access Program, with 1,182 in Atlantic City, 1,192 in Camden, 992 in Paterson, 998 in Newark, and 125 in Jersey City. The difference in the number of participants at each location is partly due to the number of service months the site has been operational as well as the number of hours in a week the site is open to provide services. The number of months each site has been open through December 31, 2009 is as follows: Atlantic City for 15 months, Camden for 14 months, Paterson for 13 months, Newark for 12.5 months and Jersey City for 6 months. The programs vary in the number of hours per week that they provide services, with four (4) hours twice a week in Atlantic City, three (3) hours once a week in Camden, four (4) hours three days a week in Paterson, three (3) hours five days a week in Newark and 2 days per week in Jersey City.

The table below provides a demographic breakdown by age, race, gender, sexual orientation and marital status for the 4,482 SAP participants.
### Table 1. Demographics of Participants Enrolled from November 2007 through December 2009

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Total</th>
<th>% Atlantic City</th>
<th>% Camden</th>
<th>% Jersey City</th>
<th>% Newark</th>
<th>% Paterson</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25</td>
<td>835</td>
<td>18.63%</td>
<td>24.20%</td>
<td>19.55%</td>
<td>6.40%</td>
<td>16.33%</td>
</tr>
<tr>
<td>26-35</td>
<td>1192</td>
<td>26.60%</td>
<td>31.30%</td>
<td>27.43%</td>
<td>24.00%</td>
<td>24.09%</td>
</tr>
<tr>
<td>36-45</td>
<td>1312</td>
<td>29.27%</td>
<td>23.77%</td>
<td>26.34%</td>
<td>46.40%</td>
<td>34.17%</td>
</tr>
<tr>
<td>46-55</td>
<td>925</td>
<td>20.64%</td>
<td>16.92%</td>
<td>20.81%</td>
<td>16.80%</td>
<td>21.07%</td>
</tr>
<tr>
<td>56-65</td>
<td>176</td>
<td>3.93%</td>
<td>3.55%</td>
<td>3.69%</td>
<td>4.00%</td>
<td>3.93%</td>
</tr>
<tr>
<td>65+</td>
<td>10</td>
<td>0.22%</td>
<td>0</td>
<td>0.34%</td>
<td>0.80%</td>
<td>0.20%</td>
</tr>
<tr>
<td>Missing</td>
<td>32</td>
<td>0.71%</td>
<td>0.25%</td>
<td>1.85%</td>
<td>1.60%</td>
<td>0.20%</td>
</tr>
</tbody>
</table>

**N= 4482**  100%  1182  100%  1192  100%  125  100%  992  100%  988  100%

<table>
<thead>
<tr>
<th>Race</th>
<th>Total</th>
<th>% Atlantic City</th>
<th>% Camden</th>
<th>% Jersey City</th>
<th>% Newark</th>
<th>% Paterson</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>2346</td>
<td>52.34%</td>
<td>69.12%</td>
<td>56.88%</td>
<td>36.80%</td>
<td>34.88%</td>
</tr>
<tr>
<td>Black</td>
<td>1087</td>
<td>24.25%</td>
<td>16.07%</td>
<td>19.88%</td>
<td>47.20%</td>
<td>35.58%</td>
</tr>
<tr>
<td>Latino</td>
<td>755</td>
<td>16.85%</td>
<td>11.84%</td>
<td>14.01%</td>
<td>9.60%</td>
<td>20.87%</td>
</tr>
<tr>
<td>Other</td>
<td>102</td>
<td>2.28%</td>
<td>1.44%</td>
<td>4.19%</td>
<td>3.20%</td>
<td>3.20%</td>
</tr>
<tr>
<td>Refuse</td>
<td>192</td>
<td>4.28%</td>
<td>1.52%</td>
<td>50</td>
<td>3.20%</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

**N= 4482**  100%  1182  100%  1192  100%  125  100%  992  65%  988  100%

<table>
<thead>
<tr>
<th>Gender</th>
<th>Total</th>
<th>% Atlantic City</th>
<th>% Camden</th>
<th>% Jersey City</th>
<th>% Newark</th>
<th>% Paterson</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>1437</td>
<td>32.06%</td>
<td>32.40%</td>
<td>31.46%</td>
<td>32.00%</td>
<td>33.57%</td>
</tr>
<tr>
<td>Male</td>
<td>2992</td>
<td>66.76%</td>
<td>67.09%</td>
<td>66.19%</td>
<td>63.20%</td>
<td>65.63%</td>
</tr>
<tr>
<td>Refused</td>
<td>4</td>
<td>0.09%</td>
<td>0.08%</td>
<td>0.25%</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Transgender: female to male</td>
<td>3</td>
<td>0.07%</td>
<td>0.08%</td>
<td>0</td>
<td>0.00%</td>
<td>1</td>
</tr>
<tr>
<td>Transgender: male to female</td>
<td>11</td>
<td>0.25%</td>
<td>0.08%</td>
<td>3</td>
<td>0.25%</td>
<td>3</td>
</tr>
</tbody>
</table>

**N= 4482**  100%  1182  100%  1192  100%  125  100%  992  100%  988  100%

<table>
<thead>
<tr>
<th>Sex Orientation</th>
<th>Total</th>
<th>% Atlantic City</th>
<th>% Camden</th>
<th>% Jersey City</th>
<th>% Newark</th>
<th>% Paterson</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bisexual</td>
<td>244</td>
<td>5.44%</td>
<td>3.13%</td>
<td>7.05%</td>
<td>15.20%</td>
<td>5.14%</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>4087</td>
<td>91.19%</td>
<td>93.65%</td>
<td>88.09%</td>
<td>78.40%</td>
<td>92.64%</td>
</tr>
<tr>
<td>Homosexual</td>
<td>86</td>
<td>1.92%</td>
<td>2.62%</td>
<td>1.26%</td>
<td>2.40%</td>
<td>1.81%</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>0.11%</td>
<td>0.08%</td>
<td>0.17%</td>
<td>1.60%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Refused</td>
<td>20</td>
<td>0.45%</td>
<td>0.08%</td>
<td>1.51%</td>
<td>0.80%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Missing</td>
<td>40</td>
<td>0.89%</td>
<td>0.42%</td>
<td>1.93%</td>
<td>1.60%</td>
<td>0.40%</td>
</tr>
</tbody>
</table>

**N= 4482**  100%  1182  100%  1192  100%  125  100%  992  100%  988  100%

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Total</th>
<th>% Atlantic City</th>
<th>% Camden</th>
<th>% Jersey City</th>
<th>% Newark</th>
<th>% Paterson</th>
</tr>
</thead>
<tbody>
<tr>
<td>Divorced</td>
<td>534</td>
<td>11.91%</td>
<td>12.18%</td>
<td>10.65%</td>
<td>10.40%</td>
<td>12.10%</td>
</tr>
<tr>
<td>Separated</td>
<td>284</td>
<td>6.34%</td>
<td>6.85%</td>
<td>7.13%</td>
<td>8.80%</td>
<td>5.04%</td>
</tr>
<tr>
<td>Married</td>
<td>420</td>
<td>9.37%</td>
<td>8.88%</td>
<td>10.40%</td>
<td>10.40%</td>
<td>10.48%</td>
</tr>
<tr>
<td>Never Married</td>
<td>3089</td>
<td>68.92%</td>
<td>70.56%</td>
<td>66.86%</td>
<td>63.20%</td>
<td>68.55%</td>
</tr>
<tr>
<td>Refused</td>
<td>13</td>
<td>0.29%</td>
<td>0.25%</td>
<td>0.67%</td>
<td>1.00%</td>
<td>3.63%</td>
</tr>
<tr>
<td>Widowed</td>
<td>109</td>
<td>2.43%</td>
<td>1.02%</td>
<td>2.43%</td>
<td>4.80%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Missing</td>
<td>33</td>
<td>0.74%</td>
<td>0.25%</td>
<td>1.85%</td>
<td>1.60%</td>
<td>0.20%</td>
</tr>
</tbody>
</table>

**N= 4482**  100%  1182  100%  1192  100%  125  100%  992  100%  988  100%
The majority of participants in the five sites combined were White (52.3%), followed by African American (24.25%), and Latino (16.85%). Racial distribution varied by site, with participants identifying themselves as White enrolling more frequently in Atlantic City, Camden, and Paterson and African Americans enrolling more frequently in Newark. Participants who identified themselves as Latino enrolled in all four-program sites, with Paterson and Newark having higher Latino enrollments. Despite the fact that African Americans represent the majority of the Atlantic City (38%), Camden (48.5%), and Newark (51.2%) populations, only 16% in Atlantic City, 19.8% in Camden, 35.5% in Newark SAP and 26% in Paterson participants identified themselves as African Americans. Various reports including the National Survey on Drug Use and Health indicate that Whites are twice as likely as African Americans to be injection drug users (NSDUH, 2007; Armstrong, 2007). In the source population of injection drug users, Whites are expected to be twice the number of African Americans. However, the percentage of Whites who were enrolled in Atlantic City (52%) and Camden (56.8%) SAPs were more than twice the percentage of African Americans in Atlantic City (16%) and Camden (19.8%).

In general, more males than females participated in the SAP (66.7% versus 32%). This gender distribution for the four program sites follows the national male to female ratio of 2:1 for injection drug users (IDUs)(reference; NSDUH, 2007).

The age group of 18 to 25 was over represented in Atlantic City (18.6%) and Camden (19.5%). Rates of HCV infection are four times higher in young injection drug users than rates of HIV infection, and after five years of injecting, as many as 90% of IDUs are infected with HCV. The SAPs have an opportunity for early interventions including sterile injection equipment and referral to drug treatment, thereby enhancing the ability to prevent disease transmission.

2. Number of exchanged syringes and needles by SAP participants and the disposal of syringes and needles that are not returned by SAP participants.

The five SAPs dispensed 706,568 syringes. To date, 295,736 have been returned to the SAPs. Another 28,390 were properly disposed of in puncture proof medical waste (sharps) containers provided to participants by the SAPs in the regular trash as prescribed by New Jersey law. As an additional means to monitor proper syringe disposal, quarterly street counts of discarded syringes in each SAP municipality were conducted through systematic, repeated street surveys. In three of the four cities, the street sweeps found a reduced numbers of syringes. The numbers of syringes returned to the SAPs and the proper disposition of unreturned syringes, in conjunction with stable or decreased numbers of discarded syringes on the streets before and after the opening of SAPs, support that SAPs have not been associated with an increase in discarded syringes on streets. This finding is consistent with research on disposal of syringes in other states after the implementation of syringe access programs.

Within the harm reduction frame, public health agencies are responsible for addressing the problems associated with illicit drug use. Within a frame of reducing transmission of a fatal blood-borne disease, it is appropriate to provide standard infection control procedures for all hypodermic injections, including the use of sterile needles and syringes and the safe disposal of used injection equipment. This applies to injections in medical facilities, home injections (e.g., diabetics), injections by traditional healers (e.g., herbalists, shamans), and injections by psychoactive drug users. Within an infectious disease prevention/harm reduction policy frame, providing sterile injection equipment and properly disposing of used injection equipment are necessary public health measures. It is also estimated that at least 4,000,000 syringes/needles are dispensed annually to patients by public payers such as Medicaid, PAAD and General Assistance. While these payers may provide information about standard infection control procedures and proper disposal, they do not provide (as do the SAPs) the resources required to properly dispose of used syringes.
1) **Disposal of Syringes and Needles that are Not Returned by Participants:** Two approaches were utilized to evaluate the impact of SAPs on syringe disposal: a) surveying of SAP participants about their syringe disposal practices; and b) conducting systematic, repeat surveys of discarded syringes on the streets in high drug use areas in SAP municipalities.

   a) **Surveying of SAP Participants about their Syringe Disposal Practices:** Under New Jersey law, “home generators” of used syringes such as diabetics or other individuals who use injectable medications may dispose of them either by taking them to a disposal site such as a hospital that accepts used syringes or placing them in the trash in puncture proof containers such as medical “sharps” containers or other laundry detergent bottles. Syringe access programs provide an additional location for the proper disposal of syringes. The New Jersey SAPs also provide education to participants on the proper disposal of syringes which are not disposed of at the SAPs and provide them with sharps containers in which to dispose of their syringes.

   b) **Secondary Exchangers:** Secondary exchangers are SAP participants who exchange clean syringes for themselves and at the same time for other IDUs who are not participants of SAPs (e.g. sexual partners, family members). Secondary exchangers pick up syringes and needles at each visit, and the number of IDUs they are exchanging for may vary from visit to visit. Because of this variation by visits, for each secondary exchanger the maximum number of IDUs he/she is exchanging for from all visit surveys was retained. The sum of the maximum number of IDUs across each exchanger provided the total number of non-SAP participant IDUs who are receiving clean syringes and needles through secondary exchangers. In all program sites combined, secondary exchangers picked up clean syringes and needles for a total of 1,324 non-SAP participant IDUs. The Camden program site had the highest number of non-SAP participant IDUs who received clean syringes through secondary exchangers. This is a likely explanation for the highest number of syringes dispensed and the lowest number of returned used syringes by the Camden program site. In addition, the Camden SAP has the most limited hours of operation of the five SAPs (three hours a week) making it difficult for participants to attend regularly and return used syringes.

   c) **Systematic, Repeat Street Surveys of Discarded Syringes:** To evaluate the impact of the SAPs on syringe and needle disposal, the evaluation team performed quarterly street counts of discarded syringes in each SAP municipality. The street counts were performed in high drug use areas, and to increase the accuracy of the data, street counts were performed twice on the same street and then the average was calculated.

In **Atlantic City**, the average number of discarded syringes in high drug use streets was 17.5 before the SAP began. The subsequent quarter counts were: 14 in the first quarter, 9 in the second quarter, 13 in the third quarter, and 11.5 in the fourth quarter. In **Camden**, the average number of discarded syringes in high drug use streets was 26.5 before the SAP began. The subsequent quarter counts were: 17 in the first quarter, 19.7 in the second quarter, 15.5 in the third quarter, and 21.2 in the fourth quarter. In **Paterson**, the average number of discarded syringes in high drug use streets was 8.5 before the SAP began. The subsequent quarter counts were: 3 in the first quarter, 2.5 in the second quarter, 3.7 in the third quarter, and 4 in the fourth quarter. In **Newark**, the average number of discarded syringes in high drug use streets was 1.5 before the SAP began. The subsequent quarter counts were: 3 in the first quarter, 8 in the second quarter, 3 in the third quarter, and 3.5 in the fourth quarter.

Syringe count as a means of assessing impact is a rough measure and at best gives low baselines and relatively small increases (Newark) and decreases. What is important is that these numbers do show that
locating the SEP in areas of high drug usage does not negatively impact the community. These systematic repeat surveys of discarded syringes on the streets in high drug use areas revealed that the number of discarded syringes on the streets of SAP municipalities decreased in three of the four cities.

The return of syringes to the SAPs and the proper disposition of unreturned syringes, in conjunction with the stable number of discarded syringes on the streets, support that the opening of SAPs have not been associated with an increase in discarded syringes on streets. This finding is consistent with research from other states that found stable or decreased numbers of improperly discarded syringes associated with the opening of syringe access programs.17

3. Number of consumers in the New Jersey Syringe Access Program who participated in drug abuse treatment programs.

Table 3 describes drug treatment referrals and treatment admissions. The New Jersey SAPs provided IDUs with a direct linkage to drug treatment programs through referrals. The data for treatment referrals were subject to an audit in April 2009. The adjusted figures represent drug treatment referrals from the inception of the program through December 31, 2009. Of the 4,484 SAP participants, 2043 (46%) were referred to drug treatment and of this total, 998 (49%) SAP participants have been admitted to treatment. It is important to note that non SAP participants also benefited from the Needle Exchange Treatment Initiative (NETI) established by the Department of Human Services, Division of Addiction Services (DHS-DAS), NETI admissions were from the six (6) drug treatment sites. The five (5) pilot NETI sites referring to the five (5) SAPs are Atlantic City, Camden, Newark, Paterson and Plainfield.

Table 3 also describes drug treatment referrals by city and by percent of success. Nine hundred and ninety-eight (998) SAP participants were successfully enrolled in the drug treatment program. Additionally, the Division of Addiction Services implemented a voucher program and activity has increased steadily, doubling between March and April. As of December 31, 2009, 175 vouchers have been issued to a total of 66 unduplicated clients. The demographics of the NETI admissions are as follows: male 61%, female 39%, African American 44%, White 34%, Hispanic 20%, other 1%.

Table 3 Drug Treatment Referrals and Successful Treatment Admissions

These referral numbers are expected to increase with full implementation of the expanded treatment access program and the implementation of strategies to better coordinate services. The success of the programs in linking IDUs with drug treatment is consistent with research on syringe access programs as bridges to drug treatment.18
4. Adequacy of the number of drug treatment program slots available to meet the treatment needs of persons who have been referred to drug abuse treatment programs by the SAPs.

The DAS launched the NETI Provider Network in November 2008. In November and December 2008, DAS trained all contracted and network providers on how to access services through the “voucher” program. DAS has revised the NETI program eligibility criteria to ensure that all individuals who qualify under the legislated program requirements can access these services. Providers began to request vouchers in late December 2008. Voucher activity has increased steadily, doubling between March and April 2009. As of December 31, 2009, 175 vouchers have been issued to a total of 66 unduplicated clients.

Currently there are 19 outpatient sites and nine residential sites participating in the NETI Provider Network providing detoxification, long-term, short-term, and halfway house residential services, as well as intensive outpatient and outpatient services. Methadone treatment capacity has increased by 930 treatment slots (methadone and suboxone SAP cities, Atlantic City, Camden, Paterson, and Newark). The total net gain in treatment availability is 930 treatment slots attempting to meet the immediate demand for treatment. Increased drug treatment demand is expected as the SAPs expand and enhance their services. DHAS is hopeful that funding will increase in proportion to the need. This net gain has been instrumental in establishing “treatment on demand,” a model where clients are immediately enrolled into treatment.

The net gain of 930 methadone treatment slots fell short of the demand as evidenced by the SAPs 2043 referrals to drug treatment. This is not surprising and also experienced in other cities such as San Francisco, where the syringe exchange has proven itself to act as a conduit for treatment, creating a demand, thereby negating the gains made by funding new slots. The Division of HIV/AIDS Services increased capacity in two Patient Incentive Programs (PIPs) adding 50 methadone slots in Atlantic City and 35 in Newark in an effort to ease some of the stress on demand.

The Harm Reduction Coalition Research Update released in August of 2008 stated that unstably housed IDUs were twice as likely to report syringe sharing as stably housed IDUs participating in SAPs. DAS responded with an innovative supportive housing program that provides a cost-effective combination of affordable housing with services that help people live more stable, productive lives. It offers permanent housing with services that work for individuals and families who face complex challenges such as homelessness and/or have serious and persistent issues such as substance use, mental illness, and HIV/AIDS. The Supportive Housing Program provides an opportunity for 62 SAP participants and their children/families in Atlantic and Camden counties to stabilize their housing.

5. Determine the number of consumers in the New Jersey SAPs who benefited from counseling and referral to programs and entities that are relevant to their health, housing, social service, employment and other needs.

Pregnant SAP Participants: Camden reports ten pregnant SAP participants were successfully admitted to drug treatment. Three women have since given birth to healthy babies and are now living in supportive housing.

Housing Referrals: Through the DAS Supportive Housing Program, there have been forty successful housing placements from the inception of the SAP to December 31, 2009. Camden Supportive Housing reports that 20 of the 33 (64%) housing referrals were from the SAP. Camden Supportive Housing also reports that 100% of those housed are stabilized. DAS also reports that there were nine successful SAP participants in Atlantic City.
Seven mothers and their children are in various stages of reunification and one female SAP participant avoided losing her children as a result of acquiring housing through the NETI Supportive Housing Program.

**Employment Services:** In general, over 80% of participants were unemployed at enrollment into SAPs. There is little variation in the percentage of unemployed SAP participants by program site: Camden (83.2%), Paterson (82.4%), Newark (80.7%), and Atlantic City (76.1%). A total of 284 employment referrals were given to interested SAP participants at all four program sites (69.4% in Newark, 22.2% in Atlantic City, 7.0% in Camden, and 1.4% in Paterson).

**Health Services:** To measure the impact of SAPs on referral to health services, enrollment and 12-month data was collected on sample SAP participants who agreed to participate in HIV, HBV, and HCV testing. Enrollment data is available on 382 sample participants and 12-month data is available on 21 participants. The small number of data points at 12 months is because of staggered enrollment of participants into the program. The majority of participants at enrollment obtained their usual care from a private doctor (31.4%), followed by the emergency room (22.9%), and a community based or public clinic (18.1%). The 12-month data is currently too small to make a valid comparison.

6. **Determine if there is any increase or decrease in the spread of HIV, hepatitis C and other blood-borne pathogens that may be transmitted by the use of contaminated syringes and needles.**

There is extensive national and worldwide research supporting the effectiveness of syringe access programs in reducing the spread of HIV while not increasing drug use. These conclusions are based on long-term, longitudinal studies. Such large scale, long-term research was not feasible for this report. The evaluation did test a total of 382 sample participants at enrollment to determine disease prevalence. Of this group, 46.00% tested positive for hepatitis C, 31.00% tested positive for hepatitis B, and 11.00% tested positive for HIV, indicating that the programs are reaching a high-risk population in need of enhanced HIV prevention interventions.

### Identifying New Cases of HIV, HCV, HBV Infections

<table>
<thead>
<tr>
<th>CITY</th>
<th>Number</th>
<th>HIV+</th>
<th>HCV+</th>
<th>HBV+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic City</td>
<td>86</td>
<td>4 (4.65%)</td>
<td>32 (37.21%)</td>
<td>17 (19.77%)</td>
</tr>
<tr>
<td>Camden</td>
<td>87</td>
<td>4 (4.60%)</td>
<td>48 (55.17%)</td>
<td>30 (34.48%)</td>
</tr>
<tr>
<td>Paterson</td>
<td>81</td>
<td>7 (8.64%)</td>
<td>43 (53.09%)</td>
<td>34 (41.98%)</td>
</tr>
<tr>
<td>Newark</td>
<td>76</td>
<td>21 (27.63%)</td>
<td>29 (38.16%)</td>
<td>20 (26.32%)</td>
</tr>
</tbody>
</table>

7. **Consult with local law enforcement authorities regarding the impact of the New Jersey SAP on the rate and volume of crime in the affected municipalities.**

The evaluation examined crime reports from police departments in each SAP municipality. The reports indicate no increase in crime as measured by drug related criminal arrests since SAPs began. The rate of criminal activity remained unchanged before and after the SAP started. This finding is consistent with research from other states that found no increase in crime associated with syringe access programs. The arrest data (rate per 10,000 populations) for each program city was reviewed separately. They include data over time (2007 through 2008 for sale of drugs, possession of drugs, robbery, larceny, aggravated assault and simple assault. The evaluation examined crime reports from police departments in each SAP municipality. The reports indicate no increase in crime as measured by drug related criminal arrests since
SAPs began. The rate of criminal activity remained unchanged before and after the SAP started. This finding is consistent with research from other states that found no increase in crime associated with syringe access programs.21

8. To obtain data from public safety and emergency medical services providers statewide regarding the incidence and location of needle stick injuries to their personnel.

The evaluation team attempted to gather data on needle stick injuries in sanitation, law enforcement, and emergency medical services (EMS) workers. Various state and local sources were contacted including the New Jersey Center for Health Statistics, the Public Employees Occupational Safety and Health Program, the Office of Occupational Health Services, and the Office of Emergency Medical Services within the DHSS as well as the New Jersey Department of Labor and Workforce Development/Workers’ Compensation Office.

9. To monitor the community image of the New Jersey SAPs and identify unanticipated effects of SAPs on the community.

An initial series of in-depth semi-structured interviews with key individuals in each of the communities surrounding the selected SAP sites were conducted during the first year of operation. In-person interviews were completed with nine individuals in Atlantic City, five in Camden, eight in Paterson and eight in Newark for a total of 30 interviews. Most stakeholders classified themselves as representing a community-based organization (35%). Twenty-three percent represented the city government (23%), twenty-one percent represented faith-based organizations (21%), ten percent were from the criminal justice system (10%) and ten percent were health care providers (10%).

Poverty, unemployment, crime, and the failing educational system were described most often by stakeholders as the most important issues facing cities. Most stakeholders viewed the SAPs as having a positive impact on the community—in terms of improving the health and quality of life for IDUs. They generally felt that in the long-term they would lower HIV/AIDS and hepatitis C rates and increase rates of drug treatment. They generally saw the programs as having a positive impact on the economy. They were concerned about the lack of funding for the programs, problems recruiting IDUs, and possible problems with discarded needles. They felt the community was accepting of the programs but resistance continued from the faith-based community, the police and local government. They attributed the lack of acceptance to a general lack of understanding about the programs. Stakeholders had mixed views about the need to maintain a low profile versus pushing for a greater focus on the SAPs in order to educate the general public.

In addition to the qualitative data gathered in the first round of interviews, stakeholders were also asked to complete a short survey prior to the start of the interview. In the first series of questions, stakeholders were asked to rate various problems in terms of their seriousness for their city. Stakeholders were also asked to rate the impact of various program efforts to address city problems. When stakeholders are re-interviewed, they will be asked to complete the survey again. Change in trends over time will be examined. The majority of stakeholders identified substance abuse as the “most important” problem in the city, and adequacy of fire protection was identified by the greatest number of stakeholders as being the “least important” problem impacting residents.

The evaluation methodology for the SAP is provided in Attachment 4. The evaluation methodology discusses enrollment, returned and properly disposed syringes and limitations of the demonstration project.
REFERENCES

1 Health and Human Services Agency (HHSA) (2004). Personal communication.


4 National Institute of Allergy and Infectious Diseases, the National Institute on Drug Abuse, and the Agency for Healthcare Research and Quality, Lifetime Cost And Life Expectancy For Current HIV Care In The U.S. Nov 2006.


6 Health and Human Services Agency (HHSA) (2004). Personal communication.

7 NIDA Notes, Facts About Drug Use and Hepatitis C, Volume 15, Number 1, March 2008.


13 Ibid


