

NEEDLE EXCHANGE PROGRAM (NEP)

What Is the Needle Exchange Program ?

- * It is a program sponsored by the City of New Haven's Health Department, AIDS Division
- * It Is LEGAL
- * It Is FREE
- * It Is ANONYMOUS (No names or addresses taken)



Who Will the Program Help ?

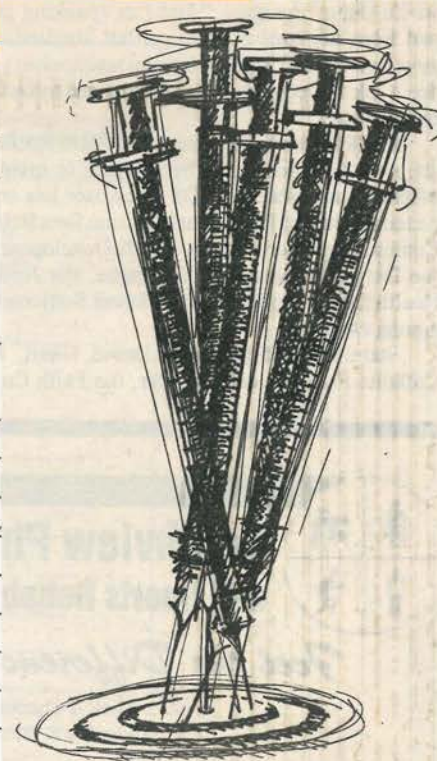
Any person who is an active intravenous drug user.



Hypothetical Needle Tracking Log

DATE: 8/21/91 LOCATION: HILL

SYRINGE #:	PROGRAM CODE NAME
12437	STREETCAT
12438	STREETCAT
12439	JAZZ (NEW CLIENT)
12440	ATTICA
12441	ATTICA
12442	BLUE THUNDER
12443	BLUE THUNDER
12444	BLUE THUNDER
12445	BLUE THUNDER
12446	TIRED
12447	TIRED
12448	DOWNTOWN
12449	DOWNTOWN
12450	DOWNTOWN



When Returned

1. Take cannister with returns
2. Write code name, date & location on cannister
3. Goes to Yale

NEEDLE EXCHANGE PROGRAM PARTICIPANT
NEW HAVEN HEALTH DEPARTMENT

I.D. STREETCAT

Telephone
787-8709

540 Ella Grasso Blvd.
New Haven, CT 06511

Let the Needles do the Talking

Edward Kaplan, Yale University

PUBLIC ACT NO. 90-214

AN ACT CONCERNING A DEMONSTRATION NEEDLE AND SYRINGE EXCHANGE PROGRAM.

Section 1. Subsection (a) of section 21a-65 of the general statutes is repealed and the following is substituted in lieu thereof:

(a) A licensed manufacturer or licensed wholesaler may sell hypodermic needles and syringes without the prescription of a practitioner, as defined in section 20-184a, only to the following: (1) To a licensed manufacturer, licensed wholesaler or licensed pharmacy; (2) to a physician, osteopath, dentist, veterinarian, embalmer, podiatrist or scientific investigator licensed to practice his profession in this state; (3) to a person in charge of a care-giving institution, as defined in section 21a-301, incorporated college or scientific institution, but only for use by or in such care-giving institution, college or institution for medical or scientific purposes; (4) to a person in charge of a licensed or registered laboratory, but only for use in that laboratory for scientific and medical purposes; (5) to a farmer but only for use on his own animals or poultry; (6) to a business authorized in accordance with the regulations adopted under section 21a-66 to purchase hypodermic needles and syringes but only for legitimate industrial or medical use within that business AND (7) TO THE NEEDLE AND SYRINGE EXCHANGE PROGRAM ESTABLISHED PURSUANT TO SECTION 3 OF THIS ACT.

Sec. 2. Section 21a-267 of the general statutes, as amended by section 3 of public act 89-256, is repealed and the following is substituted in lieu thereof:

(a) No person shall use or possess with intent to use drug paraphernalia, as defined in subdivision (20) of section 21a-240, to plant, propagate, cultivate, grow, harvest, manufacture, compound, convert, produce, process, prepare, test, analyze, pack, repack, store, contain or conceal, or to inject, ingest, inhale or otherwise to plant, propagate, cultivate, grow, harvest, manufacture, compound, convert, produce, process, prepare, test, analyze, pack, repack, store, contain or conceal, or to inject, ingest, inhale or otherwise introduce into the human body, any controlled substance as defined in subdivision (9) of section 21a-240. Any person who violates any provision of this subsection shall be guilty of a class C misdemeanor.

(b) No person shall deliver, possess with intent to deliver or manufacture with intent to deliver drug paraphernalia knowing, or under circumstances where one reasonably should know, that it will be used to plant, propagate, cultivate, grow, harvest, manufacture, compound, convert, produce, process, prepare, test, analyze, pack, repack, store, contain or conceal, or to inject, ingest, inhale or otherwise introduce into the human body, any controlled substance. Any person who violates any provision of this subsection shall be guilty of a class A misdemeanor.

(c) Any person who violates subsection (a) or (b) of this section in or on, or within one thousand feet of, the real property comprising a public or private elementary or secondary school and who is not enrolled as a student in such school shall be imprisoned for a term of one year which shall not be suspended and shall be in addition and consecutive to any term of imprisonment imposed for violation of subsection (a) or (b) of this section.

(d) THE PROVISIONS OF SUBSECTIONS (a) AND (b) OF THIS SECTION SHALL NOT APPLY TO THE POSSESSION OR DELIVERY OF NEEDLES AND SYRINGES AS PART OF THE DEMONSTRATION NEEDLE AND SYRINGE EXCHANGE PROGRAM ESTABLISHED PURSUANT TO SECTION 3 OF THIS ACT.

Sec. 3. (a) On or before October 1, 1990, the department of health services shall establish a demonstration needle and syringe exchange program in the health department of the city having the highest incidence of acquired immunodeficiency virus or AIDS related complex among intravenous drug users. The department shall establish with the assistance of the health department of the city selected for the demonstration program, protocols in accordance with the provisions of subsection (b) of this section. The department and the city health department shall evaluate the effectiveness of the program based on the criteria specified in subsection (c) of this section.

(b) The demonstration program shall (1) be incorporated into existing acquired immunodeficiency syndrome prevention and outreach projects in the selected city, (2) provide for free and anonymous exchanges of needles and syringes and provide that program participants receive an equal number of needles and syringes for those returned, up to a cap of five syringes per exchange, (3) require all needles and syringes distributed to be marked and checked for return rates and (4) offer education on the transmission of the human immunodeficiency virus and prevention measures and assist program participants in obtaining drug treatment services.

(c) The demonstration program shall include an evaluation component to monitor (1) return rates of needles and syringes distributed, (2) behavioral change of program participants, such as needle sharing and the use of condoms, (3) program participation rates and the number of participants who are motivated to enter treatment as a result of the program and the status of their treatment and (4) the incidence of intravenous drug use to see if there is a change as a result of the program.

(d) The health department of the city selected for the demonstration needle and syringe exchange program shall submit a report evaluating the effectiveness of the program to the department of health services and the joint standing committees of the general assembly having cognizance of matters relating to public health and appropriations and the budgets of state agencies.

Sec. 4. The sum of twenty-five thousand dollars is appropriated to the department of health services, for the fiscal year ending June 30, 1991, from the sum appropriated to the finance advisory committee under section 1 of special act 90-18, for 1990 acts without appropriations, for the purposes of section 3 of this act.

Sec. 5. This act shall take effect July 1, 1990.

REVIEWS OF INFECTIOUS DISEASES • VOL. 11, NO. 2 • MARCH-APRIL 1989
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Needles That Kill: Modeling Human Immunodeficiency Virus Transmission via Shared Drug Injection Equipment in Shooting Galleries

Edward H. Kaplan

From the Yale School of Organization and Management,
New Haven, Connecticut

Case notification data from the U.S. Centers for Disease Control imply that AIDS has spread rapidly among intravenous drug users in the northeastern United States. These data determine a doubling time for AIDS cases of 5-6 months for this population early in the epidemic. A new mathematical model of transmission of human immunodeficiency virus (HIV) via shared drug injection equipment in "shooting galleries" is developed to understand the rapid spread of HIV and AIDS among drug users. The model depends on quantities such as rates of sharing injection equipment, the ratio of addicts to injection equipment in the population, the infectivity of HIV transmitted by shared injection equipment, the likelihood that infectious equipment is "flushed" by the blood of an uninfected user, and the duration of needle-sharing activity by HIV-infected addicts. The model is extended to incorporate the impact of cleansing or bleaching of injection equipment. Also, the model is reformulated to account for the inactivation of HIV infectiousness over time. The models demonstrate that policies such as the distribution of cleansing solutions and/or injection equipment among drug addicts could slow or stop the intravenous transmission of HIV in shooting galleries.

**NEW HAVEN HEALTH DEPARTMENT
NEEDLE EXCHANGE SCHEDULE**

THE POINT IS TO SAVE LIVES

EL PUNTO ES SALVAR VIDAS

TELEPHONE
787-8709

540 Ella Grasso Blvd.
New Haven, CT 06511

CHRIS, DOMINICK, GEORGE, MICHAEL, SONIA

**THE NEEDLE EXCHANGE OPERATES ON
MONDAY, TUESDAY, THURSDAY AND FRIDAY**

Place: Hill Area (Congress and Arch)
Time: 11:00 A.M. - 1:00 P.M.

Place: Dixwell (Dixwell and Admiral)
Time: 3:10 P.M. - 4:00 P.M.

Place: YMCA (Chapel and Howe)
Time: 2:00 P.M. - 2:30 P.M.

Place: Fair Haven (Clay and Blatchley)
Time: 4:15 P.M. - 5:00 P.M.

Place: Newhallville (Shelton and Hazel)
Time: 2:40 P.M. - 3:00 P.M.

NOTE: WE ARE CLOSED FROM 1:00 P.M. TO 2:00 P.M.

New Haven Sends Needles Into the Battle Against AIDS

By ANDI RIERDEN

SONIA LUGO said the drug addicts were already waiting when she and two colleagues drove into the Hill section of New Haven the other day. While her two co-workers, Arthur Stewart and Dominick Maldonado, set up supplies in the back of their blue van, Ms. Lugo said, she walked down the street looking for new clients.

Before long, people began lining up to receive their condoms, hypodermic needles and packets of bleach. Mr. Stewart, meanwhile, counseled each one about ways to avoid contracting or transmitting sexual diseases and where to seek drug treatment. After the people dispersed, the three outreach workers drove to the Fair Haven section and repeated the process.

"We're on a rescue mission, all right," Ms. Lugo said recently as she and her colleagues restocked their van outside the office of the New Haven Health Department's AIDS division.

The mission began on Nov. 13, when the city started its needle-exchange program. It is intended to help reduce the spread of the AIDS virus by providing clean needles to intravenous drug users, who transmit the disease by sharing needles. It also aims to curb the city's drug-abuse rate by assisting addicts who wish to enter treatment programs.

Assistance From Yale

Last spring, the legislature granted the pilot project an exemption from the state law that forbids the distribution of hypodermic needles without a prescription. The lawmakers have earmarked \$25,000 for the program's supplies, and Yale University donated the van and is providing evaluation services.

New Haven has the highest AIDS rate in the state, with some 75 percent of the city's reported cases related to intravenous drug use, said a report issued by the Mayor's Task Force on AIDS. Dr. Patricia Checko, director of immunology in the AIDS section of the State Health Services Department, said that by October, the city had 341 of 1,825 AIDS cases reported in the state since 1980, followed by Hartford, with 302 cases, and Bridgeport, with 173.

The AIDS rate in the state's three largest cities also surpasses the national average, she said. Figures show 15 AIDS cases for every 100,000 people in the United States, she said, while New Haven has 56 cases for every 100,000 residents, Hartford has 65 cases, and Bridgeport has 29.

The needle-exchange program has received wide support from state and local officials, the New Haven Police Department and Mayor John C. Daniels.

The nation's first government-sponsored needle-exchange program began in New York City in 1988. It immediately ran into a political thicket, with one City



Steve Miller for The New York Times

Dominick Maldonado, left, with Sonia Lugo and Arthur Stewart, workers for New Haven's Health Department, with the needles, condoms, and bleach they distribute to addicts.

Councilman comparing it to genocide of black and Hispanic people, who are a majority of the city's drug abusers. The program never enrolled more than about 300 people and was scrapped earlier this year by Mayor David N. Dinkins.

Mayor Daniels said that as a State Senator, he opposed needle-exchange programs for fear they would encourage drug abuse. But he changed his mind, he said, after he was elected Mayor in 1989.

"This disease is running rampant," he said. "The city has one of the highest AIDS rates per capita in the country, and we have to do everything we can to stop it and its devastating effects." He said he has received dozens of phone calls from officials in cities throughout the nation asking about the program.

Opponents say that the pilot project is merely a

Needle exchanges may be putting dent in spread of AIDS

By Adrienne C. Hedgspeth
Register Staff

NEW HAVEN — The city's controversial needle exchange program appears to be curbing the spread of AIDS among intravenous drug users, officials say.

Health Department officials plan to report today several promising indicators in the 8-month-old pilot program. For one, more than half the needles returned by drug users between November and February tested positive for AIDS contamination and could have spread the virus if they had been shared.

While health officials say it's too early to prove whether the program slows the spread of AIDS, state and national health experts are keeping a close eye on New Haven to see if passing out clean needles to drug addicts does more good than harm.

During its first six months, the program attracted more than 700 participants, more than twice the projections. From November 1990 to May 1991, 161 people requested treatment, and 93 were enrolled in some type of program, a preliminary report says.

The \$25,000 state-funded needle exchange program operates out of a van donated by Yale University. Equipped with small plastic bottles of bleach, clean needles, condoms and a staff of Health Department outreach workers, the van travels four days a week to neighborhoods hit hardest by AIDS.

Turn to AIDS, Page 11

The health department's preliminary report notes that researchers at the Yale School of Medicine completed AIDS virus tests on 664 needles collected from 108 clients. Another 48 syringes were retrieved from a local "shooting gallery," a gathering place for addicts.

Almost 92 percent of the shooting gallery needles tested HIV positive, compared with 67.5 percent of needles brought in from the streets outside the program and 52.4 percent of those returned through the program.

According to the mathematical model created for the program, the data indicate the program is already reducing the growth rate of AIDS infection by 33 percent.

As of June, New Haven continued to have the largest number of AIDS cases in the state, with 389 adult and 23 pediatric cases reported. The majority are black and Hispanic, and officials say the majority are intravenous drug users.

NH Advocate
7-25-91

Khadi Lunn

THIS WEEK In New Haven

AIDS: A Ray of Hope?

Nascent needle-exchange may be reducing spread of disease among drug users

Since New Haven started a model needle-exchange program (NEP) last November, it appears to have succeeded in reducing the spread of AIDS among intravenous drug users, the disease's most likely victims here.

That finding—which city officials plan to release at a press conference next week—comes from a Yale research team's evaluation of blood collected from needles used by drug addicts, the first time such a study has been done, according to the researcher analyzing the data, Robert Heimer.

Heimer says it's too early to say definitively that the NEP works, since to date he has analyzed the blood in only 700 of the 5,500 needles turned in, which is half of those distributed. But after the first three months he said preliminary data predicted a 40 to 50 percent decrease in the number of new AIDS cases among IV drug users in the first year of the NEP.

May 1991 figures show 224 addicts in New Haven with full-blown AIDS, which is 56 percent of the city's total.

Because possession of a hypodermic needle without a prescription is illegal in Connecticut, the city needed a waiver from the General Assembly to conduct its pilot program. It got that last year, along with \$25,000.

"The program design is based on the premise that IV drug users *do* care about preserving their lives and *will* take action to protect themselves and others against AIDS if given viable options," says Elaine O'Keefe, head of the city health department's AIDS division.

The NEP operates four days a week from a van rotating to four city neighborhoods with the highest concentration of addicts. City AIDS outreach workers take a "user-friendly" non-judgmental approach, enrolling addicts anonymously and collecting demographic data and information on drug addiction history, treatment record, needle sharing and sexual practices. Each person enrolled is given one clean needle to start, and needles are exchanged on a one-for-one basis with a cap of five per visit. Though addicts are urged to use and return only those needles issued through the program, outreach workers accept other used needles as well to remove them from circulation.

Two-thirds were between the ages of 25 and 40, and almost three-quarters had been using drugs more than five years, with cocaine and heroin tied as the drugs of choice.

During the three months the addicts had been in the program, twenty-eight percent injected two or three times a day, while 26 percent injected four or more times daily; two-thirds of the respondents said they never shared needles. Of those who did share, 39 percent said they always cleaned their needles and other drug paraphernalia.

One of the most disturbing statistics was that 46 percent of those who responded said they never use condoms.

All program needles are numbered to allow for tracking in a system that was developed by Edward Kaplan, an associate professor in Yale's School of Organization and Management and head of the research team, who likens studying the AIDS epidemic by analyzing needles to studying a malaria epidemic by studying the mosquitoes.

The syringe tracking data shows when, where and to whom a needle is given, and whether and when, where and by whom it's returned. That data reveals the frequency of needle-sharing.

Heimer tests the blood by making billions of copies of the DNA (the blueprint for life found in the nucleus of each cell) taken from the white blood cells through a process called polymerase chain reaction. "This technique increases the number of copies of the specific DNA sequence, making it possible to find the needle in the haystack [the HIV virus that causes AIDS] by increasing the number of needles," says Heimer. "What we are detecting is whether a user of that syringe was infected with the virus." The technique doesn't detect the live virus and, if the needle was used by more than one person, it doesn't indicate which individual is infected. Because of that, and because participants are anonymous, no effort is made to identify or notify the infected person.

People in the city involved with the NEP, as well as the Daniels administration, which gave the program its blessing, express excitement about the results so far. They hope the NEP's success will bolster other cities' efforts to introduce similar needle-exchange programs to curb the spread of AIDS.

practicing safe sex, as well as the referrals they have made to drug treatment programs for those who are interested, although there are not nearly enough slots available for those who want treatment. As of May, 50 people were placed in programs.

The data allows researchers to determine both the prevalence—the number of IV drug users who are HIV-positive—and the incidence—the number of previously uninfected individuals who test positive for the virus.

The ground-breaking research, which Yale is providing gratis to the tune of \$100,000, is a way to "Let the needles do the talking."

Melinda Tuhus

NH Register (7-31-91)

NEW HAVEN HEALTH DEPARTMENT
DEMONSTRATION
NEEDLE EXCHANGE PROGRAM

Statistics From
The First Two Months
Of Operation

Prepared By: Ed Kaplan, Principal Investigator
January 17, 1991



Yale University Inter-Office Correspondence

TO: SOM Community
FROM: Mike Levine *he*
SUBJECT: Ed Kaplan's Elm-Ivy Award
DATE: February 28, 1991

I am proud and delighted to announce that Professor Ed Kaplan has been named as one of the New Haven Foundation's Elm and Ivy Award winners for 1990. These awards are given annually to members of the New Haven and Yale communities who have made outstanding contributions to improved relations between New Haven and Yale. Ed's assistance to the City in designing and helping to implement a clean needle program to prevent the spread of AIDS prompted the award.

This award represents distinguished efforts in fulfilling one of the SOM's strongest commitments -- to managers as contributors to public welfare -- and I know that all join me in congratulating Ed. SOM is no stranger to this award. Joel Demski won it in 1989 for uncompensated math teaching in the New Haven public school system.

MEL:lmr

Ivy Awards

Edward H. Kaplan, associate professor of policy modeling at the School of Organization and Management. Professor Kaplan developed an innovative model for evaluating the NEP, an example of how academic research can assist with a local health problem. The first in the country, his statistical model will provide data that is expected to have an impact on understanding the AIDS crisis in New Haven.

Elm-Ivy awardees

YALE WEEKLY BULLETIN
6-24 to 7-15 1991



PHOTO BY MICHAEL MARSLAND

Twelve members of the Yale and New Haven communities were honored for their charitable and volunteer efforts at the annual Elm-Ivy Awards luncheon in Woolsey Hall on May 24. The awardees are pictured here with President Benno C. Schmidt Jr. and New Haven Mayor John C. Daniels. From left to right are James Keane, student coordinator of the Yale Divinity School Social Ministry; Mark McCarren '90, who is involved with the St. Thomas More House-Brennan School Friendship Program; Edward Kaplan, an associate professor at the School of Organization and Management who works with the city's Needle Exchange Program (NEP) for drug addicts; Elaine O'Keefe, a New Haven health department staff member who is also head of operations for the NEP; Alfred Letourneau, a School of Forestry student who created a new program to discuss management of the city's parks; Sofie Turner, a staff member for Christian Community Action/New Haven Family Shelter who has coordinated Yale undergraduate volunteer activities with the shelter; William King Jr., a medical school student who works with the Adolescent Substance Abuse Program (ASAP); Beth Vest, a student who serves on the Divinity School's Social Ministry Committee; Mayor Daniels; President Schmidt; Joanna Rosen, another medical school student volunteer with ASAP; and Debra Computaro, a staff assistant at the medical school who founded an organization to fulfill the Christmas wishes of families living in homeless shelters. Also receiving awards were Frank Williams Jr., executive director of the Dixwell "Q" House; Robert Clausi, a staff member at the forestry school who organized a speaker's bureau on environmental issues; and Janet Malloy, an undergraduate involved in the Yale Hunger and Homelessness Action Project.

YALE AIDS COLLOQUIUM SERIES

*An informal and interdisciplinary academic forum for discussion of
AIDS-related research*

Institution for Social and Policy Studies
111 Prospect Street

Thursday afternoon at 4:00 p.m.

April 25, 1991

Ed Kaplan, Yale School of Organization and Management

"Evaluating Needle Exchange in New Haven:
Methods and Preliminary Results"

May 9, 1991

Sam Friedman, Narcotics and Drug Research, Inc.

"Trends in Seropositivity, Social Networks among Drug Injectors
and Strategies for Behavioral Change"

Refreshments will be provided

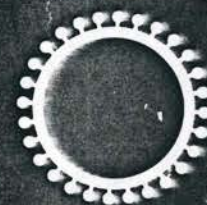
For more information please contact Paul Johnston at 432-3332

VII International Conference on AIDS Florence 16-21 June 1991

Sponsor:
ISTITUTO SUPERIORE DI SANITÀ
Rome, Italy



SCIENCE
challenging
AIDS



ABSTRACT BOOK
VOLUME 2
WEDNESDAY-THURSDAY-FRIDAY

W.C.3286

Evaluating The New Haven Needle Exchange Program (NEP)

Kaplan, Edward H. *; O'Keefe, Elaine **; Holmer, Robert ***

Yale School of Organization and Management, New Haven, CT, USA

** AIDS Division, New Haven Health Department, New Haven, CT, USA

*** Yale School of Medicine, New Haven, CT, USA

Objective: To evaluate New Haven's legal needle exchange program.

History: The high prevalence of AIDS cases among IDUs in New Haven led a coalition of health professionals, community organizers and AIDS activists to lobby for legal needle exchange. Such a law was passed by a 3-to-1 margin in the Connecticut legislature. The program has been in operation since November 13, 1990.

Methods and Operations: The program operates out of a van. At enrollment, clients choose fictitious IDs. New clients are surveyed to determine demographics and risk factors. Clients deliver any number of needles; exchange is 1 for 1 to a cap of five. Clients receive bleach kits, condoms, and counselling. All syringes distributed are coded; for each program syringe returned, we track the distribution and return dates and locations, and the ID's of the recipient and returning clients. Returned needles are tested for HIV via PCR.

Results: As of Jan. 10, 1991, results include: 242 clients have enrolled in the program (81% men, 19% women). 32.3% of the 1241 needles distributed were returned, as were 659 needles off the street. 41.7% of 228 needles returned tested HIV⁺; 37.5% of needles given to and returned by the same clients tested HIV⁺ versus 50% of needles returned by someone other than the client who received the needle. 41 clients have requested assistance to enter drug treatment; 15 have successfully done so.

Conclusions: In only two months, the program has enrolled a significant number of clients. Given that many clients are HIV⁺, we sense that the Needle Exchange is helping to keep them this way. We hope to present an estimate of HIV incidence among clients and compare this to New Haven IDU's at the conference in June.

PRELIMINARY REPORT

CITY OF NEW HAVEN

NEEDLE EXCHANGE PROGRAM

MAYOR JOHN C. DANIELS



July 31, 1991

Prepared By:

Elaine O'Keefe, AIDS Division Director, New Haven Health Department
Edward Kaplan, Yale University, School of Organization and Management,
School of Medicine, Principal Investigator

Kaveh Khoshnood, Yale University, School of Medicine,
Department of Epidemiology and Public Health, Research Assistant

Yale Study Reports Clean Needle Project Reduces AIDS Cases

By MIREYA NAVARRO

Special to The New York Times

NEW HAVEN, July 31 — A program here to give intravenous drug users new needles for old ones is helping to curb the spread of the AIDS virus, a new study says.

The study, released today by Yale University researchers, estimates that the eight-month-old needle exchange program has reduced new infections with the HIV virus, which causes AIDS, by 33 percent among participants. The sharing of contaminated needles is the major way that the virus is transmitted in New Haven, New York City and other major urban areas.

The project used a novel method to measure new infections: it tested the needles for HIV virus contamination.

The results of the study seem likely to add heat to the debate over whether needle-exchange programs that are designed to prevent AIDS encourage another ill — drug use. This argument was made by the administration of Mayor David N. Dinkins when New York City scrapped a similar program last year.

While emphasizing that their study sample was small and the results preliminary, New Haven officials hailed the results as evidence that the programs work.

"This program is not a solution to AIDS or to drug addiction," Mayor

Continued on Page B2, Column 1

NYT (8/1/91), p. A1

Clean Needles Found to Check AIDS

Continued From Page A1

John C. Daniels said. "It is one more Band-Aid, but it is a Band-Aid we cannot afford to do without."

At a news conference, Mr. Daniels, Police Chief Nicholas Pastore and state and city health officials released an evaluation of the program whose key component was the tracking of syringe needles given to addicts.

Edward H. Kaplan, an associate professor at Yale University's School of Medicine and also its School of Organization and Management, devised the tracking system, in which a number was assigned to each fresh needle and the person receiving it was identified by a code name. Program workers also recorded the date and site of the exchange.

The system, he said, allowed researchers to determine whether the person who got the needle returned the same one — or whether someone else returned it and sharing likely occurred.

By testing the needles for the presence of the HIV virus, researchers were also able to estimate the prevalence of the virus and the incidence of new infections among participants.



"This program is not a solution to AIDS or to drug addiction," said Mayor John C. Daniels of New Haven at a news conference on the needle exchange program.

The 33 percent reduction in new infections was a projection of the data using a mathematical model, Mr. Kaplan said.

In one sample of 741 needles returned between November 1990 and last March, the researchers found that 44.5 percent that were not shared tested positive for the virus, compared with 52.8 percent for those that were shared and 67.5 percent for those that originated elsewhere.

But as the program continued, the researchers found that HIV infection went down: 63 percent of the shared needles were infected in November, 51 percent in January and 26 percent in March, although Professor Kaplan said the number of tests for the most

An exchange program is hailed as 'one more Band-Aid.'

recent period was small and the figure less reliable.

The drop, he said, indicated that the needle exchange program was having an effect by replacing the number of infected needles in circulation.

Circulation of Needles Cut

"If you replace the needle, you're reducing the length of time the needle is in circulation," he said. "It is by reducing the prevalence of HIV in circulating syringes that the incidence of new infections can be reduced."

Dr. Don C. Des Jarlais, a member of the Federal Commission on AIDS and director of research at the Chemical Dependency Institute at Beth Israel Medical Center in New York City, said the New Haven findings were consistent with other studies in the United States, Europe and Australia. But he called the testing of syringes, Professor Kaplan's method to detect reduced HIV transmission, "an important advance over self-reported behavior."

Needle-exchange programs have been at the center of a debate over how to prevent AIDS among drug users. They become infected by sharing needles and can then transmit the virus through sex and pregnancy.

Eleven states, including New York and Connecticut, outlaw the sale or possession of hypodermic needles without a prescription, and advocates of people with AIDS have repeatedly been arrested for openly defying the law by distributing clean needles. The New Haven program was authorized by spe-

cial state legislation.

The advocates, who often win acquittals in court, argue that they are saving lives. But opponents of the programs argue, as Mayor Dinkins did in New York when he eliminated the first government-sponsored needle exchange in the nation, that to distribute needles is "to surrender" to drug abuse.

Needle-exchange programs are presently in operation in Hawaii; Portland, Ore.; Seattle and Boulder, Colo. In New Haven four workers from the city's health department distribute kits containing needles, bleach to sterilize the

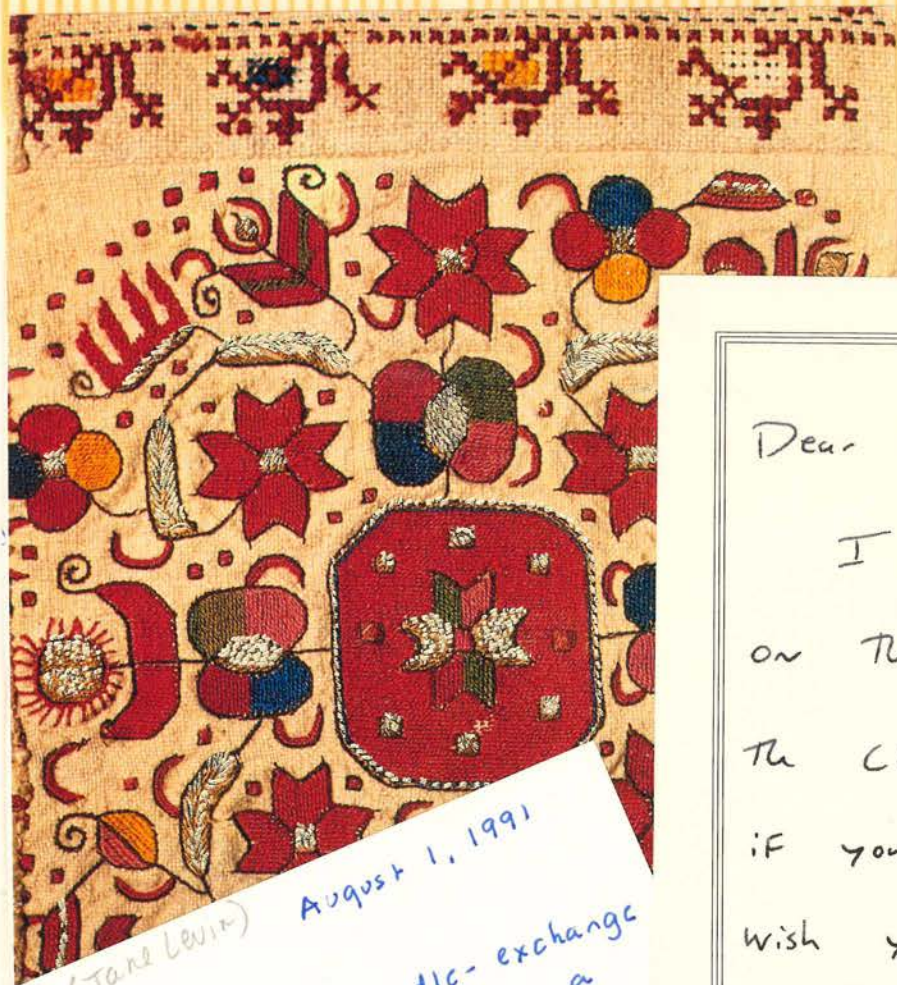
needles, and condoms. The program, which uses a van that goes to drug-infested areas four times a week, has so far enrolled more than 700 drug users and exchanged more than 12,000 needles.

The workers have also helped enroll 107 addicts in drug treatment. But 60 other addicts who want to enter treatment have not been able to because of limited openings in the programs, Health Department officials said.

Mayor Daniels, a critic of needle exchange programs as recently as two years ago, yesterday urged other mayors to support them. He said he

had changed his mind after realizing how rapidly AIDS was spreading in his city and after talking to addicts and advocates of people with AIDS.

A spokeswoman for Mayor Dinkins said he would likely "take a close look at the findings." New York City has the highest AIDS caseload in the country, with more than 33,000 cases.



(Jane Levin) August 1, 1991

Dear Ed,

The news about your needle-exchange success prompted me to drop you a note I've been meaning to write. Bob and I are still enjoying San Francisco. Bob likes his job doing municipal credit analysis for Sta. and Poors. I left my job a few months ago to find work I really put my heart into. I'm looking in specific industries and architecture. I have the prospect of putting my OR experience to work, a transportation planning explored some possibilities. state court system.

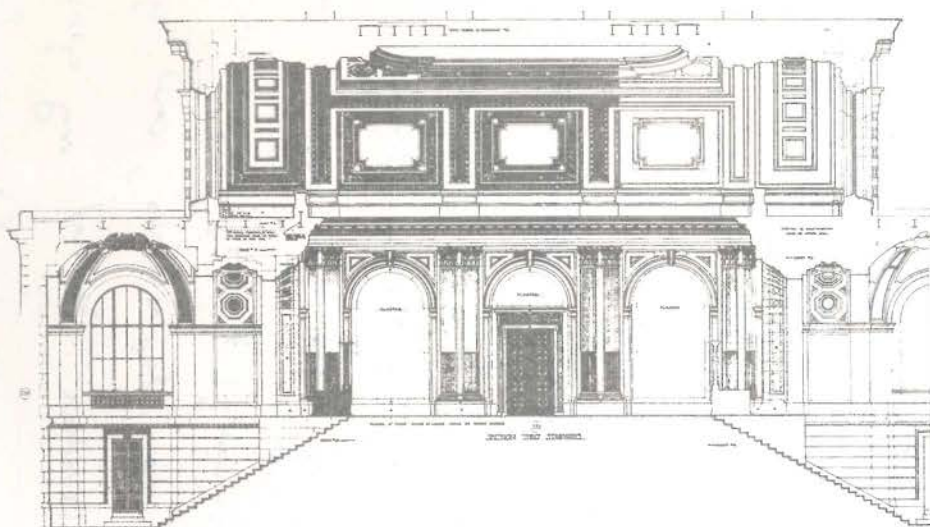
I try not to veg unemployment, so weekday early, and Bob to work. we talk ride downtown, and after-w I tune into NPR for my ride home.

(Thomas Matlock)

August 5, 1991

Dear Ed -

I was excited to see the article on the front page of the NYT about the Clean Needle Project!! It sounds as if you have made real progress. I wish you all the success with your research. I think I told you that I spent time in Thailand last summer where the first AIDS research is extremely depressing. And because prostitution is such an important economic factor, what information there is tends to be suppressed. From what I've read, it is a disaster of a magnitude that might cripple the country in the near future.



NEW YORK PUBLIC LIBRARY MAIN HALL NO. 333 THIRD FLOOR. *Charles L. Bulfinch*
SCALE: 1/4" = 1'-0"

Dear Ed ~

And to think I knew you when
you were little more than a trivial
pursuit player in Brookline!

Congrats on hitting the
NY Times and especially on all
the impressive work you're doing!

Love to Karen and

to you.

Kathy
D.

8/1/91

Dear Ed,

I couldn't help but notice
the front page story in today's
New York Times ... Maazel Tor!

It feels a bit like Deryn;
had my only put it on the front
page, it would have been enough,
had my not said the program is
a major success, had my not
quoted Mayor Dore's saying he
had absolutely changed his views,



Trash haulers face rate hike
Monroe sets new tipping fees for collectors...A9

Slow recovery predicted
Fairfield panel studies state economy reportB7

LOCAL

Police log/3
Bingo/4
Death notices/6

★ Thursday, August 1, 1991

Needle exchange program credited with curbing AIDS spread

Elm City officials urge others to do the same

By CAROLYN MILAZZO
Staff writer

NEW HAVEN — A city needle exchange program has curbed the spread of AIDS among intravenous drug users by 33 percent and should be implemented in other major cities to halt the deadly virus, officials said Wednesday.

But Bridgeport, the state's largest city, will not follow New Haven's lead because of a lack of resources.

"We don't do it and there is little chance of us having a needle exchange in the near future — not with the state's current budget crisis," said Thomas Hill, director of the Bridgeport Health Department's AIDS division.

In the first study of its kind released Wednesday, Yale University researchers said New Haven's 8-month-old program provides the first concrete evidence that distributing clean needles reduces the spread of AIDS.

"This isn't a panacea and it doesn't end the epidemic," Dr. Edward Kaplan, an associate professor at the Yale University School of Organization and Management, said at a press conference with city and state officials Wednesday.

"But it does reduce the number of people infected and could have a significant impact on the AIDS epidemic."

New Haven is not the first U.S. city to try a needle exchange to combat the spread of AIDS, but Yale researchers are the first to track needles to gauge a program's success. Under the tracking system, needles are coded and then randomly tested for the HIV virus.

Preliminary tracking figures released Wednesday show 97 percent of needles retrieved from city shooting galleries tested positive for the HIV virus, while 50.3 percent of program needles tested positive.

Kaplan said the needle exchange reduces the number of contaminated needles on the streets and the chances of sharing needles. He said needle exchanges can play a critical role in curbing the spread of the HIV virus because 75 percent of the state's AIDS cases stem from intravenous drug use.

Health Department outreach workers began distributing clean needles, bleach kits and advice to addicts last November under a state-funded pilot program. New Haven was chosen as the site for the one-year experiment because it has the highest number of AIDS cases and intravenous drug users in the state.

During its first six months, the program

attracted 720 drug addicts, more than double original projections. Of that total, 188 addicts requested treatment and 58 percent are enrolled in substance abuse programs.

Elaine O'Keefe, director of the Health Department's AIDS division, said the program reaches hard-core addicts who have been shooting drugs for several years.

O'Keefe brushed off criticism that the program encourages drug use among teenagers, noting participants must be 18 or older. She also said participants are required to carry identification cards and turn in dirty needles for new ones.

Preliminary statistics show 80 percent of participants are males in their 30s who have been addicted to drugs for about 10 years. Of the groups included in that total, about 40 percent are black, 35 percent are white and 30 percent are Hispanic.

Mayor John C. Daniels said the over-

whelming success of the program should silence critics who argue that handing out free needles promotes drug use.

Daniels, who opposed state funding for needle exchanges as a Democratic state senator in the 1980s, said he changed his mind about two years ago after talking with AIDS victims and touring hospital wards filled with HIV-infected infants.

"I took a lot of heat from a lot of people in the community for supporting this program and a lot of mayors have abandoned needle exchanges," Daniels said. "But I stood by it because I believe if we can save one life, it's worth it."

The one-year pilot program ends in November, but Daniels vowed it will continue next year. The city has applied for a \$50,000 state grant and is seeking donations from corporations and citizens to offset costs.

Friday, 2 Aug. '91
S.F. Chronicle

Needle Swap Curbs AIDS, Study Finds

Researchers say program
reduces new infections

New York Times

New Haven, Conn.

A program here to give intravenous drug users new needles for old ones is helping to curb the spread of the AIDS virus, a study has found.

The study, released Wednesday by Yale University researchers, estimates that the 8-month-old needle-exchange program has reduced new infections with the HIV virus, which causes AIDS, by 33 percent among participants.

The findings seem likely to add heat to the debate over whether needle-exchange programs that are designed to prevent AIDS encourage another ill — drug use.

Although emphasizing that the study sample is small and the results preliminary, New Haven officials hailed the findings as evidence that the programs work.

"This program is not a solution to AIDS or to drug addiction," Mayor John Daniels said at a news conference. "It is one more Band-Aid, but it is a Band-Aid we cannot afford to do without."

The program, begun in November, has enrolled about 700 of the city's estimated 2,000 intravenous drug users. City workers, riding in a van that visits six neighborhoods, give a clean needle to participants every time they trade in an old one.

The study uses a novel method to measure new infections: It tests the needles for HIV contamination as they are returned.

Edward H. Kaplan, an associate professor at Yale's School of Medicine and School of Organization and Management, devised the tracking system, in which a number is assigned to each fresh needle and the person receiving it is identified by a code name.

Kaplan said the system allows researchers to determine whether the person who got the needle returned the same one or whether someone else returned it and sharing probably occurred.

By testing the needles for the presence of the HIV virus, researchers are able to estimate the prevalence of the virus and the incidence of new infections. The 33 percent reduction in new infections is a projection of the data using a mathematical model, Kaplan said.

As the program has continued, the researchers found, HIV infection has decreased: 63 percent of shared needles returned in November were infected, 51 percent in January and 26 percent in March, although Kaplan said the number of tests for the most recent period was small and the figure less reliable.

He said the drop indicates that the program is having an effect by replacing the number of infected needles in circulation.

Needle-exchange programs are now in operation in Hawaii, Portland, Ore., Seattle and Boulder, Colo.

In June, the U.S. Conference of Mayors, meeting in San Diego, unanimously endorsed a plan by San Francisco Mayor Art Agnos that called for, among other things, national legalization of needle-exchange programs.

Volunteer AIDS-prevention groups have illegally offered clean needles to addicts in San Francisco for several years, but the effort has reached relatively few people.

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THE NEW YORK TIMES EDITORIALS

The New York Times

Founded in 1851

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8/3/91

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The Case for Clean Needles

A steady accumulation of evidence suggests that providing clean needles to drug addicts can slow the spread of the AIDS virus without the dire consequences so often predicted. Indeed, a well-designed needle exchange program could now help public officials achieve two valued goals that were once thought contradictory. It could retard the spread of AIDS and help wean many drug abusers from their long-term addictions.

The need to control AIDS infection among addicts has been rising. In some cities, intravenous drug addicts are the major risk group for AIDS and the major threat for transmitting the virus to heterosexual lovers and to children, through exposure in the womb. The virus is typically spread from one addict to another when they share needles and syringes that have been contaminated with infected blood.

Health officials have long suggested that such transmission could be slowed by distributing clean needles to addicts. But there has been scant evidence that such programs would work, certainly not enough to reassure many troubled public officials. They worry that giving needles also gives tacit approval of addiction — thus promoting another kind of epidemic, also deadly.

This week early results from a study in New Haven, Conn., provided the latest evidence that needle exchange programs can help combat both AIDS and drug abuse. The New Haven program

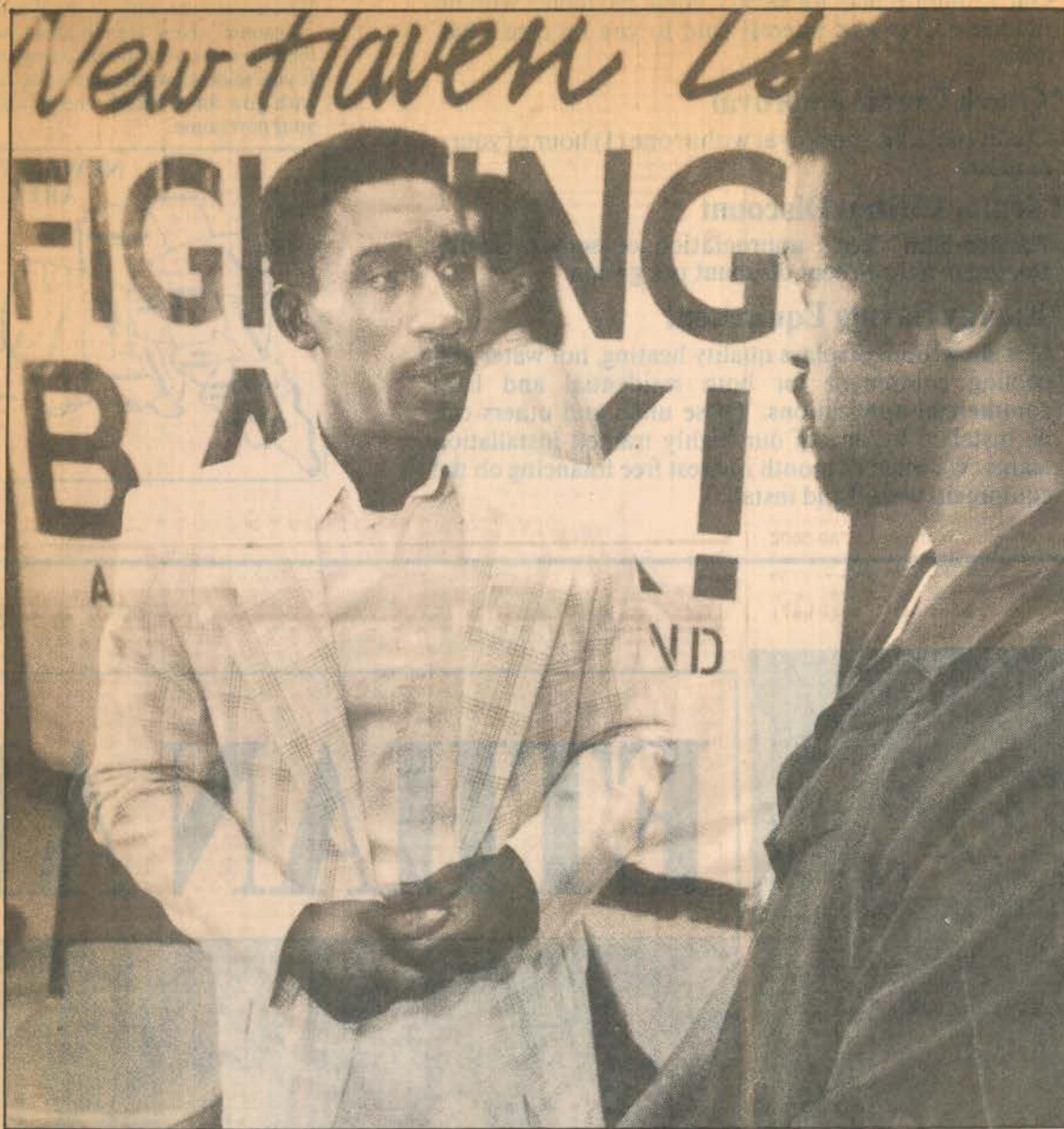
provided sterile needles over seven and a half months to more than 700 addicts, who got a new needle every time they returned a used one.

The free needles were less likely to become contaminated than those used on the street or in drug shooting galleries. And the rate of contamination in the distributed needles fell over time. A mathematical model estimated that the program was cutting new AIDS infections among participants by a third.

Equally important, the program provided counseling to addicts on drug abuse, AIDS and other health issues. One in four has asked for help and more than 100 have already been placed in treatment programs.

These encouraging results reinforce a smattering of studies in Europe, Australia and North America. They found little evidence that needle programs entice people to shoot drugs; participants are almost always long-term abusers, not new recruits. A Swedish program that has followed more than 500 addicts for several years has yet to find a single new AIDS infection among them.

The data support easing laws against distributing clean needles. But to do that alone misses the larger point. Addicts cannot long be saved from either AIDS or addiction for the cost of a few needles. The honest price of a needle exchange program has to be a commitment to provide treatment for all addicts who want it.



Michael Lane, a client, talks with George Edwards, right, who helps run the exchange program.

Mara Lavitt/Register

May^{NHR (8-1-91)}or would double budget for needles

Pilot program saving lives, Daniels says

By Adrienne C. Hedgspeth

Register Staff
and Associated Press

NEW HAVEN — The city's pilot needle exchange program is saving the lives of intravenous drug users and the state should double its \$25,000 grant to expand the program, Mayor John C. Daniels said Wednesday.

Yale researchers and city health officials announced Wednesday that an elaborate tracking system used in the city's needle-exchange program is producing the first reliable data showing needle exchanges can reduce the spread of AIDS.

By letting drug addicts swap dirty needles for clean ones, New Haven can expect a nearly 33 percent reduction in the number of new AIDS cases among program participants in the first year of the program, the early data indicate.

More than 700 drug addicts have already enrolled in New Haven's pilot program, begun in November with approval from the Connecticut General Assembly. And 103 have enrolled in a treatment program.

The report notes that more than half of 581 needles returned by 720 addicts in the middle of March tested positive for the AIDS virus. The city has given out more than 10,000 needles since the start of the program.

Program advocates applaud the

needle exchange program for taking those syringes off the streets.

But opponents say it condones illegal drug use and that there is no sure way of knowing how many needles are shared before being returned.

"I've been doing drugs for 15 years," said Michael Lane, a 34-year-old heroin addict who started methadone maintenance treatment in March. "I knew I needed help and they were able to accommodate me."

"If you're sick," another drug user said, "All you're thinking about is getting straight."

Elaine O'Keefe, the city's AIDS division director, said the team lacks the staff to determine who succeeds in treatment, but wants to start tracking addicts if more money is obtained.

While other cities across the country have abandoned similar proposals, Daniels said he will encourage state legislators to fund pilots in other cities, in part, because of fear that addicts from other communities are coming to New Haven to exchange needles.

"When I first introduced this program, I took a lot of heat," Daniels said. "I stuck by it because I believe if one more life could be saved, it's still worth it."

As of June, New Haven re-

Turn to AIDS, Page 7

AIDS: Daniels says program saves lives

Continued from Page 3

maintained the city with the most AIDS cases in the state, reporting 389 adults and 23 children with the virus.

Despite the enthusiasm of program planners, debate over whether it's a good idea to give free needles to drug addicts in a city that's torn by drug-related crime continues.

Hill Alderman Tomas Reyes, D-4, this week said it seems the program does save lives. "But it sends some contradictory messages that have not been dealt with at all. I'm for making it even more effective by hopefully addressing the mixed messages," he said.

This week Alderwoman Toni Harp, D-2, and Alderman Willie Greene, D-21, criticized the program for facilitating the destruction of addicts and their families. They said the city should fight for more money for treatment facilities.

To that, Peter Fisher, a program advisory committee member, said, "They're going to destroy themselves a lot faster if they don't get clean needles."



Sonia Lugo, left, and Chris Brewer, community outreach workers in the needle exchange program in New Haven, going over condom and bleach kit supplies before making stops in a van.

Photographs by Gale Zucker for The New York Times

NYT 8-1-91

Needle-swap program is working

AIDS experts see promise in New Haven data

By FRANK SPENCER-MOLLOY
Courant Medical Writer

NEW HAVEN — Allowing drug addicts to trade their dirty needles for clean ones substantially slows the spread of the AIDS virus, public health experts have reported for the first time.

The New Haven Needle Exchange Program, one of a handful of clean-needle projects in the United States and Europe, found a 25 percent lower rate of HIV among its own coded needles that were traded in than was found among other needles circulating around the streets of the city, city officials and Yale researchers announced Wednesday.

The finding, the first major scientific data from the 8-month-old experiment, is likely to draw international interest. While AIDS experts worldwide have speculated that needle exchanges are effective, their evidence has been largely confined to anecdotal data in which inter-

viewed addicts told researchers about changes they had made in their behavior.

"This is the first study, to my knowledge, to study the incidence" of HIV within the context of a needle program, said Dr. Edward Kaplan, a public policy analyst at Yale University and the project's principal investigator.

The program, begun last November, has enrolled about 700 of the city's estimated 2,000 intravenous drug users. City workers, riding in a van that visits six neighborhoods, give a clean needle to participants every time they trade in an old one.

The needles are inscribed with a code number that is matched to a participant known to researchers only by a code name. When a needle is returned for a clean one, researchers are able to determine when it went out and whether it came back with the original recipient.

State Health Commissioner Susan S. Addiss said the results show nee-

dle exchange seems to be working as a "classic public health strategy," but she said she was not prepared yet to call for needle programs in Hartford and Bridgeport.

Mayor John C. Daniels called the results a "vindication" of the needle project, which he supported despite some initial opposition in the city's neighborhoods.

Unlike a defunct needle program in New York City and one that never got off the ground in Boston, New Haven's pilot project has had the consistent support of elected state and local officials, police and public-health authorities.

But while Daniels lauded the results at a press conference, the study also offered further chilling evidence of how late in the epidemic the needle exchange program has arrived. Based on the number of project needles that have come back infected, the authors estimated that

Please see Needle, Page A7

Hartford Courant 8-1-91
→

Needle-trade program working in New Haven

Continued from Page 1

60 percent of more than 700 study participants are already infected with HIV, the human immunodeficiency virus that causes acquired immune deficiency syndrome.

The new findings, some of which Kaplan presented in June at the Seventh International Conference on AIDS in Italy, are nonetheless certain to challenge long-held assumptions that needle exchanges would not work because drug addicts given new syringes simply would continue to share them with other addicts, he said.

With help from Yale, the New Haven project was rigorously designed to track every needle dispensed.

Of 789 needles analyzed by mid-March, 50 percent of the project needles were found to be HIV-positive, compared with a 68 percent figure for "street" needles turned in and 92 percent of needles workers retrieved from city "shooting galleries," places where addicts inject illegal drugs.

To get a clean needle, drug users were also allowed to hand in needles not dispensed by the program.

Of 581 project needles distributed, researchers got back 176 that they determined to have been shared with someone other than the original recipient and 323 "dedicated" needles that came back with the same people they were issued to.

Of the shared needles, 53 percent were HIV-positive. But among dedicated needles, the figure dropped to 45 percent, a clear indication, officials said, that the program is effective.

The incidence of HIV found in the program's shared needles has shown a dramatic drop over time, Kaplan said, from 63 percent the last two months of 1990 to 26 percent from mid-January to mid-March.

Also, Kaplan said, dispensed needles have been coming back within a week, a turnaround time more likely to lessen the likelihood a needle will become infected and passed along to an uninfected user.

Yale scientists determine whether a needle is infected by using a recently discovered gene-amplification technique, called PCR, which is far more effective than standard AIDS antibody tests at detecting minute traces of virus in a needle containing just a speck of dried blood.

Needle programs are in operation in five other U.S. cities — Honolulu; Seattle and Tacoma, Wash.; Portland, Ore.; and Boulder, Colo. In addition, programs have been tried in Amsterdam, Edinburgh and in Scandinavian countries.

None, however, was created with the same kinds of built-in scientific sentinels as New Haven's. And no city has an AIDS epidemic as connected to drug use as Connecticut, where about half of all cases are found among intravenous drug addicts, twice the national average.

The nation's most famous needle program, started in New York City

in 1988, was dropped a year later when Mayor David N. Dinkins was elected. Heralded as a showcase for ways to prevent the spread of AIDS, the program was operated out of city health department office, near police station. But it only managed to enroll about 300 people, and never produced the wealth of data public-health officials had been counting on.

Donald Desjarlais, director of research of the Chemical Dependency Institute of Beth Israel Medical Center in Manhattan, called the New Haven data "certainly quite encouraging."

Desjarlais, a leading expert on AIDS and drug abuse, said an ongoing study in Australia is also monitoring HIV in returned syringes but on a more limited basis.

But the problem with such studies including New Haven's, he said, is they lack a comparison group, and so "fall short of giving definitive proof that a syringe exchange decreases [the prevalence] of HIV" within a wide population.

The only way to arrive at more definitive results, he said, would be to create a multi-center survey lasting years, such as those used for trials of heart and lifestyle diseases. As an example, he suggested enrolling 40 cities and randomly assigning needle-exchange programs to half and simply monitoring HIV prevalence among drug users in the others.

He said, however, such a study would "be extremely hard to control for and is probably impossible given the political climate."

AIDS needle exchange offers hope

Program shows promise of saving lives and slowing spread of deadly virus.

The test results from needles used by city drug addicts underscore the importance of an experimental program to curb the spread of AIDS.

According to tests conducted by Yale, of 789 needles, 92 percent of those retrieved from "shooting galleries" where addicts gather to use drugs carried the AIDS virus.

Needles returned to a pilot needle exchange program that were not issued by the program showed a 68 percent infection rate. Returned needles issued by the program showed a 50 percent infection rate.

The figures provide a statistical basis for explaining the high incidence of AIDS here among drug users. New Haven has the highest number of AIDS cases in the state and

the majority of those infected are intravenous drug users.

The drop in the infection rate to 50 percent among returned needles issued by the exchange program suggests that addicts can modify their behavior to reduce their risk of contracting the deadly virus.

Started last November, the program has attracted more than 700 addicts, twice the number expected, and steered 103 into treatment programs.

The program's critics complain it writes off addicts by supporting their addiction. Certainly, the needle exchange is a desperation measure. It targets addicts passed over or uninterested in traditional drug therapy. But, the alternative to the program appears grim: the continued spread of AIDS through infected needles and the deaths of more addicts.

Addicts who use clean needles, and not all will, have at least escaped the major source of AIDS infection. For the addicts who survive, there remains hope that someday their addiction will be broken.

NH Register 8-5-91

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B. Gumbel 83-7347 TODAY



Mr. Edward H. Kaplan
Associate Professor of Policy Modeling and
Public Management
Yale School of Management
Box 1A
New Haven, CT 06520



GUEST LIST
TUESDAY, AUGUST 6, 1991

GREEN ROOM

SUNRISE
ANN CURRY
JOE WITTE
CONNIE MITCHELL
JORDAN GOODMAN

=====

7:08:50	(5:30)	GUMBEL W/BOB SQUIER + ROGER AILES @ SOFA AREA RE: POLITICAL INSIDERS (SPARKMAN)
7:35:30	(5:15)	GUMBEL W/ROBERT DALLECK @ INTERVIEW AREA RE: "LONE STAR RISING" (HURST)
7:43:00	(5:15)	DANIELS W/DR. EDWARD KAPLAN + JOHN DANIELS @ SOFA AREA RE: NEW HAVEN NEEDLES (MEDLEY)
7:50:40	(5:15)	GUMBEL/DANIELS/GARAGIOLA W/MICHAEL LAFAVORE @ WEATHER RE: LATEST SPORTING GOODS (WELLS) AREA
8:09:15	(7:30)	DANIELS W/MICHAEL POZNER @ INTERVIEW AREA RE: VISAS FOR SALE (SHAPIRO)
8:35:30	(5:30)	GARAGIOLA W/LLOYD BRIDGES @ INTERVIEW AREA RE: NEW MOVIE (MORRIS)
8:43:15	(4:00)	DANIELS @ W/JONATHON POND @ SOFA AREA RE: BANKRUPTCY (WELLS)
8:49:40	(6:00)	GUMBEL W/TOM JULIAN + MARTHA BAKER @ PRODUCTION AREA RE: SHOES (WHEELER)

TODAY (IN STUDIO)
6:50 BRYANT GUMBEL
6:50 FAITH DANIELS
6:50 ANN CURRY
7:00 AL ROKER

► The New Haven Needle Exchange Program allows addicts to trade their dirty needles for clean ones. Officials hope the program will reduce the spread of AIDS. Right, an old needle is dropped in a metal canister.

▼ Felix Acevedo has just exchanged seven used syringes for five new ones. Kaveh Khoshnood, a Yale graduate student who does follow-ups on participants every six months, sits inside the van.



Addicts and AIDS: another approach

Needle exchange paying off

Story by FRANK SPENCER-MOLLOY
Photos by MICHAEL McANDREWS
Of The Hartford Courant

Needle exchange has come too late for Felix Acevedo.

"Yeah, I'm infected," the 41-year-old New Haven man says after dropping seven used syringes into an aluminum safety canister and taking five fresh ones from the van that lumbers up and down the city's streets.

One of the first people to join the New Haven Needle Exchange Program last November, Acevedo says that before clean needles were provided, "I couldn't get them. I had to share."

Now he doesn't share, he says, and although the program is too late

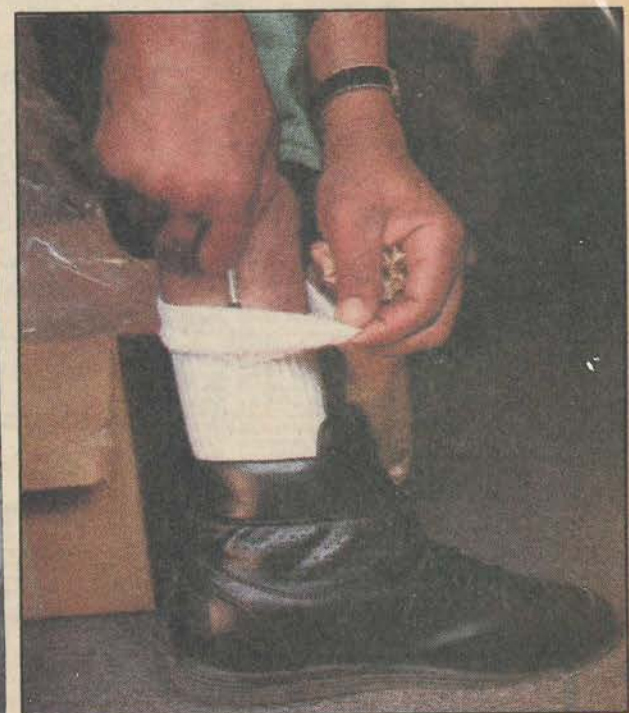
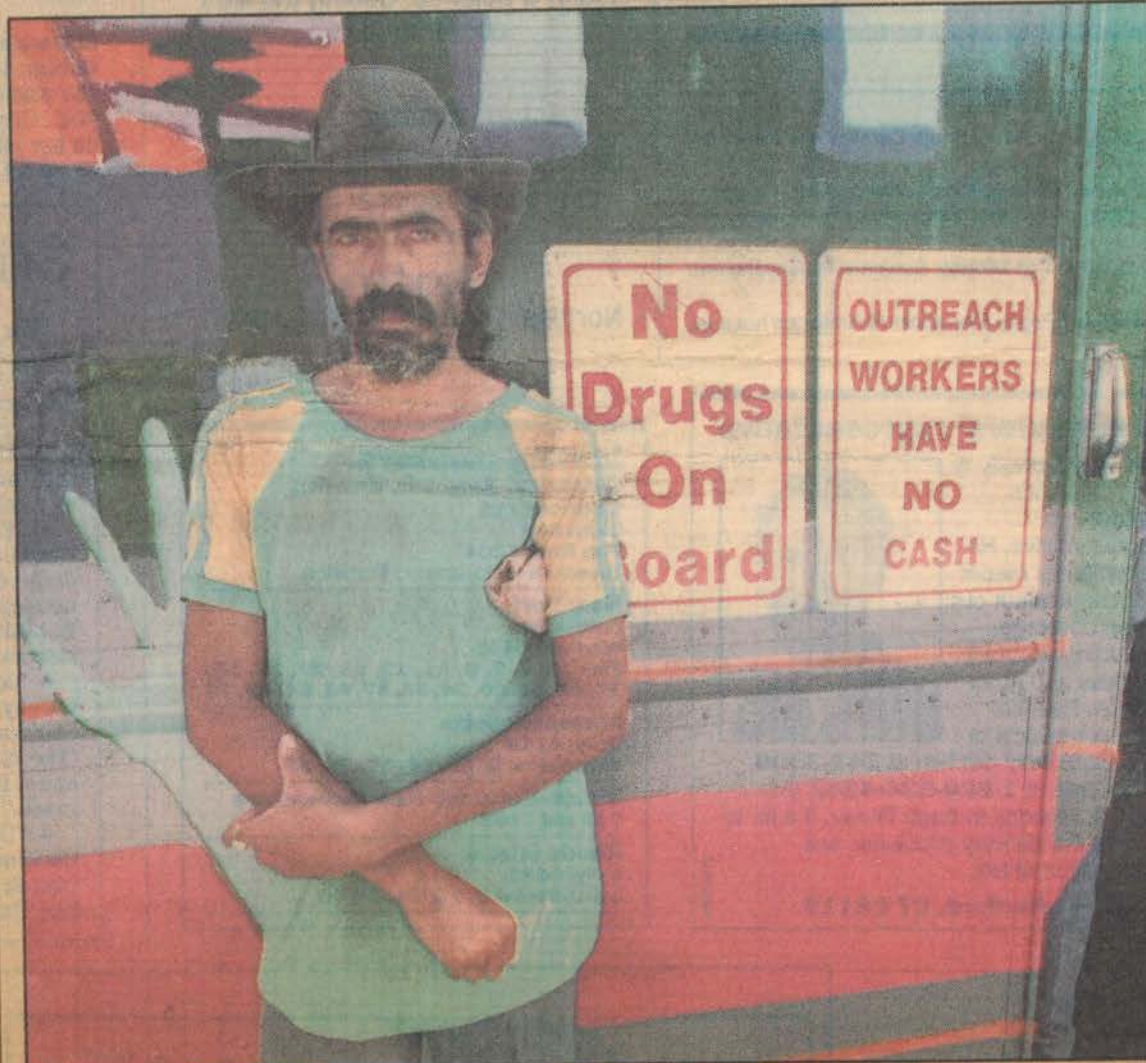
to protect him from AIDS, it does protect a chain of people, as yet uninfected, who might otherwise have been forced to depend on Acevedo's hand-me-down works.

Advocates for needle exchange say it is a simple, effective way to slow the spread of AIDS through the sharing of intravenous needles.

They say it is nothing short of criminal that for almost a decade something so common-sensical from a public-health perspective has not been able to sway the conventional wisdom that it is wrong to assist addicts in their dangerous activity and that the way to keep drug addicts from getting high is to make their paraphernalia scarce.

Quite the contrary, they say, despite a supposed "war on drugs,"

Please see Addicts, Page A6



▲ A needle-exchange participant slips a clean syringe into his sock. Advocates say the program is a simple, effective way to slow the spread of AIDS.

► Chris Brewer conducts an "intake" interview with a participant in the Fair Haven section. Workers gather information on ethnicity, age, sex and drug use. While they generally do not know participants' names, they do recognize faces - all 700 of them. The interview is the only time workers urge addicts to get methadone treatment.



▼ Unlike other needle-exchange programs around the country, New Haven's is on wheels, reflecting experts' belief that few drug addicts will go to an institutional setting to trade needles. The borrowed van, its Yale blue-and-white sides newly covered by a colorful mural, makes scheduled stops four days a week. Below, it visits the lot next to the YMCA.



TRACING NEEDLES

By tracking addicts' syringes, Yale prof shows swap program helps fight AIDS

By Abram Katz
Register Science Editor

NEW HAVEN — Giving dope addicts clean needles to cut the spread of AIDS always seemed like a sensible strategy to some health care workers.

Now, using a complex mathematical model and a unique method of tracking people, needles and viruses, New Haven has provided the first hard evidence that exchanges apparently work — and work well.

While other cities have been trading used hypodermic needles for clean ones since at least 1984, no program before now could claim hard data.

In all other exchange programs the important questions — Did you share this needle? How often do you inject drugs? Have you increased or decreased your use? — were based solely on the not-always-reliable word of addicts themselves.

"Now we're letting the needles do the talking," said Edward H. Kaplan, associate professor of policy modeling and public management at the Yale School of Management.

Kaplan, an expert on studying the patterns of HIV transmission, designed and runs the evaluation system for New Haven's exchange program.

Results from the seven-month program show that swapping clean needles for used ones can reduce the spread of HIV by 33 percent.

Others who operate similar programs elsewhere in the country say that they do not require the kind of intensive evaluation done by Yale, which costs about \$100,000 a year.

Kaplan said mathematics, particularly a branch called "circulation theory," is the basis of the evaluation.

The evaluation system based on circulation theory was incorporated into the program from the start.

Other exchange programs have undergone studies that are designed separately,

or are conducted after the fact.

Moreover, no other study has connected individuals to needles. All test a sample of needles for the AIDS virus, but they never know who used the apparatus.

Under the New Haven system, on the first visit the user receives an "identity" card bearing whatever name the user wants. These aliases are stored in a Yale computer.

Every time a user wants a new needle, he or she has to present the card. "The syringe tracking and testing system is unique," Kaplan said.

IV drug users take their used needles to a mobile van and receive up to five new needles.

Unlike other programs, the needles that New Haven gives out each carry their own sequence number.

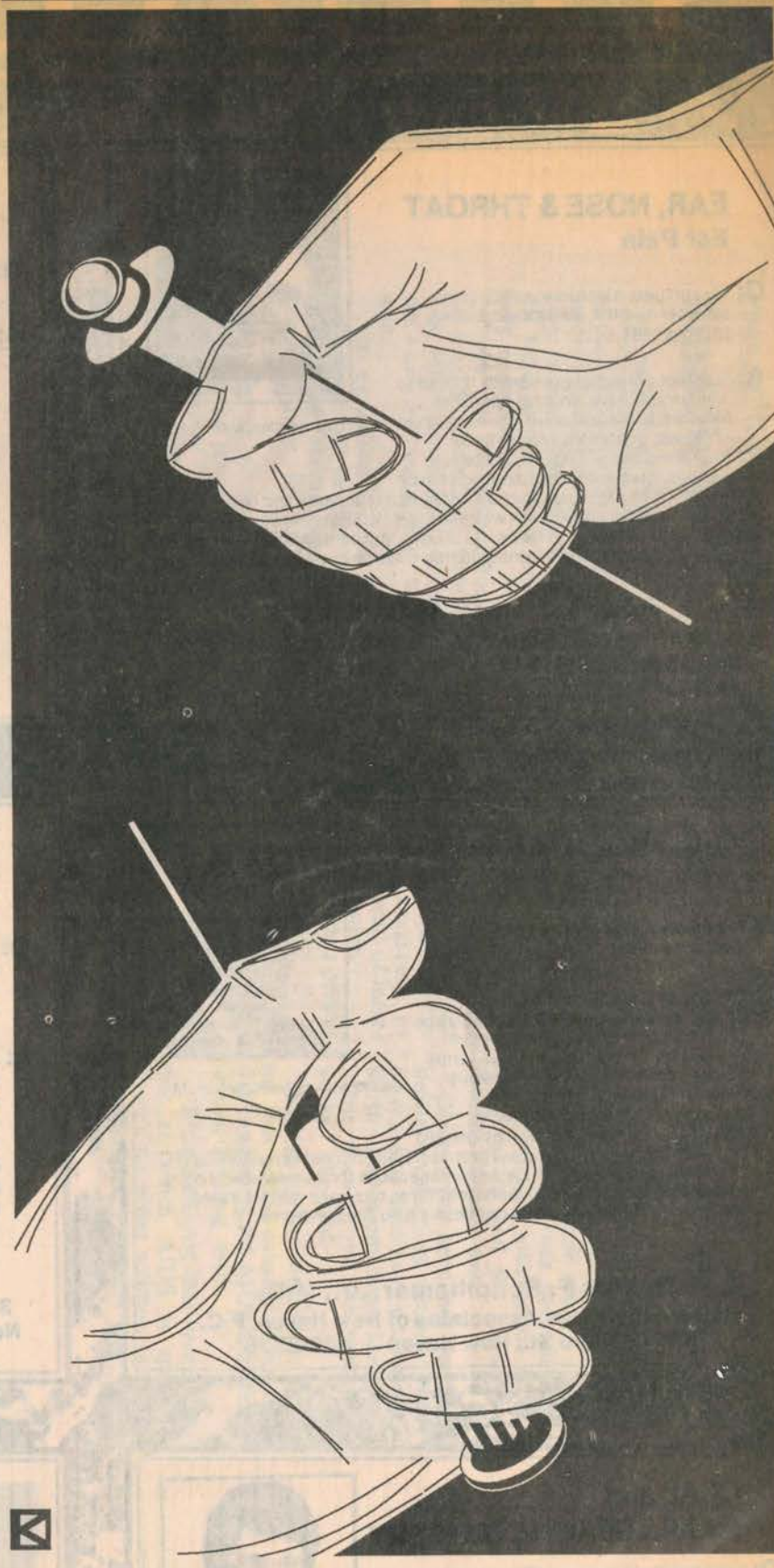
"A log is kept of the location of the exchange, the number of the needle, and the code name of the client. It's like 'Mr. X gets needles 2,013 to 2,015,'" Kaplan said. "You know where, when and to whom the needle went."

Incoming used needles are placed in canisters marked with date, location, and the persons who brought them in. "Now we know part of the history of the program needles. Who it went to, when, where and who brought it back. That tells you the level of sharing," Kaplan said.

And sharing is what needle programs are intended to fight.

If, for instance, Mr. X takes out needle No. 2,015, and Mr. Y returns it, that means it's likely the needle was shared. If needle 2,014 goes out in May and comes back in August, there's a good chance it's been in more than one arm. If needle No. 2,013 is given out in the Hill neighborhood, and comes back in Fair Haven, that also suggests it was shared.

The final crucial link in the evaluation system is the testing of returned needles. A sample of needles is tested for the presence



Page 30 New Haven Register, Thursday, August 15, 1991

Needles: Tracking syringes shows program working

Continued from Page 29

of the HIV virus. Yale uses a very sensitive technique that can detect tiny traces of the virus. If the needle result is positive, it means its user is infected.

"You can tell what percentage of shared needles are positive." That tells researchers how rapidly the virus is being spread, Kaplan said.

The evaluation system found:
— Out of 48 needles turned in from a drug "shooting gallery," 44 tested positive for HIV — 92 percent.

— A test of 160 "street" needles not from the program showed an infection rate of 67.5 percent. After the program was started, 581 needles were tested between November and March. This time about half tested positive — a major reduction of about 25 percent.

The latest round of tests shows that the number of infected needles has dropped to 26 percent, but Kaplan cautioned that the sample of 23 needles is small and may not be accurate.

Elaine O'Keefe, director of the AIDS Division of the New Haven Health Department, said the data generated by the evaluation system is being used aggressively to further reduce the spread of infection — through education.

If the department finds a person who's exchanging needles every three weeks, it can send an outreach worker to explain the importance of using clean needles, she explained.

"It helps to know where to focus effort. We didn't expect within seven months to totally change behavior," she said.

One-quarter of the 700 people in the program have asked for help and 100 are now in drug treatment programs, O'Keefe said.

New Haven has been deluged by requests for information about the program and the evaluation system, O'Keefe said.

Other cities need not conduct similar evaluations because New Haven and Yale have proven the worth of such programs, she said. "This does prove the program works," she said.

Kaplan agrees with critics who say that needle exchange is not the final answer to the AIDS epidemic among IV drug users.

"It's a Band-Aid that lowers the rate at which AIDS is spread. There's no better solution than to stop shooting drugs."

Barbara Kagan/Register

New Haven's needle exchange gets results

By John J. Goldman
Los Angeles Times Service

NEW YORK — A major study estimates that the rate of HIV infections was cut by one-third in just eight months in New Haven, Conn., after sterile hypodermic syringes were distributed to drug users.

The new findings are further stirring the heated national debate over officially sanctioned needle exchanges, such as the pilot program in Hawaii.

In New York City, which has more than 33,000 AIDS cases, health officials are reconsidering their ban on giving needles to addicts.

And, citing the New Haven research, the National Commission on AIDS, which criticized the Bush administration for glossing over the link between drug abuse and AIDS, has recommended lifting restrictions on needle distribution.

In the unique New Haven study, scientists tracked number-coded syringes legally distributed to addicts in a special demonstration program. Needles were returned to field workers; researchers, using DNA technology, then tested them for the HIV virus.

The researchers found the needle-exchange program reduced the time that dirty needles were in circulation. Preliminary findings showed the average dropped from 2½ weeks to six days. The percentage of contaminated needles also was down, from 67.5 percent to 40 percent.

Using mathematical models, the researchers projected these figures into a reduction in the outbreak of new cases by 33 percent.

"The major significance is the fact we have evidence we have really reduced tremendously the increase in the spread of AIDS in the city of New Haven through the use of dirty needles," said

Hawaii's needle-exchange pilot program — the first state-backed program in the nation — is halfway through its two-year run. Program coordinator Michael Soaries and a state Department of Health spokeswoman both said they know of no studies on the program's effectiveness in reducing HIV infections.

The Hawaii program distributes from its sole downtown Honolulu site more than 1,000 needles a month to drug addicts. Soaries estimates that the program makes between 20 and 50 "exchanges" a day. Addicts must bring at least one used syringe to receive sterile ones.

Mayor John Daniels, who noted it was necessary to overcome contentions that distributing sterile needles promotes the use of drugs.

"While you were going through that argument, people were dying. The disease was being spread," the mayor added.

The program to provide sterile needles to drug users required special permission from the Connecticut Legislature.

"This is the first study that has rigorously looked at the epidemiology of the needle, where does it go, where does it come back, how long has it been out," said Dr. Edwin Cadman, chairman of the department of internal medicine at the Yale University Medical School.

"A needle-exchange program does not change the number of needles in circulation," explained Edward Kaplan, an associate professor at Yale's School of Organization and Management, the principal investigator evaluating the project. "It increases the turnaround. The length of time any given needle lives on the street goes down."

"The number of injections per syringe must decline, reducing the chance that the syringe becomes infected. The risk of

exposure to a needle contaminated with the HIV virus is lessened."

Under the New Haven study, a van donated by Yale University travels with outreach workers to areas of New Haven where drug use is prevalent. Each new client selects a code name, which is recorded with the number on the needles issued. When needles are returned to be exchanged for new ones, they are marked with the code name of the person submitting the used needles. Drug users must give back used needles in order to obtain new ones.

Clients are told they must not share, rent or sell the needles and are instructed to sterilize their needles with bleach after each use to avoid contamination.

The system allows researchers to determine if the same person returns the needle — an indication whether sharing with other addicts occurred.

"It allows us to trace epidemiology," said Elaine O'Keefe, director of the AIDS division at the New Haven Health Department.

"This program is not a solution to AIDS or to drug addiction," Mayor Daniels said when the results were announced. "It is one more Band-Aid. But ... it is a Band-Aid we cannot afford to do without. It works."

"If the data holds up, the New Haven study is a very important advance," said Dr. Stephen Joseph, former New York health commissioner, who started a needle exchange under the administration of Mayor Edward Koch.

The program was abandoned by Koch's successor, David Dinkins. Needle exchanges currently operate in Hawaii; Seattle; Portland, Ore.; and Boulder, Colo.

The New Haven program has produced a highly encouraging side effect: More than 100 needle recipients have entered drug treatment programs and another 100 are waiting for openings.

Giving Away Needles Won't Stop AIDS

By Mitchell S. Rosenthal

Allowing drug users to exchange dirty needles for new ones seems like an enlightened idea — simple, sensible and compassionate. AIDS is rampant among addicts who inject heroin or cocaine, and they transmit the HIV virus to one another by sharing needles and syringes.

But despite all the happy headlines and editorials, there is no evidence that this approach actually works and will reduce transmission of the virus.

Let's look at the widely reported "success" of a model needle-exchange program in New Haven. A preliminary report predicted a 33 percent reduction in new infections among addicts in the program. But this result was projected, not achieved. Using a mathematical

Dr. Mitchell S. Rosenthal, president of Phoenix House, a drug rehabilitation agency, is chairman of the New York State Advisory Council on Substance Abuse.

model, the report forecast, after seven months, what the program would accomplish in a year.

Mathematical models cannot produce valid results unless all the information they include is accurate. The New Haven model makes several questionable assumptions, and the key issue — how needle-sharing behavior has changed — is not addressed directly.

Instead, the returned needles are tracked and tested. When a participant in the program returns someone else's needles, the conclusion is that those needles were shared. But when an addict returns the same needles he or she was issued, it is assumed that the needles were not used by anyone else.

Even if it were possible to discover by this means which needles were shared, it would not reveal how many intravenous drug users were sharing them. By testing, it is possible to discover how many needles are contaminated with the HIV virus, but not how many intravenous drug users have been exposed. Casting further doubt on the New Haven projection is the apparent failure to consider how

So why are we undercutting the war on drugs?

the high dropout rate — 60 percent — might skew the findings.

But premature optimism has put opponents of needle exchange on the defensive, and revealing the study's flaws isn't likely to reduce the pressure for more such programs. Even if it doesn't work, supporters demand, what's the harm in trying? It isn't enough to argue that needle exchange puts government in the bizarre position of abetting illegal and life-threatening behavior that we have been trying desperately to control.

But we can point out that clean needles, even if they could prevent sharing, wouldn't reduce a spread of the AIDS virus from addicts to people who don't use drugs. In the U.S. today, AIDS is being spread most rapidly by heterosexual contact, primarily

through transmission of the virus from intravenous drug users to their sexual partners. Clean needles won't alter irresponsible sexual behavior.

Indeed, clean needles aren't going to alter any of the irresponsible and antisocial ways in which drug abusers threaten society. Only treatment can do this. And although clean-needle programs may provide a route to treatment for some drug users, the overwhelming effect would be to impede their movement into treatment.

To be effective, treatment must make demands of drug abusers that few are willing to accept. The great majority will only enter treatment under pressure — and pressure on addicts directly reflects public attitudes about drugs.

By accommodating drug use, through needle exchange, we foster ambivalence, making it harder for communities to discourage drug use and demand that abusers accept treatment.

When we consider this cost and the absence of any proven benefits, we might question whether needle exchange is really such a terrific idea. □

NY Times (8-17-91)

ective

PUBLIC HEALTH

Study Indicates Clean Syringe Program Cuts Spread of AIDS

By JOHN J. GOLDMAN
TIMES STAFF WRITER

NEW YORK—A report on a major study estimates that the HIV infection rate in New Haven, Conn., fell by a third in just eight months after sterile hypodermic syringes were distributed to drug users.

The findings are further stirring the heated nationwide debate over officially sanctioned needle exchanges. In New York City, which has more than 33,000 AIDS cases, health officials are reconsidering a ban on giving clean needles to addicts.

Citing the New Haven research, the National Commission on AIDS, which has criticized the Bush Administration for ignoring the link between intravenous drug use and AIDS, has recommended lifting restrictions on the distribution of needles.

BACKGROUND: In the unique New Haven study, scientists tracked number-coded syringes that were legally distributed to addicts in a special demonstration program. Needles were returned to field workers, and the researchers, using sophisticated DNA technology, tested them for HIV contamination.

The researchers found that the needle exchange reduced the time that dirty needles were in circulation. Preliminary findings showed that the average dropped from 2½ weeks to six days. The percentage of needles found to be contaminated also fell, to 40% from 67.5%.

Using mathematical models, the researchers projected from these figures a 33% reduction in new cases of AIDS.

"The major significance is the fact we have evidence [that] we have really reduced tremendously the increase in the spread of AIDS in the city of New Haven through the use of dirty needles," Mayor John C. Daniels said. He said it was necessary to overcome contentions that distributing sterile needles promotes the use of drugs.

"While you were going through that argument, people were dying. The disease was being spread," the mayor added.

The program of supplying users with sterile needles required special permission from the Connecticut Legislature.

"This is the first study that has rigorously looked at the epidemiology of the needle—where does it go? Where does it come back? How long has it been out?" said Dr. Edwin C. Cadman, chairman of the Department of Internal Medicine at the Yale University

Medical School.

"A needle exchange program does not change the number of needles in circulation," said Edward H. Kaplan, an associate professor at Yale's School of Organization and Management, the principal investigator evaluating the project. "It increases the turn-around. The length of time any given needle lives on the street goes down."

"The number of injections per syringe must decline, reducing the chance that the syringe becomes infected. The risk of exposure to a needle contaminated with the HIV virus is lessened."

In the study, a van donated by Yale University carries outreach workers to areas of New Haven where drug use is prevalent. Each new client selects a code name, which is recorded with the number on the needle issued. When a needle is returned to be exchanged for a new one, it is marked with the user's code name. A participant must bring back a used needle in order to obtain a sterile one.

Participants are told they must not share, rent or sell the needles. They are instructed to sterilize their needles with bleach after each use to avoid contamination.

The system allows researchers to determine if the same person returns the needle—an indication of whether sharing with other addicts has occurred.

"It allows us to trace epidemiology," said Elaine O'Keefe, director of the AIDS division at New Haven's Health Department.

THE OUTLOOK: "This program is not a solution to AIDS or to drug addiction," Mayor Daniels said when the results of the study were announced. "It is one more Band-Aid, but . . . it is a Band-Aid we can not afford to do without. It works."

"If the data holds up, the New Haven study is a very important advance," said Dr. Stephen C. Joseph, former New York City health commissioner who started a needle exchange under the administration of Mayor Edward I. Koch. That program has been abandoned by Koch's successor, Mayor David N. Dinkins.

Needle exchanges are also in operation in Hawaii, Seattle, Portland, Ore., and Boulder, Colo.

The New Haven program has produced a highly encouraging side effect: More than 100 of the needle recipients have entered drug treatment programs, and 100 others are waiting for openings.

Study: Needle Exchange Slows HIV Spread

By Alexandra Lange
YDN Staff Reporter
(9-9-91)

By examining used hypodermic needles returned by drug addicts in exchange for clean needles, two Yale researchers have quantitatively proven that needle-exchange programs considerably reduce the risk of acquiring AIDS from a shared needle.

Since the program exchanged

needles on a one-for-one basis, the scientists say their study could not lead to increased drug use because they are not adding to the number of needles on the streets.

Last November, 67.5 percent of the turned-in needles tested positive for the virus. When needles given out by the exchange program were later tested, only 50 percent were positive.

"The level of infection of program needles has been dropping,

and it is now at about 40 percent. We don't expect it to drop any more, there is a limit to what you can do," said Ed Kaplan, professor at the School of Organization and Management, who ran the project with Dr. Robert Heimer of the Yale Medical School.

Four years ago, the New Haven AIDS Task Force began a street outreach program, but soon realized that more needed to be done than offering rehabilitation and anti-drug

literature. Organizers say needle-exchange programs have been implemented successfully in many large cities around the world, so an exchange program in the Elm City seemed a logical next step.

Backed by New Haven Mayor John Daniels and Police Chief Nicholas Pastore, a bill allowing such a program passed the state legislature in April, 1990. The new law allowed the program to start

See STUDY, Page 7

Study Finds Exchange Reduces Spread of HIV

STUDY, from Page 1

exchanging needles, distributing bleach kits, and offering drug rehabilitation treatment, but mandated a review of funding after one year.

Because the bill called for a review, the mayor's office asked Kaplan to evaluate the success of the city's program, which began last November.

Kaplan's novel idea was to study the needles that were exchanged, testing these intermediaries for traces of HIV, rather than relying on the participants for information.

Each needle used in the one-to-one exchange was given a code number, and participants give themselves a code name. When an exchange is made, the code name of the user, both needles' codes, and the time and place of the exchange are written down. Thus, researchers can tell the time of circulation, whether the needle was shared, and can test a sample to determine what percentage of the needles have traces of HIV.

"You hope to see a drop in the number of needles infected, and that the length of time of circulation gets shorter," Kaplan explained.

Yale provided the funding for his research, set up a lab, and hired scientists to test the turned-in needles for HIV.

The Yale study is groundbreaking in that it examines the epidemic itself rather than drug users' behavior. Kaplan also hopes the study can be expanded to track hepatitis and the type 2 HIV virus by next year.

Heimer, who supervises the lab testing and works with Kaplan, said this new approach "is like studying a malaria epidemic by studying the mosquitoes." He was hired by Kaplan to find a way to test the minute numbers of molecules left in the needles for the virus.

Using a newly discovered chain-reaction process, Heimer was able to make a detectable signal of the virus from the approximately 20 molecules left in hypodermic needles after injection. Previously, hundreds of molecules had been needed to detect the molecular mutations that indicate the presence of HIV.

Needle-exchange programs in San Francisco, Tacoma, Amsterdam and Vancouver had been evaluated by asking all participants a series of questions about their drug-use habits.

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(9-9-91)

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THE NEW YORKER

THE TALK OF THE TOWN

Notes and Comment

BRONX needles are yellow. The needles in Harlem are green. On the Lower East Side, the color is blue, and in Brooklyn it's red. Each of the needles is tinted with a painted-on enamel line, and about three thousand of them are distributed in these neighborhoods once a week by volunteers, who stand on street corners carrying red infectious-waste containers, and who are dressed in mufti, in order to look unofficial and, as one volunteer puts it, "user friendly." The volunteers are members of the Needle Exchange Program, which is a committee of ACT UP, the AIDS Coalition to Unleash Power. Any adult who asks gets two or three free needles, along with a bleach kit to disinfect them, and condoms, and an informational packet explaining how AIDS is spread. It's well known by now that the surest form of transmission is through shared hypodermics, and somewhat less well known that infection among drug users and their sexual partners continues to rocket.

For each color-coded needle returned to ACT UP's volunteers, another is provided, on a one-to-one basis, up to fifteen at a time to any one person. Most people bring a few needles at a time. Right now, the return rate is between fifty and seventy per cent. The idea that addicts like to share needles, and passing around a used syringe is a sacred ritual of intravenous drug use, is a particularly hoary and durable myth. The fact is that hypodermic needles are expensive and hard to get. Last week, at the corner of Brook Avenue and 139th Street, in the South Bronx, an intersection that has

sustained a thriving heroin trade for close to a quarter century, a needle cost two dollars. The price can vary, of course, and occasionally a dealer will get a big shipment of stolen needles and unload them cheap. Not long ago, a man was collared and taken to the Fortieth Precinct station house carrying three hundred needles. He'd been selling them for a buck apiece. But that was a rare bonanza for Brook Avenue.

As a rule, a user pays three dollars for clean works. When you add to that the cost of the drugs themselves, and when you consider the other props involved—a "cooker," usually a spoon or a bottle cap, for mixing heroin with water; a vial of liquid for flushing the needle; a belt or strap or length of rubber tubing to tie off a vein—shooting up gets complicated. "Junkies are balancing a lot," said a drug counsellor we know who was once a heroin addict. "A lot can go wrong. The assumption that they've got everything under control is crazy. Say you get the drug, you get the cooker, you need to shoot, and there's no syringe. Obviously, you're going to share." And when people share needles they also share what's in them: the residue and the drug adulterants and the dirt and the invisible traces of blood, and the likelihood—as high as seventy per

cent—that that blood contains human-immunodeficiency virus.

Of the epidemics in this century, AIDS may be among the more controllable, since its spread is associated with behavior. The obvious way to modify behavior is through education, but in this kind of education the United States lags behind most of Europe, and even behind parts of the Third World. Maybe the lag comes from our puritan background, and maybe, as some people think, it comes from a malign disregard for the so-called risk populations on the part of our government. Who knows? But it seems more than passing strange that France and Germany and the Scandinavian countries and Catholic Mexico have ubiquitous poster campaigns promoting condom use, and that even the tiny Caribbean island of Dominica, where only fourteen AIDS deaths have been recorded, has seen fit to post large billboards counselling both safe sex and compassion for people with AIDS. Somehow, this is an idea that Americans have taken a while to accept. It wasn't long ago that addicts were considered non-people, as remote from the social contract as you could get. Intravenous-drug users didn't hold jobs, own property, or vote. Who ever heard of a constituency of addicts? Yet there are estimated to be two hundred thousand intravenous-drug users in New York City, and it's obvious that not all of them are nodding out on park benches. That addicts do hold jobs, own property, and vote still seems kind of surprising. It's less of a shock to learn that the rate at which they get AIDS and die of it is growing faster than that of any other group.

Grim as this seems, there have been some recent signs of hope. First, there was the acquittal, in June, of eight needle-exchange

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volunteers, most of whom were members of ACT UP. In open defiance of a local statute banning the possession of needles without a prescription, the eight were arrested last year preparing to pass out syringes on an Essex Street corner. The trial went on for six days. Among those who testified was Dr. Stephen Joseph, the former Health Commissioner of New York, who during his administration was a frequent ACT UP target. (His office was "occupied" more than once.) Under Joseph, the Health Department ran a short-lived needle-exchange pilot study for two hundred addicts, which required them to come to the Health Department itself to exchange needles. Now, testifying for the defense, Dr. Joseph made clear that what addicts want is discretion. They want ready access. They need to be targeted as a population for education about the transmission of HIV. What they need most, he seemed to suggest, is an invitation to save their own lives. Apparently, Laura Drager, the judge who heard the case, agreed. "The harm the defendants sought to avoid was greater than the harm in violating the statute," she said in her decision.

Then, at the beginning of August, Yale University and the New Haven Department of Health released a study showing that an eight-month-old experimental needle-exchange program in New Haven had led to an HIV-infection rate that was as much as thirty-three per cent lower than the rate observed among users who shared needles. "If you replace the needle, you're reducing the length of time the needle is in circulation," Edward H. Kaplan, an associate professor at Yale's School of Medicine, who devised the tracking system, told the *Times*. "It is by reducing the prevalence of HIV in circulating syringes that the incidence of new infections can be reduced." The Yale study was followed by a report from the National Commission on AIDS which criticized the Bush Administration's opposition to needle exchange. Dr. Don C. Des Jarlais, a member of the commission and the director of research at the Chemical Dependency Institute of Beth Israel Medical Center, in Manhattan, said there were "tens of studies that give evidence that needle-exchange programs work." There is no evidence, he added, that they increase drug use.

Still, that's one of the hitches. Many



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Evaluating Needle-Exchange Programs via Syringe Tracking and Testing (STT)
Edward H. Kaplan

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125 WORTH STREET
NEW YORK, N.Y. 10013

MEMORANDUM

TO: Hon. David N. Dinkins
MAYOR

FROM: Margaret A. Hamburg, M.D. *M.H.*
Acting Commissioner of Health

DATE: November 1, 1991

RE: Needle Exchange

Following the much publicized report from the needle exchange program conducted by the New Haven Department of Health and Yale University, you asked me to review the study and to provide advice on the potential public health implications of this new information for New York City. In order to provide an effective and coordinated response to this request, a small working group was assembled, composed of the commissioners and leadership of the City's health agencies and the Mayor's Office of Health Policy and the Mayor's Office of Drug Abuse Policy (see attached list). The purpose of this memorandum is to provide you with an update of the activities of this "Needle Exchange Working Group" and a brief summary of our findings, concerns, and recommendations.

Since the late summer, our group has held meetings with the New Haven health officials and Yale researchers, we have reviewed the New Haven study design and data, and we have reassessed the existing national and international literature on needle exchange programs. In addition, we have held a series of discussions with a range of policy-makers, community leaders, and community-based organizations.

Despite the complex and highly charged nature of many of the issues involved, the working group addressed a range of critical concerns and readily achieved consensus in several key areas. Clearly, the magnitude and the urgency of the overlapping epidemics of intravenous drug use and AIDS demands an aggressive, multi-faceted, and coordinated plan. Although controversial, we feel that needle exchange represents one of a range of intervention strategies that the City needs to implement to control the spread of HIV/AIDS among drug users, their sexual partners and their children. After reviewing the literature and talking with community representatives, we do not believe that needle exchange



JOHN C. DANIELS
MAYOR

OFFICE OF THE MAYOR

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November 3, 1991

OFFICE OF PUBLIC INFORMATION & MEDIA RELATIONS

NEW YORK MAYOR THANKS DANIELS FOR CITY NEEDLE EXCHANGE PROGRAM STUDY

(New Haven/New York, 11/3/91) --
New York City Mayor David N. Dinkins today released the text of a letter he sent to New Haven Mayor John C. Daniels, complimenting Daniels on his courage in supporting New Haven's Needle Exchange Program, and indicating that the results of a Yale University evaluation of the program might be instrumental in reversing the position of New York on the use of Needle Exchange programs in the combatting the spread of AIDS and drug addiction.

After the evaluation of the New Haven program was released this summer, the New York City Acting Commissioner of Health, at Mayor Dinkins' request, met with New Haven Health Department officials and with the Yale scientific evaluator. They have now recommended to Mayor Dinkins that the City of New York consider permitting community-based needle exchange programs to operate in that city, subject to restrictions which are being now developed.

Dinkins' letter to Mayor Daniels noted that the working group set up in New York to review the Yale/New Haven study "were very impressed with the quality of the analysis done...and...believe that it is the clearest demonstration yet that such a program can reduce the risk of transmission without increasing drug use." (emphasis added)

Dinkins thanks Mayor Daniels "for having the courage to step forward and to sponsor as scientific an evaluation of needle exchange programs as has been done. By their very definition, such programs are sure to spark controversy... The citizens of New Haven should be proud that, notwithstanding the risks associated with such controversy, you were willing to test the degree to which needle exchange programs can serve as one component of an overall strategy to combat AIDS and drug abuse." (emphasis added)

(CONTINUED)

Dinkins Panel Is Moving to Revive Needle Exchange to Combat AIDS

By MIREYA NAVARRO

In a reversal of health policy, the Dinkins administration is moving to re-establish a needle-exchange program for intravenous drug users to help slow the spread of AIDS, senior administration officials said yesterday.

Although details were not available yesterday, administration officials said a group of New York City commissioners, headed by Acting Health Commissioner Margaret A. Hamburg, would recommend some form of needle-exchange program in a report they are scheduled to deliver to Mayor David N. Dinkins by the end of the week.

Without discussing the report itself, Mr. Dinkins said yesterday that he intended to follow the group's recommendation "even if that recommendation seems to fly in the face of some of these fears and concerns that I have had."

Success in New Haven

The Mayor had asked for the commissioners' views last August after reports that a similar program in New Haven had reduced new infections with the HIV virus, which causes AIDS.

Mr. Dinkins, who scrapped a program that gave new needles in exchange for old ones shortly after taking office last year, fearing it would encourage drug use, met with the group several times over the last three months to ask questions and express his concerns, administration officials said.

The sharing of contaminated needles is the major way the AIDS virus is transmitted in New York City and other urban areas, with those infected often infecting others through sex and pregnancy, experts say. Statistics from the city's Health Department show that needle-sharing accounts for 36 percent of reported AIDS cases among

men and 61 percent for women, with most of them black and Hispanic.

New York and 10 other states outlaw the sale or possession of hypodermic needles without a prescription. But advocates for people with AIDS have repeatedly defied the law to distribute clean needles, arguing that they are helping save lives.

In recent months, that view has spread among elected officials and community organizations as the toll from AIDS rises and new studies like the one conducted in New Haven by Yale University researchers indicate that a needle-exchange program works. Among the new converts is Ruth W. Messinger, the Manhattan Borough President, who called yesterday

Continued on Page B4, Column 5

Needle Exchange Plan Is Revived

Continued From Page A1

day for a needle-exchange program in New York City as a "stopgap measure" and for passage of a pending bill in the State Legislature that would decriminalize needle possession.

In addition to Ms. Messinger, who has been a longtime Dinkins ally, other former opponents of needle exchanges who now disagree with the Mayor include Senator David A. Paterson, son of Basil A. Paterson, a close adviser to Mr. Dinkins, and Dr. James R. Dumpson, chairman of the Black Leadership Commission on AIDS and the man the Mayor turned to to oversee the Health and Hospitals Corporation after the announced departure of the corporation's president, Dr. J. Emilio Carrillo. Dr. Dumpson is also in the working group headed by Dr. Hamburg, the Acting Health Commissioner.

"This disease is such a menace that drastic steps must be taken," Senator Paterson said at a news conference yesterday called by Ms. Messinger.

Ms. Messinger said there were an

estimated 200,000 intravenous drug users in New York City, and only 45,000 drug treatment slots.

Ms. Messinger said she recently visited both the needle-exchange program in New Haven and an illegal exchange site run by Act Up in the Bronx, and talked to addicts who wanted to protect themselves from the virus or avoid passing it on if infected.

Mayor Dinkins said yesterday that one of his concerns about the programs was that they assumed participants would act rationally and not end up sharing their clean needles. "An addict is by definition irrational," he said.

But Richard Elovich, organizer of needle-exchange program run by Act Up, said that "none of these children are growing up in New York City and not seeing the devastation of the twin epidemics" of AIDS and drugs. He, like many other needle-exchange supporters, agreed that the support of Mr. Dinkins, as the Mayor of the city with the highest AIDS caseload in the country, was a key to any viable program. The city had 35,518 AIDS cases as of last September.

Let the Needles Do the Talking

The Preliminary Findings of a Ground-Breaking Program to Prevent the Spread of AIDS by Edward Kaplan, Associate Professor of Policy Modeling and Public Management

Controversial by their nature, needle exchange programs have met with added criticism because they often lack objective measures for evaluating results, relying primarily on unverifiable reports by users. In this article, Professor Edward Kaplan describes his evaluation of an ongoing needle exchange program in New Haven, Connecticut. Professor Kaplan's research design, the first of its kind in the world, reveals that needle exchange programs can be an effective way to prevent the spread of AIDS among drug users. Among others, this evidence convinced New York Mayor David Dinkins, who has just announced his support for needle exchange in New York.

Needle exchange programs have been implemented around the world to slow the spread of HIV, the AIDS virus, among injecting drug users. In legal programs found in Amsterdam, the United Kingdom and Vancouver, studies have shown repeatedly that clients of these programs report reductions in risky behavioral practices without creating a new generation of drug users. In spite of the acceptance of needle exchange by public health officials worldwide as a viable policy for preventing the spread of HIV, the idea of exchanging used needles for clean ones remains controversial in the United States. This is true even though studies of needle exchanges in American cities such as San Francisco and Tacoma, Washington, have produced evidence consistent with findings elsewhere. However, a study released in July documenting the success of needle exchange in New Haven, Connecticut, is forcing a re-examination of the usual arguments for needle exchange, both pro and con. This is especially significant in light of the recent recommendation of the National Commission on AIDS to legalize the purchase and possession of drug injection equipment.

Why is needle exchange so controversial, and what new information does the New Haven study have to offer? The most common objection to needle exchange programs is that by providing access to needles, existing drug users will continue to inject, while those considering drug use will now find it easier to initiate injecting behavior. Critics claim that such programs increase the number of needles in circulation by large amounts. Shouldn't the effort be to stop drug injection altogether? Additionally, where is the evidence showing that needle exchange actually reduces the number of new infections? After all, most studies of needle exchange are evaluated on the basis

of self-reported changes in risky behaviors (such as needle sharing, injection frequency, failure to clean needles with bleach and so forth). These self-reports are not verifiable. Also, it has not been shown how such behavioral changes translate into reductions in new HIV infections.

Enter the New Haven study. Over 60 percent of New Haven's adult AIDS cases can be traced to injecting drug use; this is twice the national average. In addition, the per capita rate of pediatric AIDS cases, among the worst in the nation, can be attributed to mothers infected via drug use or sexual contact with drug users. Three years of lobbying and community organizing led to the passage of legislation enabling the creation of a demonstration needle exchange program in New Haven. With complete support from New Haven Mayor John Daniels, the bill passed by roughly 3:1 margins in both the Connecticut House and Senate last year.

New Haven's Legal Needle Exchange Program is operated by the AIDS Division of the New Haven Department of Health. Those involved in the design and implementation of the program included the city's chief of police; director of public health; chair of the Mayor's Task Force on AIDS; director of the city's AIDS Division; representatives from city government, city and state public health departments and drug treatment programs; street outreach workers; community educators; and the author, a professor at the Yale School of Organization and Management, who was entrusted with the design and conduct of the program's evaluation. The mandate for such evaluation was part of the law that created the program and required that a report be produced one year after the passage of the bill. Cognizant of the findings from other programs, the criticisms of such studies, and the time necessary for evaluation, a novel evaluation design was created.

This design was based on an underlying circulation theory of needle exchange. The spread of HIV among drug users via shared injection equipment is somewhat akin to the spread of malaria via mosquitoes. Just as a single mosquito can bite and infect many persons with malaria, a single infected needle can infect many drug users with HIV via repeated injections with that needle. Needle exchange, however, increases the turnaround of syringes in circulation, and as a consequence, decreases the length of time a given needle is in circulation. It is as if infected mosquitoes were continuously replaced by new-

Dinkins Backs Plan On Needle Exchange

Mayor David N. Dinkins yesterday officially endorsed a needle-exchange program for New York City as part of what he said would be a more aggressive approach by his administration to fight both AIDS and drug abuse.

The Mayor had already said this week that he would support a privately financed pilot program to be run by community organizations, changing his previous stance against needle exchange. He said yesterday that he had directed the Acting Health Commissioner, Dr. Margaret A. Hamburg, to help the community groups design the program, including linking drug treatment to the exchange.

Dr. Hamburg said the city is also lifting restrictions that banned groups that receive city money from distributing kits to teach drug users how to disinfect their needles with bleach. The size and starting date of the needle exchange program have yet to be determined. But at least one private foundation, the American Foundation for AIDS Research, has announced that it will give \$300,000 to begin four demonstration needle-exchange programs nationwide in June, including at least one in New York City.

NY TIMES 11-5-91

Yale study sways NYC on needles

By Laura Johannes
Register Staff

Inspired by evidence that New Haven's year-old needle exchange program has slowed the spread of the AIDS virus, New York City Mayor David Dinkins reversed his longstanding opposition to such programs Thursday.

A Yale study released this summer, which provided the nation's first hard data on needle exchange effectiveness, is "the clearest demonstration yet that such a program can reduce the risk of transmission," Dinkins wrote in a letter this week to New Haven Mayor John C. Daniels.

The Yale study estimated that swapping used needles for clean ones can reduce the spread of the AIDS virus, known as HIV, by 33 percent among intravenous drug users in New Haven. Researchers have cautioned, however, that more research is necessary to be certain those estimates are correct.

At a Manhattan press conference Thursday, Dinkins announced that New York City will provide technical support and monitoring to any community group willing to manage a privately funded needle exchange program.

Turn to Needles, Page 14

NH Register (11-8-91)

Needles: Dinkins reverses stand on program

Continued from Page 1

Dinkins, like other politicians nationwide, had been wary of needle exchanges because they could appear to condone illegal drug use. When he took office in 1989, he discontinued a city-run program.

He reversed his position Thursday based on the recommendation of an advisory group that he had appointed to review the Yale research.

"When news of a study conducted by the New Haven Depart-

Prostrate cancer slows rocker Frank Zappa

Associated Press

NEW YORK — Rock musician Frank Zappa was unable to attend a 50th birthday tribute because of an ongoing battle with prostate cancer, his family announced Thursday.

"He is fighting successfully," said his daughter, Moon, in a packed Manhattan news conference. "There are occasional periods where he's not feeling as well. Unfortunately, this is one."

Zappa was scheduled to appear at "Zappa's Universe," a New York tribute Thursday night to the artist for his 50th birthday. Moon and her two brothers, Dweezil and Ahmet, are appearing in the show. Zappa turns 51 on Dec. 21.

Dweezil was with Moon when she read a short statement to the media announcing her father's ill-

ness. "I established the Needle Exchange Working Group to examine the implications that study and others might have for the city of New York," Dinkins said.

Connecticut's General Assembly, which passed legislation establishing the needle exchange program in 1990, chose New Haven as the site because the city has the state's highest incidence of acquired immune deficiency syndrome and a large rate of infection through needle-sharing. AIDS is spread through contact with infected blood or semen.

Two-thirds of the 451 cases diagnosed in New Haven since 1981 are linked to intravenous drug use, either directly or through sexual contact with a drug user, said city AIDS Division Director Elaine O'Keefe.

Under the city-run, state-funded program, outreach workers travel four days a week to neighborhoods hardest hit by AIDS and offer clean needles and bleach kits to sterilize needles in case they are shared.

So far, 900 drug addicts have enrolled, using code names to protect their anonymity. Outside of the needle exchange program, possession of hypodermic needles is illegal in Connecticut without a prescription.

By labeling needles with numbers and keeping track of who returned them and when, Yale researchers determined the program reduced the sharing of syringes during its first eight months.

By cutting down on sharing, the program apparently reduced the number of infected needles in circulation. Only half the program's needles tested positive for the AIDS virus, compared with 67.5 percent of "street" needles and 91.7 percent of needles from a local "shooting gallery."

Also, by establishing a friendly relationship with addicts, needle exchange outreach workers have enrolled 200 people in drug treatment, said O'Keefe, who directs the needle exchange program.

O'Keefe and other members of the Mayor's Task Force for AIDS made the needle exchange an issue in the 1989 campaign. After heavy lobbying, they secured the support of all three mayoral candidates, O'Keefe said.

"It was a political risk for the mayor," said Khalid Lum, a spokesman for Daniels. "But it paid off because the study has shown that the program can save lives without increasing drug use. We're proud to be an example for New York and the nation."

Edward H. Kaplan, a Yale associate professor and lead researcher in the needle exchange study, said he hopes Dinkins' support will trigger other politicians across the country to rethink their positions. In San Francisco, for example, a needle exchange program operates illegally, he said.

"What can I say? I'm elated," said Kaplan, who was asked by city officials to head the study. "People were waiting for something like this to happen. It may well be that other studies will follow suit."

Studies (and Politics) Guided Switch on Needles

By MIREYA NAVARRO

In approving a needle exchange program in New York City, Mayor David N. Dinkins has gingerly embraced a weapon against AIDS that has gained wider acceptance in the last year but still has staunch opponents within the minority and drug-treatment communities.

On Thursday the Mayor said he would endorse a privately financed pilot program to be run by community organizations as part of a more aggressive approach to fight both AIDS and drug abuse in the city. His support will enable groups that have long wanted to offer the programs to obtain financing, as well as waivers from a New York State law that makes the exchanges illegal.

Mayor Dinkins was persuaded by two related developments, one based on new research and the other based on politics. Researchers say there is growing evidence that needle exchange programs are helping slow the spread of AIDS. Politically, this evidence, and the rise in AIDS cases, has convinced many, but surely not all, black political leaders to endorse the exchange programs.

"We can now say needle exchange is in polite company," said Ron Johnson, head of the Minority Task Force on AIDS, one of the groups seeking to participate in the pilot needle-exchange program.

But Mayor Dinkins, who had opposed the programs up to now and had scrapped a city-run needle exchange operation last year, did not come to his decision easily. The Mayor had been reluctant to, as he put it, "relax my long-held resistance" to needle exchange, because it ran against his basic intuition, mayoral aides said. Mayor Dinkins, like many needle exchange critics, is deeply bothered by the idea of doing anything to help addicts continue their drug habit. They question whether

CHRONOLOGY

The Needle Exchange Plan

NOV. 7, 1986 The Health Commissioner of New York State, Dr. David Axelrod, says he would consider a small demonstration project in New York City to see whether a needle exchange program would reduce the spread of AIDS.

JAN. 30, 1988 After rejecting several proposals from the city's Health Department, state officials say they have approved a plan to test needle distribution.

AUG. 11, 1988 New York City officials announce they will adopt the plan, despite vehement objections from some law-enforcement officers.

NOV. 3, 1988 Mayor Edward I. Koch rules out one distribution site in Manhattan because it is near a school. Later, another site is also deemed unacceptable.

NOV. 7, 1988 New York City begins needle distribution from a makeshift X-ray room on the ground floor of the Health Department headquarters in lower Manhattan.

JAN. 30, 1989 City officials acknowledge that the program has attracted so few addicts that it will be impossible to determine its effectiveness. Instead, health officials say they will concentrate on getting addicts into treatment.

FEB. 14, 1990 Mayor David N. Dinkins, who has always feared the plan would encourage drug use, says he will scrap it.

OCT. 28, 1991 Dinkins administration officials say they will revive a needle exchange program, but offer no details.

NOV. 7, 1991 Mayor Dinkins announces he will now support a privately financed pilot program to be run by community organizations. He says city officials will help design the program and monitor it.

the programs are effective and worry about the message they send to young people. In the Mayor's caution there was also a recognition that flip-flopping on an issue important to blacks, the sturdiest tie in his gorgeous mosaic, could become a political liability. Black and Hispanic people account for the overwhelming majority of reported AIDS cases in New York City stemming from intravenous drug use. Although the Latino Commission on AIDS, a group formed to coordinate the Hispanic response to the epidemic, supports needle exchanges, the 60 members of the Black Leadership Commission on AIDS are divided on the issue.

The Leadership Commission's executive director, Debra Fraser-Howze, said needle-exchange opponents in the group, which includes ministers, physicians and other professionals, are concerned about the lack of definitive evidence showing that the programs actually help re-

Mayor Dinkins grapples for solutions as the AIDS crisis grows.

duce HIV infections, which cause AIDS.

Mayor Dinkins is among a growing group of skeptics who have reversed their stance on needle exchange over the last year, given the urgency of the AIDS epidemic and the lack of alternatives to help curb new infections among intravenous drug users, their sex partners and their children. By giving addicts clean needles for dirty ones, needle exchanges try to control the sharing of needles contaminated with the virus.

Reports of the success of a needle exchange program in New Haven put the issue back on the table for New

York City last summer. Yale University researchers estimated that in eight months the program had reduced new HIV infections by 33 percent by replacing the number of infected needles in circulation.

In places like Tacoma, Wash., researchers have found that the incidence of infections with hepatitis B, another blood-borne virus, has gone down among intravenous drug users after the opening of a syringe exchange program. And in a study published in the Journal of the American Medical Association last month, researchers from Johns Hopkins University found lower infection rates among intravenous drug users who also suffered from diabetes — 8.8 percent compared with 24.3 percent for addicts who were not diabetic.

The researchers concluded that the lower rates were most likely due to the addicts' ready access to sterile needles to inject insulin.

Dr. Margaret Hamburg, New York City's acting Health Commissioner, said "a growing body of evidence" indicates that needle exchange reduces the HIV risk, leads participants to avoid needle sharing and practice safer sex, and encourages them to enter treatment. Dr. Hamburg, who headed a group that recommended that the city give needle exchange a second try, said there is no evidence the programs encourage drug use.

Looking for Solutions

"All seems to underscore that there are benefits whether or not we can measure reduction in HIV prevalence," she said.

But critics like Dr. Michael Smith, director of the substance abuse division at Lincoln Hospital in the Bronx, say that needle exchanges are largely ineffective because they rely on consistent behavior from a group that is, by nature, compulsive.

"You're going to get people that have a compulsive, self-destructive disorder to act in a rational way," he said. The Rev. Calvin O. Butts, pastor of Abyssinian Baptist Church and a member of the Black Leadership Commission on AIDS, said that he opposed needle exchanges.

"You're going to perhaps make a dent in the spread of AIDS but people would still be dying from heroin and cocaine use, so how do you measure the good?" he said. But expressing the ambivalence of many others in the city, he said he would not fight the establishment of a needle exchange program. "I love drug addicts because they are my brothers and sisters," he said. "Love compels me to take a look at possible solutions."

Weld supports a trial run for clean needle exchange

By Teresa M. Hanafin
GLOBE STAFF

issue a report at the end of the year.

Gov. Weld has switched his stance on the distribution of clean needles as a means of slowing the spread of the AIDS virus, endorsing a Department of Public Health plan that would allow the exchange of used hypodermic needles for new ones.

However, Weld has attached several caveats to his support, including:

- The program must be run initially as a pilot in one community.
- It must last no longer than a year.
- And the health department must monitor its effectiveness and

Weld had previously said he opposed a clean needle exchange program because he viewed it as a tacit endorsement of illegal drug use. However, aides said he lent his support when Department of Public Health Commissioner David H. Mulligan convinced him that health officials would carefully oversee the program to make sure it does not increase drug abuse.

Under the legislation, the health department would choose the community in which to set up the pilot program and would manage it. Proposals from cities and towns would be solicited, and no community op-

NEEDLES, Page 19

Queens Police Hunt Rapist

The police in Queens are seeking the rapist of three women in the Springfield Gardens area, officers said yesterday. Each time, the man entered through the sleeping victim's window and covered her eyes, said Sgt. Eddie James. The first rape was on Aug. 22, the second on Sept. 17 and the latest on Friday. In the latest assault, he also stole the woman's car, a gray 1981 two-door Mercury Cougar.



NEW HAVEN, CONNECTICUT, FRIDAY, NOVEMBER 22, 1991

Needle Program Prospers

By Rachel Kousser
YDN Staff Reporter

Dinkins' proposed program, however, will not fund the program but will help community groups set up needle exchange programs of their own and establish city guidelines for them to follow.

The New York City mayor, who had previously opposed the program, was convinced by the study, which showed distributing clean needles helped decrease the spread of the HIV virus, and indicated the program did not encourage new people to become addicts, said Robert Heimer, a program researcher who is a postdoctoral fellow in the molecular biophysics and biochemistry department.

In fact, the program provides a means for "sincere contact with alienated people," and leads them to seek drug treatment, said biology professor Alvin Novick, the former chairman of the Mayor's Task Force on AIDS and one of the program's foremost supporters.

About one quarter of the addicts now in the program have requested drug treatment, although only about 57 percent of those have been placed in treatment so far, Heimer said.

Addicts in the program who want help are more likely to be

accepted to a drug treatment center than those who are not in the exchange program because the program's outreach workers serve as advocates for them, said School of Organization and Management professor Edward Kaplan, who designed the scientific arm of the program.

New Haven seemed to have an urgent need for the program because of 60 percent of its AIDS cases were from intravenous drug users — twice the national average — but the path to establishment of the needle exchange program has not been easy.

When the Mayor's Task Force began considering needle exchange in 1987, "everyone" opposed the plan, because it was seen as "coddling or condoning addicts," Novick said.

It took three years to pass a statute amending Connecticut's ban on carrying syringes without a prescription, he said. Currently, this is the only step Dinkins has yet to take in implementing his program.

The AIDS Brigade, a grass-roots needle exchange group started by an ex-addict, had been operating illegally during this time, member David Sussman '92 said.

See NEEDLE, Page 7

Joint Seminar:
Center for Policy and Education
Harvard AIDS Institute
and
Health Decision Sciences Group

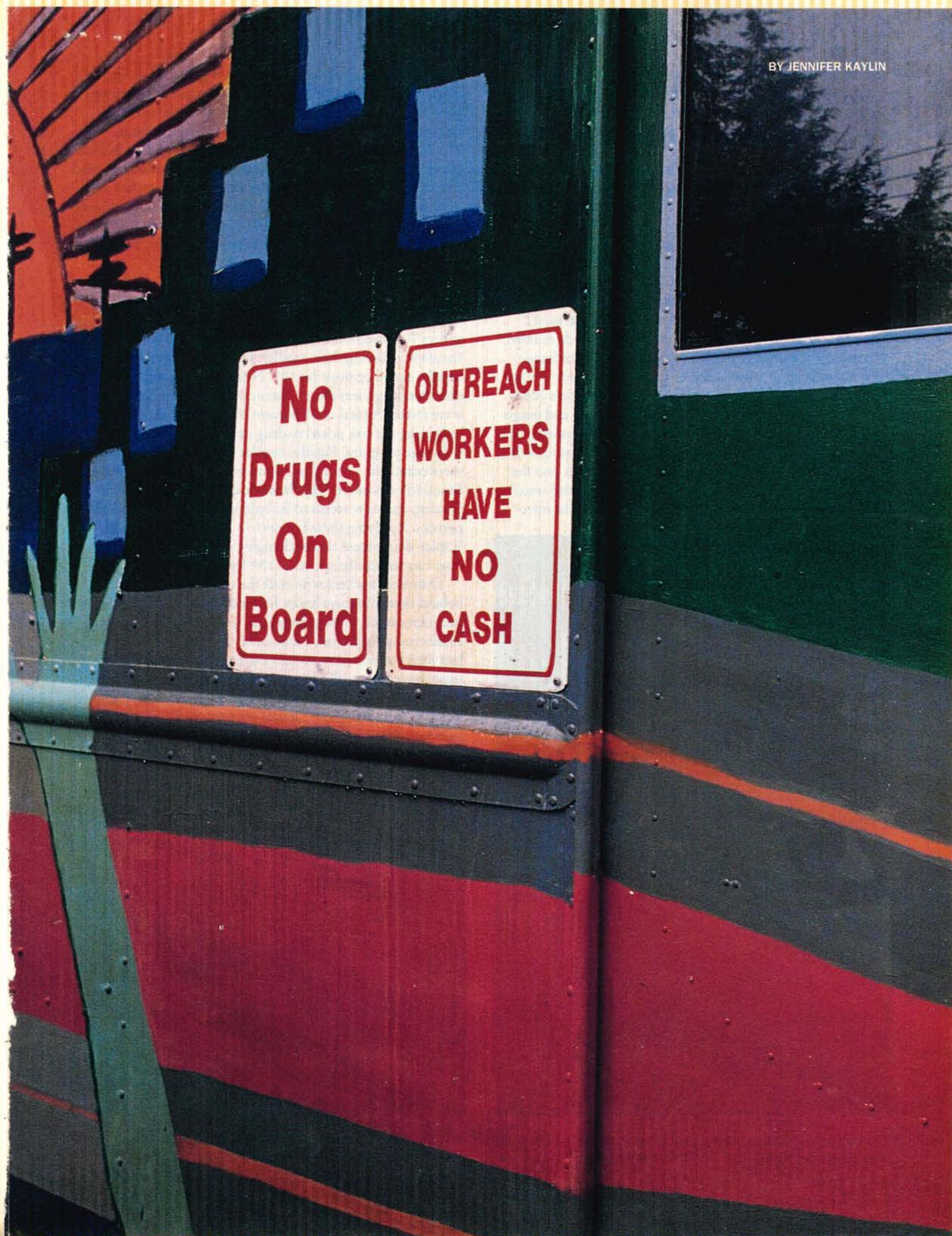
Let the Needles Do the Talking: *Evaluating New Haven's Legal Needle Exchange Program*

Edward H. Kaplan
Professor of Policy Modeling/Operations Research
Yale School of Organization & Management

Thursday, November 21
12:30 to 1:30; Room 502

For more information, contact Randy Sell, HPM
4th floor mailbox

BY JENNIFER KAYLIN



MEDICAL GRAND ROUNDS

LET THE NEEDLES DO THE
TALKING: EVALUATING THE
NEW HAVEN NEEDLE EXCHANGE

EDWARD H. KAPLAN

ASSOCIATE PROFESSOR
POLICY MODELING,
PUBLIC MANAGEMENT & OPERATIONS RESEARCH
SCHOOL OF ORGANIZATION & MANAGEMENT

COMBINED HIV ROUNDS AND
DIV. HIV/AIDS RESEARCH SEMINAR

NEEDLE SYRINGE

EXCHANGE;

EVALUATION OF PROGRAMS

IN NEW HAVEN

AND SAN FRANCISCO

Dr. Ed Kaplan of Yale University

Dr. John Watters Univ. of Calif.
at San Francisco

Wednesday, December 18, 1991

9:00 - 10:30 am

Bldg 16 Conference Room
Executive Park

contact Theresa Brimer x 0937

COLLOQUIUM:

RESPONDING TO THE RECOMMENDATIONS OF THE NATIONAL COMMISSION ON AIDS

"THE TWIN EPIDEMICS OF SUBSTANCE USE AND HIV"



**SAN FRANCISCO
TREATMENT RESEARCH UNIT**

PART OF

THE UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

IN COOPERATION WITH

THE BAYVIEW HUNTER'S POINT FOUNDATION
SAN FRANCISCO DEPARTMENT OF PUBLIC HEALTH:
COMMUNITY SUBSTANCE ABUSE SERVICES &
SAN FRANCISCO GENERAL HOSPITAL
THE SAN FRANCISCO VETERANS AFFAIRS MEDICAL CENTER

**FRIDAY, 1 NOVEMBER 1991
UCSF LAUREL HEIGHTS CONFERENCE CENTER**

* **Edward H. Kaplan**, Associate Professor of Policy Modeling and Public Management and Operations Research, Yale School of Organization and Management. Designed the evaluation plan for the New Haven Needle Exchange Program; developed mathematical models for the AIDS epidemic.

* Selected by the statewide committee to receive the Commissioner's AIDS Leadership Award.

The Commissioner's AIDS Leadership Award

1991

CONNECTICUT DEPARTMENT OF HEALTH SERVICES
SUSAN S. ADDISS, M.P.H., M.Ur.S., COMMISSIONER

Weekly Bulletin & Calendar

12/16/91 - 1/13/92

Kaplan lauded for work to decrease spread of AIDS

Edward H. Kaplan, associate professor of policy modeling and public management and operations research at the School of Organization and Management, is one of approximately 50 individuals from throughout the state who were selected to receive the Commissioner's AIDS Leadership

Award of the Connecticut Department of Health Services. At a ceremony on Dec. 3, Professor Kaplan was cited for designing the evaluation plan for the New Haven Needle Exchange Program, for which he developed mathematical models to monitor the spread of Human Immunodeficiency Virus (HIV) via the sharing of needles. His model showed for the first time that a needle exchange program helped curb the sharing of contaminated needles. Professor Kaplan was presented the award by Susan S. Addiss, commissioner of the Connecticut Department of Health Services.

Last spring, Professor Kaplan received an Ivy Award from the University in recognition of his efforts to halt the spread of AIDS in New Haven.

Protesters interrupt AIDS awards meeting

By FRANK SPENCER-MOLLOY
Courant Medical Writer

A ceremony honoring about 50 people for their work in the fight against AIDS was disrupted Tuesday night by a group of AIDS-rights activists who shouted down state Health Commissioner Susan S. Addiss.

Among those honored during the third annual Commissioner's AIDS Leadership Awards was Elaine O'Keefe, director of the New Haven Health Department's AIDS division and a key figure in setting up that city's needle-exchange program. Also honored was Edward H. Kaplan, an associate professor at the Yale University School of Organization and Management, who developed a scientific model that showed for the first time that a needle program helped curb the spread of contaminated needles.

HARTFORD COURANT 12-4-91

About 20 people identifying themselves as members of Act Up/Connecticut stood as Addiss was making opening remarks to an audience gathered for a presentation of AIDS leadership awards at the Legislative Office Building.

The group members said they are angry at a department proposal to widen the mandatory reporting of names of those who have the disease.

"No names, treatment now!" the group chanted, and then members filed out of the caucus room as Capitol police moved briskly behind them. One heckler who walked behind the dais at which Addiss was speaking was intercepted by an officer, who nudged him toward the door.

Among those honored during the ceremony was 9-year-old Edward White, a fourth-grader at a Hartford

Please see Protesters, Page D11

Hartford Courant (12-4-91)

Protesters interrupt AIDS meeting

Continued from Connecticut Page

public school, who was commended for a class project he did, "You Don't Have To Be Afraid of AIDS." He did the project despite opposition from a teacher who thought the subject inappropriate for a child.

Also honored were W. Shayne MacLeod IV, co-chairman of the People With AIDS Coalition of Connecticut; Manuel Magaz, an HIV coordinator at the Hartford Dispensary; and Bread & Roses, a host home in western Connecticut for men and women in the final stages of AIDS.

Addiss said the department is considering a plan that would require commercial laboratories that test for the AIDS virus to report to the state the names of people whose immune systems are impaired below a certain level, as measured by the count of certain infection-fighting cells.

AIDS is a reportable disease in all 50 states, but Addiss rejected Act Up's contention, contained in a flier, that the state is seeking to collect the names of people who test positive for the AIDS virus but do not have the disease.

That condition would automatically be defined as AIDS under a new definition the federal Centers for Disease Control is expected to adopt

the current definition re- appearance, in a person h the AIDS virus, of at a long list of opportunis- s before the diagnosis of IDS can be made.

at the current definition ny sick people, the CDC den it to include those lper cells fall below 200 illimeter of blood. The d add 160,000 people to

the current 200,000 cases classified as AIDS.

After the ceremony, the Rev. Thad Bennett, director of AIDS Ministries of Connecticut, said he endorsed the demonstrators' view that the expanded count was unnecessary and

an intrusion on privacy rights.

The state's "concern is about lars and not about people," Ben said, referring to the formula federal government uses to g AIDS funds to states based on c loads.

can be printed. New Haven Register, 40 Sargent L 12/2/91

Mayor, chief lauded for needle program

To the Editor:

The needle exchange program designed to stem the rise of HIV/AIDS among drug injectors in the New Haven area was the subject of favorable discussion at the International Conference on Drug Policy Reform held in Washington, D.C., November 13-16. It is obvious that similar programs are needed immediately in all major urban areas where IV drug use is prevalent.

The legal exchange program, for the first time, recognizes addicts as worthy of care and intervention in a benevolent sense at political and law enforcement levels. Mayor John C. Daniels, in his wisdom, lobbied strongly for this program despite political pressure against it. The unbiased scientific approach to the lab data, a study by Professor Edward Kaplan at Yale, has validated the usefulness of this approach in HIV/AIDS prevention.

At the Washington conference, New Haven's chief of police, Nicholas Pastore, received the H.B. Spear Award for Achievement in the Field of Control and Enforcement. His gentle, compassionate approach to the sick addict has been a key factor in the early success of the New Haven exchange program. If similar programs are to be successful elsewhere they must have similar backing and cooperation from the executive and police establishments.

Henry N. Blansfield, M.D.
Danbury

Editor's Note: Dr. Henry N. Blansfield is a member of Danbury's AIDS task force.

AIDS
PROJECT
NEW
HAVEN
APNH

news

LETTER

JANUARY
1992

Issue No.30

1-92

AIDS Project New Haven P.O. Box 636 New Haven CT 06503
Office: 203.624.0947 Mon-Fri 9am-5pm
Hotline: 203.624.AIDS Mon-Fri 6:30pm-9pm

New Haven's Needle Exchange Prompts New Programs Across the Country

by Sarah Lentz

The New Haven Department of Health's year-old needle exchange program is leading the way in national policy since a team of Yale researchers demonstrated its success in reducing the number of HIV-infected needles in the city's IV drug-using population.

Policy-makers in New York City have reviewed the data and are planning to imitate the program, which exchanges needles on a one-to-one basis and provides bleach kits, condoms, information on drug use and AIDS and opportunities for drug rehabilitation treatment.

By analyzing needles for the virus, a Yale Medical School team, led by Dr. Robert Heimer, has shown that the level of infection in the needles has been profoundly reduced since the introduction of the program. Last November, at the start of the evaluation, 67.5 percent of the used needles tested positive for HIV. Now only 46 percent are positive, a reduction of 33 percent. In addition, the program has referred over 200 addicts to drug treatment.

Serving over 900 drug addicts in the New Haven area, the needle exchange program, led by Elaine O'Keefe, operates by exchanging needles on a one-to-one basis through a mobile outreach van that visits five specific locations throughout the city four times a week.

The program was initiated a year ago as part of an ongoing effort by the New Haven AIDS Task Force to reduce the spread of

HIV infection in the intravenous drug using community of New Haven. This community experiences the highest incidence of HIV infection in New Haven. Previously, the Task Force's outreach program offered literature and rehabilitation opportunities to IV drug users, but this approach was insufficient in controlling the spread of the virus. A needle exchange offered the prospect of a better alternative.

In April 1990, through backing by New Haven Mayor John Daniels and Police Chief Nicholas Pastore, a bill was passed by the Connecticut legislature making provisions for such a program. Since Connecticut law forbids the possession of needles and syringes without a prescription, the bill grants immunity to drug users in the program. The bill also called for a review of the program, which was facilitated the Yale team.

Working with the New Haven Department of Health, Edward Kaplan, a professor at the Yale School of Organization and Management, developed a model for evaluating the needle exchange program. The model seeks to follow the needles in order to understand the virus, a strategy more reliable than behavioral self-reporting by participants. By removing used needles from the streets and replacing them with clean ones, the exchange reduces the time a needle spends in circulation and the likelihood it will become contaminated.

(continued on page 2)

4 from area get awards for fight against AIDS

NEW HAVEN — Three local people and one organization involved in the fight against AIDS were recently recognized by state Health Commissioner Susan S. Addiss.

Addiss gave "commissioner's AIDS leadership awards" to the Central Medical Unit of the APT Foundation, which was honored for its prevention, education and treatment programs and "compassionate approach to counseling and testing," and Edward H. Kaplan, associate professor in the Yale School of Organization and Management, who designed the evaluation plan for the city's needle exchange program.

Also, awards went to the Rev. Brixaida Marquez, director of the Free Forever Prison Ministry, which has sponsored AIDS education programs and a residence for ex-convicts with AIDS; and Elaine O'Keefe, director of the AIDS division of the city's Health Department.



The University of Michigan

SCHOOL OF PUBLIC HEALTH

109 SOUTH OBSERVATORY STREET
ANN ARBOR, MICHIGAN 48109-2029

OFFICE OF THE DEAN

February 6, 1992

Prof. Edward H. Kaplan
Yale School of Organization
and Management
Box 1A
New Haven, CT 06520

Dear Professor Kaplan:

I am pleased to write concerning your work in evaluating the New Haven needle exchange program and the important impact it has had on the active national debate concerning the effectiveness and merit of such programs. As you know, there is a desperate shortage of drug treatment "slots" that would enable addicted drug users to escape from the twin threats of addiction and AIDS (HIV infection); this paucity of treatment options pertains nationwide. Thus the short term approach to intervention in the HIV epidemic necessitates attention to clean needle strategies.

The debate about such short term interventions has been heated, and studies such as yours are crucial to resolving this important public health dilemma. Your demonstration of effectiveness in reducing HIV transmission (without increase in injection drug use) had a timely and prominent impact on all of this, and I have been pleased to see a major shift on the part of the leaders of seriously affected communities toward re-examination of needle-exchange strategies. As you know, the National Commission on AIDS has urged such a fresh assessment, and we were, therefore, particularly aware of the welcome effect your work in New Haven had on the policy dialogue.

I am glad to know that these efforts have attracted sufficient attention to be considered for recognition in the Franz Edelman Award competition for excellence in management science. I hope such a signal recognition will happen, for your endeavors have great importance in the overall context of public health.

With best regards,

Sincerely,

June E. Osborn, M.D.
Dean, University of Michigan
School of Public Health
Chairman, National Commission on AIDS

City and County of San Francisco



**Department of Public Health
Division of Mental Health,
Substance Abuse and Forensic Services
Community Substance Abuse Services**

February 10, 1992

Dr. Edward H. Kaplan
Yale School of Organization and Management
Box 1A
New Haven Connecticut 06520

Dear Dr. Kaplan:

I was very pleased to learn that your evaluation of Needle Exchange in New Haven has been named a finalist for the Franz Edelman Award for excellence in management science.

Community Substance Abuse Services knows very well the impact of your work. You were extremely helpful in the development of our needle exchange program and the evaluation design. You provided us with countless hours of consultation, a presentation at our Needle Exchange Colloquium, and shared your program design. You provided my staff with a great deal of emotional support and encouragement to engage in the public debate. The value of such assistance is immeasurable. You provided your consultations to us out of your commitment to the issues and in knowing this is lifesaving work.

As you know, our work resulted in the recently released "Comprehensive Plan to Reduce the Spread of HIV Infection among IDUs in San Francisco- including needle exchange services". This plan reflected your guidance and is now very close to becoming a reality. The Plan was approved by the San Francisco Health Commission, and the San Francisco Board of Supervisors, and was signed by the Mayor of San Francisco. They have earmarked \$150,000 to start the needle exchange services when legally feasible, and have identified 2.5 million toward our goal of treatment upon demand. Legislative action taken recently has been extremely positive. The San Francisco Health Commission also noted your work in their resolution as they accepted our plan.

Your work has focused public attention on AIDS, IDUs, and needle exchange services. You have an amazing ability to make mathematical modeling, statistics, and data analysis understandable to the large number of individuals trying to address health and public policy.

Thank you for your help, good luck as a finalist, and visit again soon!

Sincerely,

A handwritten signature in dark ink, appearing to read "Wayne Clark", written over the typed name.

Wayne Clark, Ph.d., Director
Community Substance Abuse Services



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Alcohol, Drug Abuse and
Mental Health Administration
Rockville MD 20857

February 14, 1992

Edward H. Kaplan, Ph.D.
Associate Professor of Policy Modeling and Public Management
Yale School of Organization and Management
Box 1A
New Haven, Connecticut 06520

Dear Dr. Kaplan:

It is with great pleasure that I write to congratulate you on your nomination for the Franz Edelman Award for excellence in management science.

Your pioneering mathematical modeling work in determining the efficacy of syringe exchange for preventing the spread of AIDS extends far beyond the world of mathematics to providing us with important public health management and policy tools. Not only will your research soon be the first federally funded project of this nature, but it has been ~~the~~ pivotal work in starting a groundswell of national change regarding syringe exchange.

Your research is also providing America and the world with important new modeling procedures for understanding the epidemiology of AIDS and other infectious diseases such as hepatitis. It therefore is a major contribution to bettering public health.

Furthermore, because it applies advanced mathematical modeling techniques to real world problems, your research has served as a bridge in enabling many non-mathematicians to appreciate and value as never before the importance of mathematics in management and policy analysis.

It has been my proud pleasure to have been serving as the Public Health Service's primary liaison with you. It is with great relish that I look forward to serving as your federal project officer when the National Institute on Drug Abuse soon starts to fund your catalytic work.

Sincerely,

Peter I. Hartsock, Dr. P.H.
Deputy Chief, Clinical Medicine Branch
AIDS Research Program
National Institute on Drug Abuse
Room 11A-33
5600 Fishers Lane
Rockville, Maryland 20857



STATE OF CONNECTICUT
DEPARTMENT OF HEALTH SERVICES

February 19, 1992

Professor Edward H. Kaplan
Yale School of Organization and Management
Box 1A
New Haven, CT 06520

Dear Professor Kaplan:

It is Connecticut's honor that you have been selected as one of seven finalists for the Franz Edelman award for management and science achievement. The impact of your evaluation component of the New Haven Needle Exchange Program on the development of similar programs, both within this state and throughout the world, can hardly be overestimated.

The New Haven Program was certainly not the first needle exchange program to be implemented. It was, however, the first to be subjected to a rigorous evaluation which could demonstrate its benefits in an incontrovertible fashion. Your data on the infectivity rate of exchanged program needles as compared with exchanged "street" needles, when accompanied by your careful estimate of the anticipated reduction in the rate of HIV infection in the target population have clearly convinced many policy makers who were waiting for the kind of information your project could provide to move forward with implementation of new needle exchange programs. For example, in this state, legislation has been introduced that would authorize new programs in Hartford and Bridgeport, and a budget option has gone forward to provide initial funding for those new programs. Further, I understand that legislators in Massachusetts, California and New York, following on release of the results of your study, are working to introduce pieces of legislation related both to needle exchange programs and to the decriminalization of needle acquisition and/or possession.

We are all greatly in your debt. It is always gratifying when a project such as the needle exchange program in New Haven, seemingly of small dimensions, can have such a widespread impact far outside the borders of our state.

Again, congratulations on your nomination.

Sincerely,

A handwritten signature in green ink that reads "Susan S. Addiss".

Susan S. Addiss, MPH, MURs
Commissioner

SSA/dsm

Phone:

150 Washington Street — Hartford, Connecticut 06106
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THE CITY OF NEW YORK
DEPARTMENT OF HEALTH
OFFICE OF THE COMMISSIONER



125 WORTH STREET
NEW YORK, N.Y. 10013

February 28, 1992

Professor Edward H. Kaplan
Yale School of Organization
and Management
Box 1
New Haven, CT 06520

Dear Professor Kaplan:

I want to add my voice to the many others across the country who have been impressed by your groundbreaking work on needle exchange evaluation, and have used your research to shape policy and program.

For those of us involved in HIV/AIDS prevention efforts, your work has provided meaningful and exciting evidence of an important intervention strategy. As you know, in New York City, the publication of the report concerning the New Haven Needle Exchange Program and the evaluation of its effectiveness, served as the catalyst for a review of our policies concerning needle exchange. Following that review, a decision was made to move away from the then policy of "no needle exchange" to explore opportunities to develop model programs in New York City.

Perhaps the most important aspect of your approach from our point of view is how it can describe the dynamics of the movement of syringes into and out of circulation as a measure of impact of an intervention. When this kind of information is added to and combined with measures of change of individual behavior and status, a more complete picture of what is actually happening as a result of our efforts is available. We can therefore be more certain that our programs are helpful, and continue to improve their effectiveness.

We certainly appreciate your willingness to share your insights with us and we depend on your help as we attempt to move forward on these issues in New York.

Sincerely,

Margaret A. Hamburg, M.D.
Acting Commissioner

MAH:CE:efn



Needle Exchange in New Haven

Communities that have for years been ravaged by illicit drug use and its accompanying violence and crime are now being faced with escalating cases of HIV infection associated with intravenous drug use. One such community is New Haven, Connecticut. Despite an aggressive street outreach campaign started in 1987 targeting injection drug users (IDUs), Mayor John Daniels, the health department, the Mayor's Task Force on AIDS and others in the community realized that they were losing the fight against AIDS. With an estimated HIV infection rate between 52-69 percent among IDUs, many saw needle exchange as an essential component of the city's HIV prevention efforts.

This issue of *AIDS Information Exchange* (AIX) provides a case profile of the New Haven Health Department's needle exchange program, including examination of local forces which initiated needle exchange, program design, community and law enforcement roles, and evaluation of activities. For additional information about New Haven's needle exchange program, contact Elaine O'Keefe, New Haven Health Department, (203) 787-8709.

Yale School of Organization and Management

Box 1A New Haven Connecticut 06520

Edward H. Kaplan
Associate Professor of
Policy Modeling and Public Management
Associate Professor of
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February 20, 1992

TESTIMONY OF DR. EDWARD H. KAPLAN, ASSOCIATE PROFESSOR OF POLICY MODELING AND PUBLIC MANAGEMENT, OPERATIONS RESEARCH, AND MEDICINE, YALE UNIVERSITY SCHOOL OF ORGANIZATION AND MANAGEMENT, BEFORE THE PUBLIC HEALTH COMMITTEE OF THE STATE OF CONNECTICUT

Good afternoon. I am Prof. Edward H. Kaplan, an Associate Professor at Yale University with appointments in the School of Organization and Management, the School of Medicine, and the Department of Operations Research. I am also the Principal Investigator evaluating the impact of New Haven, Connecticut's legal Needle Exchange Program. I am here testifying in support of Raised Committee Bill No. 45, An Act Concerning Needle Exchange, The Sale of Hypodermic Needles and Syringes And Insurance Coverage for Hypodermic Needles and Syringes introduced by Senators Larson, O'Leary, and Eads, and representatives Balducci, Frankel and Krawiecki by request of the Governor.

It is well known that HIV, the AIDS virus, is prevalent among injecting drug users, and that this virus is spread among drug injectors via needle sharing. The availability of clean needles without penalty would remove the necessity for needle sharing (as noted by the National Commission on AIDS, among others). The New Haven Needle Exchange Program is one example of what can be accomplished when syringes are made available without penalty. This program also suggests what one might expect from the expansion of syringe exchange to Bridgeport and Hartford. It is instructive to understand what has been achieved in New Haven, where over 60% of the city's AIDS cases can be attributed to injecting drug use. Our data support the contention that the operation of the New Haven needle exchange has reduced the incidence of new HIV infections by 33% without any associated increase in the number of drug injectors in the community. The remainder of my testimony will cover the evaluation of the New Haven Needle Exchange; details can be found in the accompanying article recently published in *Yale Management* (2:12-15, 1991).

Respectfully submitted

Edward H. Kaplan
Edward H. Kaplan, Ph.D.

Evaluation: Gauging Success

Measuring a program's effectiveness is typically a process of collecting and analyzing client data. For the outreach workers who are in the van four days a week success is also measured on a more personal level. Outreach worker Sonia Lugo is rewarded by "seeing people able to change due to something I was able to do for them." Outreach staffer Dominick Maldonado relates, "Community support has increased because we have proven ourselves. The van hasn't created any problems in the neighborhoods we operate in. People are seeing that addicts are going into treatment. It's working."

Outcome Measures

What the outreach workers witness in their daily work is being substantiated by rigorous program evaluation designed and carried out by Yale University's Edward H. Kaplan, Ph.D. He is associate professor of policy modeling and public management and operations research at the School of Organization and Management. Dr. Kaplan's evaluation strategy collects baseline data on the sexual and drug using habits of program participants (follow-up surveys are also conducted) and tracks which participants receive and return each individual needle and then tests the needles for HIV. The findings from the testing of needles are then applied to a statistical model from which Kaplan can calculate the course of infection.

...careful attention was given to planning an evaluation component that was "unobtrusive and did not interfere with the delivery of services."

During the development of the overall needle exchange program, careful attention was given to planning an evaluation component that was "unobtrusive and did not interfere with the delivery of services," according to Kaplan. The outreach team was involved in the development of the evaluation component and conducted "dry runs" of the baseline survey and the syringe tracking process to make sure that it would not affect their interaction with the IDUs.

Dr. Kaplan stresses the importance of evaluating needle exchange programs and data collection: good data help to refute criticism of the program concerning effectiveness in reducing the spread of HIV and documents program impact on both clients and the

community at large. "If Ed Kaplan hadn't literally gotten Yale to donate a laboratory to test the needles we would have had the same data that everyone else has," commented Director of Health Quinn. The evaluation carried out during the first year of the program by Yale costs an estimated \$250,000, which includes the personnel costs (the principle investigator and two full time lab staff), use of the laboratory, and purchase of equipment and materials with which to conduct tests of syringes. The needle exchange program is the first major collaborative effort between the AIDS Division and Yale. "This type of university/city cooperation is unprecedented," stated Kaplan, "and with an issue like AIDS it would be nice if it could take place in other areas."

After 7 1/2 months of the program, Dr. Kaplan released results based on the tracking and testing of syringes and an estimate of the number of cases that would have occurred in New Haven in the absence of needle exchange. The findings indicated that the needle exchange program reduced the annual per capita incidence of HIV in New Haven by 33 percent. The results do not take into account any behavioral changes that may have occurred as a result of the counseling provided by outreach workers or received from other sources.

The findings of the Yale evaluation were instrumental in convincing the state legislature to increase funding for the program and have attracted national attention concerning the efficacy of needle exchange programs in reducing the spread of HIV.

This type of university/city cooperation is unprecedented, ...and with an issue like AIDS it would be nice if it could take place in other areas."

Process Measures

"Tracking of syringes makes our program evaluation novel but it also takes a lot of time and effort," commented Kaplan. Less rigorous evaluation measures can also demonstrate program effectiveness and address some of the common criticisms concerning needle exchange programs. To develop programs that are "credible in the eyes of the public" Dr. Kaplan recommends the following evaluation measures be applied:

- Record number of syringes distributed and returned.
- Measure return rate of program syringes (what percent of the needles returned were obtained from the program).
- Track client participation over time (how many clients, patterns of use, attrition rate).
- Collect demographic and behavioral information on participants (race, age, sex, sex and drug use history).

Data collected through these four measures can gauge if needle exchange increases the number of needles discarded in the community, whether drug users actually participate in the program on a regular basis, and the type of users (long time addicts vs. new users) who participate in the program.

Evaluating the Evaluation

Outreach workers frequently have a very different view of program evaluation than academics. Incorporating evaluation measures into an actual intervention without affecting the quality of the exchange between outreach worker and addict has been difficult for AIDS educators. "When we thought about evaluation the first thing we said is that we aren't going to do something an hour long," remembers Chris Brewer. "Ours is short because we took part in putting it together. You want something short and fast so people can come in and out, otherwise people will not respond. Our baseline survey takes only five minutes." Brewer related that participants don't mind the baseline survey because it is a one time thing and that the outreach workers incorporate basic AIDS information into the survey so it is also an educational experience for the participant.

"When we thought about evaluation the first thing we said is that we aren't going to do something an hour long"

Administering the follow-up surveys has been a little more difficult for the staff because they are busy with other responsibilities when out in the van. On occasion student volunteers from Yale accompany the staff in the van and administer follow-up surveys to program

participants. To date, over 100 follow-up surveys have been completed. "We are operating very close to capacity and part of that translates into not being able to administer as many follow-up surveys," reported Kaplan.

Team members report that program participants have no objections to the evaluation. Initially, some of the syringes were returned with the identification numbers rubbed or washed off. Staff was not sure whether this was intentional because participants did not want needles tracked back to them or if the numbers came off when participants were cleaning needles. To prevent removal, a piece of clear tape is placed over numbers.

"We just say [to program participants] 'this is your program and in order for it to continue we have to be able to prove that it works.'"

When program participants have asked about the numbering of syringes or the surveys administered by the team, they are told that the information is collected to determine whether the program is effective. "We just say 'this is your program and in order for it to continue we have to be able to prove that it works,'" explained Kaplan.



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
Atlanta GA 30333

To Whom It May Concern:

I understand that the evaluation of the New Haven Needle Exchange Program (under the direction of Dr. Edward H. Kaplan of Yale University) is a finalist for the Franz Edelman Award for excellence in management science.

The evaluation of the New Haven Needle Exchange Program has had substantial impact on the development of appropriate HIV prevention interventions for injecting drug users (IDUs). The New Haven evaluation project devised and implemented a very innovative coding and needle/syringe tracking system. The tracking system allowed for measurement of the time that needles and syringes were in circulation before being returned to the exchange project. This innovation was extremely important in gathering additional, previously unmeasured parameters to understand the dynamics of needle/syringe use by IDUs. In addition, Dr. Ed Kaplan could utilize the data from the tracking system to make estimates of the contribution of the needle/syringe program in New Haven. The estimate generated of an approximately one third reduction in HIV transmission in New Haven because of a newly instituted needle/syringe exchange program called attention to the potential benefits of needle/syringe exchange programs in preventing HIV transmission.

Given the fact that approximately one third of all acquired immunodeficiency syndrome (AIDS) cases reported in the United States are associated with injecting drug use, the data from the evaluation of the New Haven needle exchange program has been extremely valuable.

Sincerely yours,

T. Stephen Jones, M.D.
Special Assistant for Substance
Abuse and HIV Prevention
Office of the Deputy Director (HIV)

cc: James W. Curran, M.D., M.P.H.

Arnold S. Trebach

Lessons From Needle Park

Like The Post, I too have long been skeptical of the Swiss experiment in Platzspitz, also known as "Needle Park." However, it was wrong for The Post to take the recent closing of the park as evidence that all drug-policy reform proposals—in particular, clean needle exchange and legalization—are equally ill-conceived [editorial, Feb. 29].

Needle Park evolved as a compromise between addicts who congregated at Platzspitz and local officials. The Swiss attempted to "ghettoize" the drug problem in Zurich by isolating drug users at a location away from the main parts of the city. Within the confines of the park, a drug free-for-all flourished. Outside Needle Park, possession, sale and use of drugs were still illegal.

This localized decriminalization plan served the city's interest in reducing the number of drug dealers and users on the streets. It also made it possible to focus addict-outreach programs in one central locale. But many aspects of the plan were not managed effectively. For instance, the plan did not deal with how addicts would get their drugs or who could come into the park. The result: Drug users and dealers of all ages and nationalities were free to join the chaos at Platzspitz.

Things could have been done differently to stem the major problems before they happened. Switching drug strategies to any form of discrimination or legalizing should not mean having no laws or restrictions. Indifference to age limits for

entry to Needle Park was clearly one of the worst mistakes made by the Swiss. Failure to ensure that park users were residents of Zurich also created huge problems.

Planners could have removed the financial incentive for drug dealers to frequent the park in search of customers. The Swiss might have employed a system similar to the one I have seen

Taking Exception

work in Liverpool, England, where clean needles are given out to all, and some doctors provide medicinal drugs to their addict patients. This strategy curtails the spread of AIDS through needle sharing, eliminates the drug dealer from the equation and ensures that a minimum number of nonaddicts will begin using drugs.

But these criticisms of Needle Park are secondary to its major flaw. Because of the Swiss desire to isolate drug users from the rest of society, planners opted to allow *public drug use* in the park. While there are advantages to bringing the drug problem above ground in order to deal with it, the Swiss went too far. The spectacle of strung-out addicts lying on benches and on the grass oblivious to the world is clearly unfit for a public place.

Still, to construe this scene as an example of what drug legalization or even needle exchange

THE WASHINGTON POST

TUESDAY, MARCH 17, 1992 A17

programs would bring to the United States is disingenuous at best and maliciously deceptive at worst. No responsible advocate of drug policy reform I know—and I know many such people worldwide—supports allowing the public use of drugs as part of the transition to a new policy. Indeed, many of the proposed legalization and decriminalization plans I have seen call for harsh sanctions against those who use drugs in public or work or drive while intoxicated. Most plans would discourage the rise of "drug pubs" similar to alcohol bars.

While reformers would not emulate most aspects of the Swiss experiment, we would not choose to make denial of the realities of drug use, addiction and AIDS a national policy either. Outreach programs such as sterile needle exchanges, which played a role at Needle Park, bring addicts into contact with health care workers and help prevent the spread of AIDS. They should be part of our drug policy.

The Bush administration refuses to consider needle exchange programs because it fears creating an American Needle Park. Administration officials need only look at the needle exchange programs in New Haven; Tacoma, Wash.; San Francisco and other U.S. cities to see that such programs can be run effectively without increasing drug use and without allowing public use. In addition to the Liverpool program, I have also seen firsthand the successful needle exchange

programs in Amsterdam. In contradiction to The Post editorial, Dutch policy never duplicated the Needle Park scene by allowing public drug use. In fact their needle exchanges are operated out of nondescript buildings.

Unlike those who would like to use the closing of Needle Park to rebuke proposals for conscientious drug policy change, I believe we can learn from the mistakes of the Swiss. We can hardly feel vindicated by their failure, as deaths from drug-trade homicides and AIDS are at much higher levels in the United States. We need to find ways to respond to these problems. The lesson of Platzspitz is simply that frustration with total prohibition can breed bad models of drug policy reform.

The addicts of Zurich are still there. American addicts are wandering our streets. They all need our help, and we need to find ways to bring them in. As long as we continue defining them as despised outlaws, they will keep living outside the law. One thing is certain: As the Swiss are again faced with the prospect of drug dealers and addicts wandering the streets of their cities, they will not be looking to the United States for guidance on what to do about the problem.

The writer is a professor of criminal justice at American University and president of the Drug Policy Foundation, an independent think tank on drug policy alternatives.

Infectious Agents and Disease
1:92-98 © 1992 Raven Press, Ltd., New York

Mini Review

Needle Exchange or Needless Exchange? The State of the Debate

Edward H. Kaplan

Yale School of Organization and Management; Department of Internal Medicine, Yale School of Medicine; and Department of Operations Research, Yale University, New Haven, Connecticut

Summary: Needle exchange programs have been implemented in many cities around the world to slow the spread of human immunodeficiency virus (HIV) infection among injecting drug users. Whether these programs are succeeding in reducing HIV incidence is a matter of debate, as is the appropriateness of sanctioning the provision of drug injection equipment in the midst of a "war on drugs." In a debate swollen with emotional arguments on both sides of the issue, scientific research is essential, lest discussion of needle exchange becomes needless exchange at the policy level. This article briefly outlines and critiques the common arguments for and against needle exchange. Following this, a new circulation theory of needle exchange is advanced, along with supporting evidence from an ongoing study in New Haven, CT, U.S.A. Finally, several open questions relating to the operation of needle exchange programs and the behavior of program clients are suggested for further investigation. **Key Words:** HIV—Drug use—Needle exchange.

Needle exchange programs have been implemented in many cities around the world to slow the spread of the human immunodeficiency virus (HIV) among injecting drug users. That needle sharing provides a relatively efficient route for HIV transmission was recognized fairly early in the course of the AIDS epidemic. Needle exchange is a direct attempt to block this transmission route, based on the assumption that, if drug injectors have access to a sufficient supply of syringes, the impetus to share used equipment disappears. The idea seems simple enough, and it is agreed that if needle sharing could be eliminated, so would the risk of HIV infection via shared injection equipment.

However, needle exchange is not without its share of detractors. First, they ask, is it really true

that access to syringes eliminates needle sharing? After all, the success of needle exchange requires rational behavior change on the part of drug addicts, persons who are viewed as anything but rational. Also, many people believe it is inappropriate to sanction the acquisition of needles in the midst of the "war on drugs." Not only will those already injecting continue to inject, they argue, but others will initiate drug injection because of the availability of syringes. Is needle exchange justified, given the cost to society of increased drug addiction?

To health policy makers, needle exchange represents an explosive issue. No reasonable person can deny the devastation caused by drugs in our society, but neither can one ignore the horrible consequences of HIV infection and AIDS. It is therefore critical to consider whatever scientific evidence exists, lest the debate surrounding needle exchange becomes needless exchange at the policy level.

Such a review is the goal of this article. First, the most common arguments for and against needle ex-

Zero Tolerance for Addiction

I was disappointed in the analysis offered by Arnold Trebach in his "Lessons From Needle Park."

We have learned some profound lessons from the Swiss experiment. Addicts need our help, not further misery. Addiction requires serious treatment efforts, not the means to maintain the grip of chronic drug use. Similarly, needle-exchange programs send the wrong message. The message is that drug use is tolerable within limits (which it is not), that addiction can be handled (which it cannot) and that our society can tolerate addiction (which we cannot and should not).

Academics like Mr. Trebach see the drug war as counterproductive and look for ways to minimize the nation's progress. But if the Swiss "needle park"

instance proves anything, it is that needle-exchange programs fail the people who need our help most.

In 1991 there were almost 2 million fewer drug users than in 1988, thanks in part to the president's strong stance against illegal drug use. We need to maintain this steadfast commitment. Our objective is to get drug users into effective treatment programs while deterring new drug use. Anything less would be inhumane and unfair, both for addicts and for the nation as a whole.

BOB MARTINEZ

Director
Office of National Drug Control Policy
Executive Office of the President
Washington

The Washington Post 3/30/92

Address correspondence and reprint requests to Dr. Edward H. Kaplan, Yale School of Organization and Management, Box 1A, New Haven, CT 06520, U.S.A.

HIV Prevalence Among Intravenous Drug Users: Model-Based Estimates from New Haven's Legal Needle Exchange

*†‡Edward H. Kaplan and †Robert Heimer

*Yale School of Organization and Management; †Department of Internal Medicine, Yale School of Medicine; and
‡Department of Operations Research, Yale University, New Haven, Connecticut, U.S.A.

Summary: The legal needle exchange in New Haven, Connecticut, was signed into law in July 1990. As part of a rigorous effort to evaluate this program, all distributed syringes receive unique tracking codes, and a sample of returned needles are tested for the presence of HIV proviral DNA via polymerase chain reaction. These data, in conjunction with "back-of-the-envelope" statistical models, allow the estimation of HIV prevalence among those intravenous drug users participating in the needle exchange. We present four new techniques for calculating prevalence estimates: the majority rule cutoff model, the random sharing model, the sharing network model, and a version of Kaplan's "needles that kill" model. To our knowledge, these estimates are the first that attempt to infer HIV prevalence among intravenous drug users via syringe tracking and testing. All four techniques suggest a prevalence of infection of ~60%. **Key Words:** Legal needle exchange program—HIV prevalence—Back-of-the-envelope statistical models—IV drug users.

The New Haven needle exchange program (NEP) was created via legislation passed by the Connecticut House and Senate in May 1990 and signed into law effective July 1 of that year. The program began operations on November 13, 1990. As part of our effort to evaluate this program, we have instituted a syringe tracking and testing system (STT) whereby all syringes distributed by the program receive a unique tracking code. As a consequence of syringe tracking, the following data are known for all legible program syringes returned: the program ID of the syringe recipient, the date of syringe distribution, the location of syringe distribution, the program ID of the syringe returner, the date of syringe return, and the location of syringe return. Not all syringes deposited with the program originate from the pro-

gram; for such "street needles" we still record the program ID of the syringe depositor and the date and location of syringe deposit. In addition, a sample of syringes returned or deposited with the program are tested for the presence of HIV proviral DNA via polymerase chain reaction (PCR) (see refs. 1 and 2 for the specifics of our testing methods). Analysis of these data provides a detailed examination of HIV transmission among those intravenous drug users (IDUs) participating in the NEP via the systematic study of used syringes (3).

In this article, we analyze the data from our STT using simple "back-of-the-envelope" mathematical models to estimate the prevalence of HIV infection among those IDUs participating in New Haven's legal NEP. Though other researchers have detected HIV in the discarded needles of IDUs (4-6), to our knowledge we are the first to estimate the prevalence of HIV among IDUs via syringe tracking and testing. To do so, we employ data collected as of

Address correspondence and reprint requests to Dr. E. H. Kaplan at Yale School of Organization and Management, Box 1A, New Haven, CT 06520, U.S.A.

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A Week to Remember

The last week of April is a week Edward H. Kaplan, a professor in the School of Management at Yale University, won't soon forget.

On Tuesday, April 28, Kaplan's research and analysis in connection with a needle exchange program administered by the New Haven Health Department was awarded the Franz Edelman Award for Management Science Achievement at the National Joint TIMS/ORSA Meeting in Orlando (see page 66).

On Wednesday, Kaplan returned to Yale to hear that he had been awarded a \$1 million grant from the National Institute on Drug Abuse (NIDA) for his proposal, "A Syringe Tracking and Testing System for IV DU Epidemics." The grant, spread across the next three years, will fund research utilizing Kaplan's unique data collection and modeling analysis system to study the progress of the HIV and Hepatitis-B epidemics among drug injectors in New Haven's needle exchange program.

The modeling at the heart of this propos-

al is the same analysis that was awarded the Edelman award. The NIDA grant represents the first ever federally funded research in the area of needle exchange.

The same week, Kaplan was awarded a companion grant from the Robert Wood Johnson Foundation, also for three years, totaling \$177,923. This grant focuses on the participants in the needle exchange program with an eye towards understanding what happens to dropouts, profile development of "successful" versus "unsuccessful" clients, and comparison studies of non-program needles from a variety of sources.

Kaplan has been invited to present his results to the Dutch equivalent of the Centers for Disease Control, which he will do before attending the VIII International Conference on AIDS in Amsterdam in July.

"It's been a very exciting week," said Kaplan, a member of both ORSA and TIMS. "I'm overwhelmed."

The New Haven Jewish Ledger
(4-10-92)

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Yale AIDS Expert Set to Speak Before Beth Sholom Men's Club



DR. EDWARD KAPLAN

HAMDEN — The Men's Club of Temple Beth Sholom will hold a breakfast meeting on Sunday at 10 a.m. The breakfast will be preceded by the morning Minyan service at 9:30 a.m., conducted by Alan White.

David Stern, president of the Men's Club, has announced that the guest speaker will be Dr. Edward Kaplan from the Yale School of Organization and Management. He will speak on the "Needle Exchange Program."

Dr. Kaplan has the distinction of holding three academic appointments at Yale. In addition to his primary position as associate professor of policy modeling and public management in the School of Organization and Management,

he is associate professor of medicine in the department of Internal Medicine in the Medical School and associate professor of operations research in the Department of Operations Research.

Since 1987 Dr. Kaplan's research has been devoted almost exclusively to modeling HIV transmission dynamics and using these models in the design and evaluation of AIDS intervention programs. He has published over 20 papers on AIDS issues in refereed journals since beginning his research in 1987. Dr. Kaplan continues to serve pro bono as the principal investigator evaluating New Haven's needle exchange program. For his AIDS research he has received many awards.

Dr. Kaplan received his bachelor's degree with first class honors in urban economic geography from McGill University in 1977; three master's degrees from MIT, city planning, 1979; operations research, 1979, and statistics program in mathematics in 1982. He also received his doctorate in urban studies and planning from MIT in 1984.

An Active Israeli folk dancer since 1971, Dr. Kaplan was the coordinator of Israeli dancing at the MIT Folk Dance Club.

He performed in several dance festivals in Boston, New York, and Israel, often with Karen, his wife of six years. They can be found every Sunday night teaching and enjoying Israeli dance at Temple Beth Sholom.



MONEY

The family budget:
How to create one,
and how to make it
work for everyone

D1



WORLD & NATION

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A2

ACUSHNET

Housing Authority signs one-year
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B1

SPORTS EXTRA

Fairhaven High track star David
Crabbe sets himself a hard pace

C1

The Standard-Times

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New Bedford, MA

Newsstand: 50 cents
6-day home delivery: 25.5 cents per day
6-day motor-route delivery: 27.5 cents

Page A6 / The Standard-Times, New Bedford, MA, Friday, April 10, 1992

New Haven needle exchange wins converts

By Bill Ibell

Standard-Times staff writer

NEW HAVEN — A brightly colored van pulls up in front of a derelict building in this gritty Connecticut seaport, drawing people from parked cars and porches like a magnet.

"Hey bro, haven't seen you in a long time, man," says outreach worker Michael White as a client steps into the van.

A flash of recognition crosses the man's face, momentarily drawing him out of his drug-induced fog. They swap a few pleasantries as the man goes about his business.

AIDS EDUCATION GROUP says the proposed needle exchange program will slow the spread of the disease / Page B1

five dirty needles for five clean ones.

"How you been, man?" says Mr. White.

"Not so good but it's nothing to cry about," the man replies. "I'm just trying to hold on to the unholdable."

He leaves, no more questions asked. Welcome to Monday morning at the New

Haven needle exchange program.

The program, begun in November 1990, was designed to stem the rapid spread of AIDS among drug addicts. But it also serves as a bridge to treatment, creating contact with otherwise unreachable addicts. There is no pressure, just a willing ear, plenty of information and gentle reminders that there is a way out available to any addict.

"Because we're going into their neighborhood, it makes it easier for them to use the program," said outreach worker Chris

(See NEEDLES, Page A6)

Needles

(Continued from Page 1)

Brewer. "We offer treatment but we don't push. We listen, we provide information. People often come back a month later asking for treatment. At that point we provide transportation and follow them through the whole process so they don't have to do it alone."

The philosophy behind needle exchange is simple — if you provide clean needles for free, addicts will be less likely to spread AIDS by sharing dirty needles.

According to an extensive study conducted by Edward Kaplan of Yale University, more than half of the city's 2,000 drug users have enrolled in the needle exchange program and a quarter have sought treatment. The study found the program reduced the spread of AIDS by 33 percent.

The study shows the program has dramatically reduced the amount of time needles stay in circulation. The typical turn-around time for a needle has dropped from about two weeks to two days.

"So even if users don't change their behavior, the needles have changed theirs," Dr. Kaplan said. "Because they are out there for a shorter period of time, the needles are using fewer addicts."

Back out with the van, outreach worker Dominique Maldonado points to a devastated brick tenement on the opposite corner.

"That one's a shooting gallery. We try to set up as close to the shooting galleries as we can."

When outreach workers collected 48 needles from a similar shooting gallery, tests at the Yale University lab showed 98 percent of the needles were contaminated with the AIDS virus.

"That's a very scary baseline because it shows you how bad things can get if we don't do anything," said Dr. Kaplan.

At the beginning of the program, 67 percent of the needles collected from addicts tested positive for the AIDS virus, but one year later, the contamination rate had dropped to 46 percent.

Though the results are impressive, there still is tremendous resistance to needle exchange in most cities. There are only eight legal needle exchange programs in the country, and New Haven's is the only one east of the Mississippi.

According to program director Elaine O'Keefe, the same objections being raised in New Bedford today were raised in New Haven two years ago — that needle exchange condones drug use and attracts addicts from outside the area.

"This program does not in any way condone drug use," said Ms. O'Keefe. "It simply recognizes that drug use exists. The biggest challenge in winning approval of this program was convincing people to look at this as a health issue rather than a drug issue. It is a life preserver so they won't get AIDS (before) they get into treatment."

Nor has the availability of clean needles transformed New Haven into a mecca for drug addicts. The few clients that are not from the city, hall from the surrounding wealthier suburbs.

New Haven's mayor and police chief, both skeptical when the program was first suggested, have become strong supporters. They lobbied for the state law authorizing the New Haven program and helped rally community support.

"As a state legislator, I opposed this program," said Mayor John Daniels. "But when you sit in this chair and see the devastation of (AIDS), you do what you can to stop it. I was willing to give the needle exchange a try. Now, thanks to the evaluation by Yale, we can prove that this program is reducing the spread of (AIDS)."

Police Chief Nicholas Pastore, saw the program as a way for police to help fight the problem of addiction rather than just arresting its victims.

"The program opened up communications between drug users and police," he said. "The so-called wars on society's problems, like the 'war on drugs' have been mean spirited and beat on the already oppressed. This program is a step away from the mean-spirited policing that has led to these mean-spirited streets."

The addicts that use the New Haven exchange program come in all shapes and sizes — some look like zombies, others like your next-door neighbor.

At the van's second stop, at the local YMCA, a gaunt man with cuts across his face is followed by an attractive woman escorted by her boyfriend. Next is a disheveled lady whose feet appeared to be rotting, and, behind her, a handsome young man who looked like he just drove in from his college dormitory.

Outreach workers say appearance is no indication of an addict's chances of recovery.

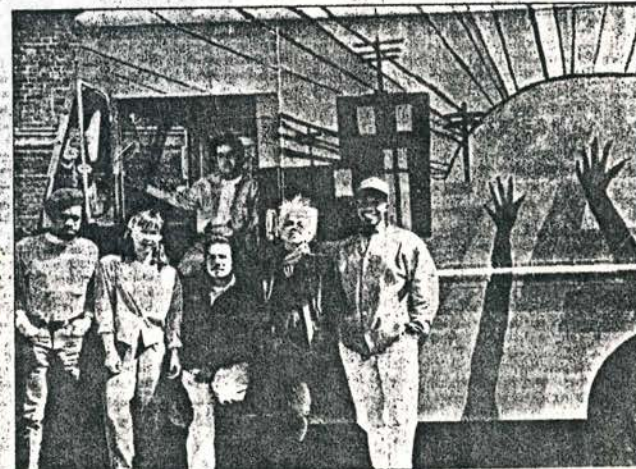


Photo by Bill Ibell

The New Haven needle exchange program delivers needles four times a week to addicts. Staff members are, from left to right: George Edwards, Director Elaine O'Keefe, Dominique Maldonado, Chris Brewer, Michael White and Sonia Lugo (in the driver's seat.)

"I've been there. I know these people. I've used with these people," said Mr. White, the outreach worker. He is a recovering addict who has been clean for two years. "I got sick and tired of being sick and tired. It's when the pain gets greatest, that's when you do something about it."

Enter Desmond — a bleary-eyed black man with a dark watch cap pulled down to his eyebrows.

"How're you feeling today?" says outreach worker George Edwards.

"I don't think I'm gonna make forty," is the mumbled reply.

Desmond has hit bottom, he's living in a fog. His stomach hurts constantly and his landlord is about to evict him.

He gets his five clean needles and sits down to chat for 20 minutes. Mr. Edwards gives him the number of a lawyer who will handle his eviction case for free and explains to him that the impurities in heroin could be causing his stomach problems. He suggests treatment only in passing but urges him to call the lawyer and keep coming for the van for clean needles.

Contact is made. Desmond has clearly given up on himself, but the outreach workers have not.

When asked whether there is any hope for someone as far gone as Desmond, Mr. White responds with rare intensity.

"Never give up on a drug addict," he commands. "There's hope for every person who comes in this van. I've known Desmond for a long time. When I see Desmond, I see myself. If there was hope for me, there's hope for anyone."

A few minutes later, a tall black man named Bill stops by the van to pick up clean needles for his girlfriend who is "too shy" to come herself.

A few minutes later, sitting on the back bumper of the van, Bill explains that he kicked the habit a year ago but hasn't been able to convince his girlfriend to do the same.

"I used drugs for a long time," he says. "It's all I can do to keep clean. It's still a struggle. Every day is a struggle. But I'm trying to hold on to the little things I've got. I'm not working, but at least I have me a little place to stay."

Bill said he may never have gone into treatment if it weren't for this van. It didn't happen immediately. Like many clients, he exchanged his needles regularly for several months before he was willing to talk about detox.

"I already had it in my mind but I needed a little push," he says. "They started me thinking a little deeper and I decided I needed to do something. They talk serious. They sincerely want to help."

Bill isn't sure whether the program will help his girlfriend, but he says even the hope of success is worth it.

"If they get one out of a hundred, that's a plus, right?" he says.

HOW IT WORKS

The needle exchange program in New Haven provides clean needles to addicts to slow the spread of AIDS and serves as a bridge to treatment for addicts.

■ **THE PROGRAM** operates five days a week. Wednesdays are reserved for community education and office work. The other four weekdays, the needle exchange van makes five stops each day in neighborhoods known for high drug use.

■ **THE VAN** is stocked with clean needles, bleach, alcohol wipes, condoms and health pamphlets on everything from AIDS to prenatal care.

■ **EVERY NEEDLE** is numbered to track how long it stays in the community and whether the person who returns it is the same person it was given to.

■ **EACH CLIENT** selects a code name to ensure confidentiality and fills out a short enrollment questionnaire about their drug use patterns. They are also given information on treatment.

■ **I.D. CARDS** are issued to each client to alert police they are participants in the program and should not be arrested for possession of a hypodermic needle.

■ **ONE NEEDLE** is issued for each dirty needle turned in. There is a five needle limit per client.

■ **EACH NEEDLE** handed out is recorded according to time, date, location and who it is given too. Needles that are turned in are recorded the same way to track how long it's been in circulation.

■ **DIRTY NEEDLES** are brought to a Yale University laboratory to be tested for AIDS.

■ **AT EVERY STOP** two workers stay in the van at all times to handle the needles. The others fan out through the neighborhood distributing information pamphlets, chatting with residents and setting up community information seminars.

■ **WORKERS** are available to transport patients to treatment, once they decide to seek it. The worker will stay with the addict through the admission process and pick them up when the program is completed.

WHEN THE Needles DO THE TALKING

The idea of giving intravenous drug users clean needles in exchange for dirty ones to combat the spread of AIDS struck many people as outrageous—until a Yale team showed that it works.

The battered blue truck rounding the corner of Davenport Street and Congress Avenue, one of New Haven's drearier intersections, looks like a relic of the 1960s. Adorning its side is a brightly colored painting of hands extended up toward a majestic sun rising over an urban skyline. The vehicle pulls up to the curb, shards of February ice crunching under the tires as the driver wedges it into a parking space. Even before he has time to cut the engine, the vehicle is surrounded by a crowd of shabbily dressed men, most of them in their late 20s and early 30s.

In any other neighborhood, the truck might be selling hamburgers or falafel. On Congress Avenue, it's collecting used hypodermic needles from drug addicts and exchanging them for sterile ones.

The daily ritual—one that is being played out in four other New Haven neighborhoods—is part of a collaborative effort between Yale University and the New Haven health department to curb the spread of AIDS among intravenous drug users. Only a few years ago, the idea of openly dispensing needles to drug addicts was dismissed as a naive solution that could only result in more drug abuse. But the unchecked spread of the deadly disease, coupled with a new, persuasive method for evaluating the effectiveness of needle-exchange programs, has forced many public-health experts to change their minds.

In the 14 months since the New Haven project has been operating, it has received national praise for the pioneering way in which it operates. Already it has prompted New York mayor David Dinkins to reverse an earlier position and endorse a pilot needle-exchange program in New York. And it is expected that the data yielded by the New Haven program could force nothing short of a total reexamination of national AIDS policy.

The New Haven needle-exchange program would seem to be the quintessential community-based outreach effort, but part of what makes it unique is the contribution Yale has made to it. From the van, which was donated by the University, to the data analysis, which cost \$200,000 and was conducted free of charge by the Medical School, Yale people have been integrally involved in all phases of the operation. Even the mural painted on the side of the van came from a

member of the Yale community, Mark Aldrich, a cataloguing assistant at Sterling Memorial Library.

According to Elaine O'Keefe, the director of the AIDS Division of the New Haven health department, which oversees the program, "The relationship between Yale and the city on this project exemplifies what is possible. We couldn't have gone anywhere without Yale's help."

The program is also unusual in the multidisciplinary response it has generated among Yale researchers. Alvin Novick, a biology professor, chaired the city task force that finally managed to get a pilot needle exchange approved. Edward Kaplan, an associate professor of policy modeling and public management at the School of Organization and Management, developed the system by which the needle-exchange program's effectiveness is evaluated. And the data were analyzed by researchers at the Medical School, supervised by Robert Heimer.

This collaborative effort among schools has been so fruitful that Kaplan was recently named to a second post as associate professor in the Department of Internal Medicine. "No discipline deserves a monopoly when it comes to AIDS, which by its nature requires an interdisciplinary approach," says Kaplan. "Besides being a health problem, it also has economic, social, and political ramifications."

Controlling the spread of AIDS by exchanging used needles for clean ones has been tried in Amsterdam, the United Kingdom, Vancouver, and elsewhere around the world. But despite growing evidence that exchanging needles helps reduce high-risk behavior without increasing the number of drug users, it remains a highly controversial tactic in the United States. The main objection is that making needles

should be channeled into eliminating drug abuse, not helping drug users feed their habits through a program that amounts to tacit approval of drug taking. Significantly, black activists, whose constituents have been disproportionately affected by drugs, are

The program's van makes regular trips to some of New Haven's most desperate neighborhoods to exchange clean needles for used ones. The needles are later analyzed and the data studied to track the patterns of needle-related AIDS cases.

Needle Exchange: Balancing AIDS Prevention and Drug Treatment

Ellarwee Gadsden
Executive Director
Women, Inc.

Holly Hagan
Principal Investigator
Tacoma Syringe-Exchange
Program

Edward Kaplan
Principal Investigator
New Haven Needle Exchange
Evaluation

David Mulligan
Commissioner
Massachusetts Department of
Public Health

Robert Stutman
Former Director
U.S. Drug Enforcement Administration
New York Division

Neil Sullivan
Chief Policy Advisor
Office of Boston Mayor Raymond Flynn

Don Des Jarlais, Moderator
Director of Research
Chemical Dependency Institute
Beth Israel Hospital of New York City

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Needle Trades Win Favor Area Health Officials Endorse Swaps for Addicts

By Amy Goldstein
Washington Post Staff Writer

Health officials in several Washington area cities are backing proposals to give clean hypodermic needles to drug addicts, a strategy that challenges current law—and, some say, morality—to try to curb the spread of AIDS.

The idea of handing syringes to addicts defies drug paraphernalia statutes and has provoked political strife in parts of the United States where health workers and AIDS activists have penetrated drug markets to trade clean needles for dirty ones.

But now, top health administrators in the District, Alexandria and Baltimore say that such needle exchanges should be legalized as part of a broad and aggressive assault on the fatal disease.

Their viewpoint reflects a new urgency in the fight against AIDS in the Washington area.

An unreleased study predicts

that the total number of cases in the District will have nearly tripled within five years. Almost one-fourth of the city's 16,000 intravenous drug users already are infected, the study estimates.

By the mid-1990s, the study predicts, new cases among intravenous drug users will exceed those among homosexual and bisexual men, as addicts infect themselves by sharing syringes that contain residues of contaminated blood.

In light of that dire forecast, helping addicts to find clean needles "is one of the most humane and compassionate steps we can take," said Mohammed Akhter, the D.C. health commissioner.

The proposed exchange—allowing addicts to swap used syringes for clean needles and a lesson in how to protect themselves from getting AIDS—is likely to be one of the most debated features in a draft of a five-year AIDS plan that

See NEEDLES, A12, Col. 1

D.C. Area Joins Debate Over Needle Exchanges for Drug Addicts

NEEDLES, From A1

city officials are preparing to release this month.

The idea also represents a major philosophical shift within the District's health agency, which has paid for condoms and bleach—used to clean syringes—but has balked at actually handing out needles.

The District's project would be similar to ones run by government workers or community groups in several U.S. cities, including New Haven, Conn.; San Francisco; Seattle; Boulder, Colo.; Portland, Ore.; and Honolulu.

Critics contend that the exchange of needles condones the use of illegal drugs, increases the number of addicts and diverts money and political attention from what they consider the real solution: more plentiful drug treatment.

Locally, the polarization already is pronounced.

"We have a serious problem in the minority community with the spread of AIDS," said the Rev. Albert Gallmon, of Mount Carmel Baptist Church in Northwest Washington. "Somehow, we have to get a

handle on the spread of HIV. One of those ways is to begin to do something with the needles on the street."

But the Rev. Cleveland B. Sparrow, of Sparrow World Baptist Church in Oxon Hill, said giving a needle to an addict is "actually helping that person to kill themselves."

Because many of the city's drug users are black, he said, advocates of a needle exchange "are perpetuating a system of black genocide."

The prospect of an exchange has surfaced in the District at the same time health officials and some politicians are advocating such programs in nearby cities.

A bill was introduced this year in the Maryland General Assembly that would have created an experimental needle exchange in Baltimore, where 12 percent to 25 percent of the city's estimated 30,000 intravenous drug users are believed to be infected with the AIDS virus.

The measure was opposed by Gov. William Donald Schaefer and killed in a legislative committee last month, despite support from several Prince George's County and Baltimore delegates, the Baltimore Health Department, AIDS activists and medical researchers.

Alexandria's health officer, Joshua B. Lipsman, recently became the first local health director in Virginia to endorse a needle exchange. He said such a project could help lower the city's AIDS rate, the highest in the state, although he is awaiting a survey of local drug users before recommending the idea formally.

The District, Maryland and Virginia each have a law that makes it a misdemeanor to possess, distribute or sell drug paraphernalia, including needles.

Across the country, several exchanges operate legally. Others, such as the nation's biggest program in San Francisco, remain illegal, hinging on an uneasy truce with political and law enforcement leaders who look the other way.

For the moment, the District's top politicians are keeping away from the question of whether to tolerate an exchange or change the law.

A spokesman for D.C. Mayor Sharon Pratt Kelly said she has not decided whether she favors a needle exchange. The city's AIDS plan needs her approval before it is released.

D.C. Council member H.R. Crawford (D-Ward 7), chairman of the council's human services commit-

tee, which handles health-care issues, said he has not made up his mind either. Council member John Ray (D-At Large), author of the city's 1982 paraphernalia law, said he has "very, very strong reservations" about a needle exchange, because of "the mixed messages that it sends" about drug use.

AIDS activists and drug-treatment workers appear divided about the prospect.

Beverly Fleming, coordinator of the Whitman Walker Clinic's street outreach project, which tries to educate intravenous drug users and prostitutes about AIDS, said she favors the idea. "Everybody isn't ready to stop shooting drugs. That is the reality. But maybe we can stop the spread of the virus," said Fleming, a recovering addict.

Dwight Clark, director of the Spectrum Project, another AIDS outreach program, countered: "We are just putting another Band-Aid on the problem through needle exchange. Get them off the drugs—that's the way to lower the cases of infection among injection drug users."

The debate has arrived in the Washington area four years after the first needle exchange in the nation began in Tacoma, Wash. Since

then, the issue has touched off civil disobedience and arrests in several cities.

AIDS activists locally have shied from the issue. One of few exchanges in the Washington area took place in January, when eight District members of the AIDS activist group ACT-UP set up a table at a heroin market, posted a sign that said, "Free Works Here. Stop AIDS," and gave out more than 200 needles. No one was arrested.

But now, politicians and public health authorities are being influenced by a growing, but not definitive, body of research suggesting that needle exchanges are effective. Don C. Des Jarlais, research director at Mount Sinai Medical Center in New York, said several studies have found that exchanges do not cause more illegal drug use.

Studies also have detected some reduction in needle sharing; a decrease in hepatitis B, another serious disease transmitted through needle sharing; and a leveling off of new HIV infections among drug users, according to Des Jarlais, a member of the National Commission on AIDS, which endorsed needle exchanges last summer.

Yale University researchers who are evaluating New Haven's needle

program, the only legal one on the East Coast, have found that needles used by the participants were contaminated 30 percent less often than other syringes on that city's streets. They also estimate a one-third drop in the number of program participants who became HIV-infected and an increase in the number who wanted to enter drug treatment, according to Edward Kaplan, the study's main author.

A. Billy S. Jones, a longtime AIDS activist in the District, said he thinks the city should try an exchange, as long as it also expands AIDS education and provides more drug treatment.

"We cannot afford to be moralistic," he said. "We can't afford not to try something that may save one person's life, a hundred lives, a thousand lives."

But Robert W. Eastridge, Maryland's assistant secretary for public health and an opponent of exchanges, said: "It's a conservative society out there. People don't want you giving out free condoms. Now you are going to say, 'Okay, by the way, now we are going to give out needles too.' That's a real tough sell."

Detection by Polymerase Chain Reaction of Human Immunodeficiency Virus Type 1 Proviral DNA Sequences in Needles of Injecting Drug Users

Colleagues—The rapid spread of AIDS and human immunodeficiency virus type 1 (HIV-1) infections among injecting drug users has led to passage of a state law in Connecticut permitting a demonstration needle exchange program. The city of New Haven began such a program in November 1990 in an attempt to stem the spread of HIV-1 infection. Drug addicts, who participate anonymously assuming fictitious code names, may exchange up to five used syringes for new syringes with nondetachable needles. (Hereafter the terms needle and syringe are used interchangeably.) Each needle distributed was tracked, providing information about its recipient and the person who returned it [1, 2]. We began our study with the hope of developing a system that could couple HIV-1 testing with tracking, creating data that could determine HIV-1 prevalence and incidence among injecting drug users and model transmission dynamics of HIV-1, even though the HIV-1 status of each individual remains unknown.

Needles from the needle exchange program or used in simulations were stored at room temperature before DNA was isolated by flushing three to four times with 50 μ l of a buffer containing 10 mM TRIS-HCl, pH 8.3, 50 mM KCl, 2.5 mM MgCl₂, 0.5% Tween 20, 0.5% NP-40, and 60 μ g/ml proteinase K and was digested at 60°C for 1 h. Inactivated extracts were stored at 4°C until DNA was purified by organic extraction, precipitated at -20°C after the addition of ethanol, sodium acetate, and of 5 μ g of yeast tRNA, and resuspended in 20 μ l of TE-80 (10 mM TRIS-HCl, pH 8.0, 1 mM EDTA). Polymerase chain reaction (PCR) was done in 100- μ l reactions containing 50 mM KCl, 10 mM TRIS-HCl, pH 8.3, 2.5 mM MgCl₂, 0.01% (wt/vol) gelatin, 0.2 mM of each deoxynucleoside triphosphate (dNTP), and 2 units of Taq polymerase, final concentrations. For amplifications of 35 cycles, 50 pmol of each HIV-1 or β -globin primer was included in each reaction; for 15 cycles, primers were reduced to 20 pmol. After PCR, aliquots from each reaction were analyzed by electrophoresis and Southern blotting. Membranes were hybridized for 16–20 h at 70°C using 10⁶ cpm of a [γ -³²P]adenosine triphosphate-kinased probe per milliliter of hybridization buffer (6 $\times$ standard saline citrate [SSC], 5 $\times$ Denhardt's solution, 100 μ g/ml denatured salmon sperm DNA) and washed with 6 $\times$ SSC, 0.1% SDS, three times at room temperature for 5 min each and twice at 60°C for 15 min each. Sensitivity was optimized by using nested PCR, which can detect a single copy of HIV-1 proviral DNA [3]. First, DNA was amplified for 15 cycles using either a pair of 20-mer primers, gag 856/1046 [4], or a pair of 21- and 23-base primers, gag 816/1097, respectively. A 40- μ l aliquot was removed and added to 60 μ l of reaction mixture containing fresh buffer, dNTPs, polymerase, and

the gag 856/1046 primers. A second round of amplification ran for 35 cycles.

To determine what fraction of the needles contained sufficient DNA for PCR detection, we amplified a region of the β -globin gene. A one-tenth aliquot of the total DNA isolated from needles was amplified for 35 cycles, and the β -globin-specific product was identified by electrophoresis and Southern blotting as described above. Of 54 extracts, 46 were positive, which indicates that 85% of the needles contained DNA in adequate condition to serve as template in PCR. In a parallel experiment, genomic DNA that had been quantified spectrophotometrically was serially diluted. As few as 5 cell equivalents were sufficient target DNA for detection of β -globin sequences by PCR. These data, taken together, imply that 85% of the needles contain at least 50 white blood cell equivalents of DNA.

Nested PCR proved sensitive enough to detect HIV-1 proviral DNA in dilutions with as few as two copies of a plasmid containing the HIV-1 genome. Control experiments using blood from AIDS patients were undertaken. Dilutions of white blood cell DNA from 13 AIDS patients revealed that this technique was capable of detecting HIV-1 sequences from 40 cells. (Data from 4 patients are shown in figure 1.) This is on the same order of magnitude as number of white blood cells found in 85% of returned needles. Thus, a large majority of the needles contained DNA sufficient to assay for HIV-1 DNA. Our ability to detect HIV-1 DNA in the residual blood from needles was addressed directly. Blood from AIDS patients was used to simulate use by injecting drug users. Blood was drawn into 1-ml syringes with 28-gauge needles until it was just visible in the barrel and then expelled. Under these conditions, 28 of 30 needles tested positive, implying a 95% confidence interval for the false-negative probability of 0.008–0.226. Negative controls consisted of bacteriophage λ DNA and human genomic DNA from uninfected white blood cells, K-562 leukemia cells, and HT-1080 carcinoma cells. In 64 tests on negative controls, a positive signal was never observed. The resulting 95% confidence interval for the false-positive probability was 0–0.056.

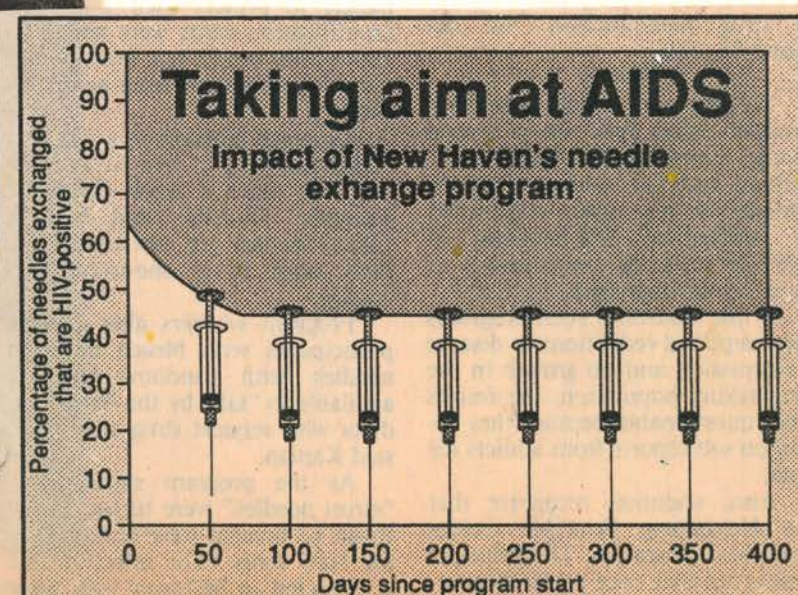
Next, we attempted to detect HIV-1 proviral sequences in



Figure 1. Limits of detection of human immunodeficiency virus type 1 (HIV-1) by polymerase chain reaction (PCR) in white blood cell (WBC) DNA. DNA from peripheral WBC from four patients with AIDS was serially diluted five times. Patients by lanes are: 1, 1–5; 2, 6–10; 3, 11–15; 4, 16–20. HIV-1 DNA was detected in a dilution containing 508 cells (patient 1, lane 3), 100 cells (patient 2, lane 9), 116 cells (patient 3, lane 14), and 42 cells (patient 4, lane 20). Controls also underwent two rounds of PCR. Negative and positive controls consisted of DNA products of K-562 and HT-1080 human cells diluted to 6000 genome equivalents (lanes 21, 22) and ϕ BH10-R3, a plasmid containing HIV-1 cDNA, diluted to 500, 50, and copies (lanes 23–25, respectively). pBR322/BstNI markers were loaded in lane M.

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Source: Drs Kaplan and Heimer, Yale University researchers

Post/Bob Rich



Above, Yale University graduate student Kaveh Khoshnood, left, tests samples while Bini Jariwa research assistant, sorts needles. They are involved with the school's needle exchange program

Bridgeport POST 5-7-92

Bridgeport Post (5-7-92)

Experts praise needle program

Yale study shows exchange does not encourage drug use

By DEBBIE CARVALKO
Staff writer

industrial or medical use was made
illegal in 1971.
"It's a big step forward."

See DROPO on 2

A 33 percent, sustained decrease in the spread of AIDS among intravenous drug users is being attributed to a needle-exchange program in New Haven.

And Yale University researchers studying the program's effects say other findings are just as important.

Along with showing that such an approach can dramatically slow the spread of AIDS, their study proves that legally providing addicts with clean needles does not encourage other people to become drug abusers, said two scientists leading the research team.

"What's remarkable about this is that we've broken the state of equipoise" between proponents and opponents of providing clean needles, said Edward Kaplan, an associate professor at Yale who designed and initiated the research.

"Another, larger social question we've answered is whether or not such (needle exchange) policies can in any way change the behavior of drug users," said Robert Heimer, an associate research scientist.

Of the 1,200 intravenous drug users who participated in the program since it began in November 1990, some 15 percent who met with health care workers later entered drug rehabilitation treatment.

"Many of them are so estranged from the health care system that they couldn't seek treatment on their own," Heimer said. "They think of their behavior as criminal. They don't think of it as a health care problem."

But, added Kaplan, "Addiction is a disease."

"And if you give these people a chance to interact with health care workers," said Heimer, "(many) will enter treatment."

A bill to legalize over-the-counter purchases of hypodermic needles passed the state House by an 81 to 66 vote last week and was sent to the Senate. Possession of syringes for any reason other than legitimate



Post/Chris Volpe

Drop in AIDS cases accompanies needle exchange

Continued from 1

Kaplan said of the potential legalization. He noted that the President's Commission on AIDS last year cited decriminalization of syringe possession as a top recommendation to slow the transmission of AIDS, second only to the supply of drug rehabilitation "on demand."

History

Well-known needle exchange programs have been run in several foreign countries, including Switzerland and Thailand. Among the earliest was a program established in Amsterdam, Netherlands, in 1983 to slow the transmission of hepatitis. Heimer said.

While studies of such programs have reported reductions in disease transmission and no growth in the drug-taking population, the results were questionable because they relied on self-reports from addicts for data.

Also, scientists recognize that the Heisenberg Principle creates flaws in such studies. The principle points out that once researchers intercede to measure the behavior of any organism, their action will change that behavior in some way, giving a distorted reading.

The Connecticut state legislature approved New Haven's needle exchange program in late spring, 1990.

Kaplan, a professor with the Yale School of Organization and Management and Yale School of Medicine, during that summer designed a novel research program to "let the needles talk for themselves."

He adapted a biomolecular technology, enabling scientists to track drug abusers' needle-sharing and test for the presence of the HIV virus, both by analyzing blood remnants left on the needles.

Operation and results

The study began in November 1990, with Kaplan, Heimer and four laboratory assistants gathering initial data.

They first looked at 68 needles obtained by health department workers from a local "shooting gallery," where some users gather to inject drugs. People there share "house works," needles kept in a container for addicts to take, use,

then replace for the next person, said Heimer.

Fifty-eight of those needles were reported infected with the AIDS virus — 87 percent.

The New Haven needle exchange program recruited addicts and gave them coded, fictitious names to protect their identities. Identification cards were issued so authorities would not arrest those users for possessing drug paraphernalia.

Outreach workers in a city van began traveling to five sites in the city four days a week (Monday, Tuesday, Thursday and Friday). Clean needles are distributed for dirty ones in a one-to-one exchange.

Program workers also provide participants with bleach to clean needles, with condoms and are available to "take by the hand" addicts who request drug treatment, said Kaplan.

As the program started, 160 "street needles" were turned in. Of those, 67 percent were tainted with the HIV virus. (The infection rate is expected to be lower with these "private" needles because they are available to fewer sharers than those in a shooting gallery, explained the researchers.)

Those needles were exchanged for coded program needles. The coding allowed scientists to log the person to whom each syringe was given, when and where, and to record who returned it, when and where.

Using Kaplan's syringe tracking and testing system, Heimer and technicians studied DNA drawn from minuscule amounts of blood left on the needles. The DNA reflected information on HIV infection and the number of people who had used a syringe.

A "rapid" decline in AIDS infection was seen soon after the needle exchanges started, Kaplan said.

Within 100 days, the infection rate had fallen to about 46 percent. The team released those preliminary results at a world AIDS conference in Italy last summer and also reported them to the Legislature.

Results released May 1 show the lower infection rate has held steady for 10 months.

To date, more than 40,000 nee-

When the study began in 1990, needles were collected from a local "shooting gallery," where users gather to inject drugs. Of the 68 syringes collected, 87 percent were tainted with HIV.

dles have been distributed and an equal number collected.

The average number requested by each participating addict varies "wildly," but is roughly about one every three days, Kaplan said.

Some 1,200 people have participated in the study; three-quarters were male. Most of the men were in their upper 30s. Most of the women were in their mid-30s. All had been injecting drugs for an average of seven years.

Forty percent were white; 60 percent black or hispanic. "And we don't want it to seem like (intravenous drug use) is just a God damn urban problem," said Kaplan. According to data from the study, participants were residents of 26 area towns, in addition to New Haven.

Kaplan believes that needle exchanges can, in the long term, result in AIDS no longer being transmitted as a result of drug use, now the leading cause of the transmission of the HIV virus.

In an analogy, Kaplan compared needles and AIDS transmission to the transmission of malaria by mosquitoes. "What would happen if you got rid of all the infected mosquitos and replaced them with babies that were not infected, and did this repeatedly?" asked the professor.

Kaplan and Heimer stressed, too, that the program has been effective in getting an "under-represented" population — minority members — into drug treatment. The researchers said that in the general drug rehabilitation population in Connecticut, 60 percent of the participants are white. Among those who went into drug treatment as a result of the needle exchange program, 60 percent were minorities.

The study clearly shows one fact, added Kaplan.

"Given the evidence we have now, the cost of delay (in establishing needle exchanges) is ... sentencing people to infection," he said.

Heimer presented the study results last weekend at a joint meeting of the Association of American Physicians, the American Society for Clinical Investigation and the American Federation for Clinical Research in Baltimore.

Kaplan and Elaine O'Keefe, director of the AIDS division of the New Haven Health Department and an assistant in the research, were chosen last week to receive the Franz Edelman Award for their work.

The prestigious award of \$10,000 is given annually by the Institute of Management Sciences. Based in Providence, R.I., the institute includes some 8,000 members worldwide, all scientists, researchers and medical practitioners.

Thomas Spencer, a management scientist and chairman of the award committee, said New Haven's pilot program is the first to overcome the "potential bias" of self reports and "unequivocally" proves clean needle exchanges reduce exposure to the HIV virus.

people.

Hypodermic needles

In a reversal, the Senate voted to allow over-the-counter sales of hypodermic needles and syringes, sending it to Weicker for his signature.

The bill narrowly failed on an 18-17 vote Tuesday night, but Sen. Kenneth L. Przybysz, D-Montville, said Wednesday he was willing to reconsider his vote.

It passed the second time, 19-17.

Sen. Margaret E. Morton, D-Bridgeport, has missed Senate sessions in recent days to be with her son, Gerald, who is ill in a New York hospital with AIDS. Morton voted Wednesday for the needle bill, which is intended to slow the spread of the AIDS virus through shared needles.

Sen. Kevin B. Sullivan, D-West Hartford, also switched his vote and supported the measure. Sullivan said he changed partly because of the health benefits and partly as a tribute to Morton, who is retiring this year.

Connecticut, which has one of the highest AIDS rates in the nation, is one of 11 states that require prescriptions for hypodermic needles.

Hartford Courant (5-7-92)

MAY 22

OPINION

THE LIVING DEAD

**Needle swaps to halt spread of AIDS
trade one destructive ill for another**

It brings to mind a scene from "Night of the Living Dead." Heroin zombies clutching dirty needles descend upon a waiting pickup truck, where they receive fresh hypodermics, which they then use to pump more poison into their decaying bodies.

"They come to us, tears in their eyes, to use clean needles," says Ben Schultz, who helps operate a covert needle-exchange campaign for the San Diego chapter of the gay activist group ACT-UP.

ACT-UP's weekly illegal needle exchange is done in the name of compassion for intravenous drug users, who increasingly are at risk of contracting AIDS through sharing dirty needles.

But while Schultz and others who empathize with his cause are commendably concerned about the spread

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they reveal a
ference to
from substance
"I'm not
Schultz. "I do
drug problem

PERKINS is an

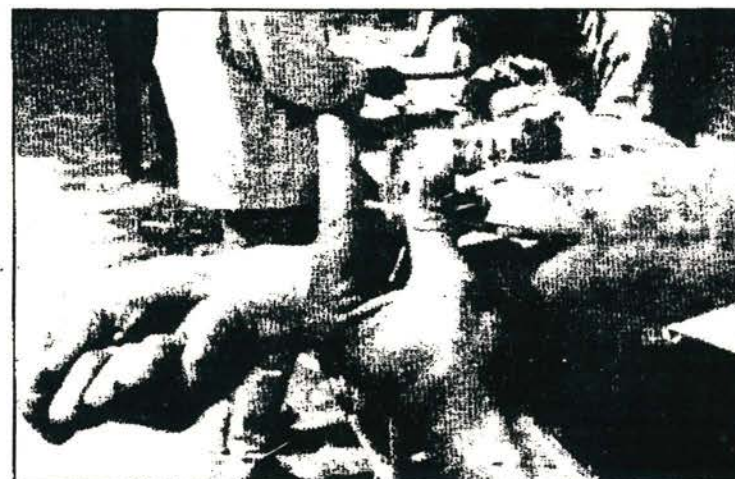
Joseph Perkins

THE SAN DIEGO UNION-TRIBUNE

an alcohol and cigarette problem."

In other words, ACT-UP doesn't care so much that junkies kill themselves from shooting up with heroin or cocaine. They just don't want them to spread AIDS. This sounds very much like social nihilism.

ACT-UP is cheered by a bill wending its way through the California Legislature that would give legal cover to needle exchange. The measure, sponsored



FILE PHOTO

Shooting up: Providing addicts with clean needles abets drug abuse, with no guarantee the needles will be used just once.

state laws and regulations that prohibit such programs. "There is evidence," the commission declared, "that HIV prevention strategies targeting injec-

in new HIV infections among addicts over an eight-month span.

A closer examination of the study uncovers flaws that wildly distort the

Why couldn't two or three or four or five junkies use the same hypodermic and the junkie to whom it was originally issued return it?

Indeed, since it was handed out by the government, the junkies might fear that they could get in trouble if they did not keep track of it. So even after several uses they might be inclined to return the government-issued needle.

Once returned, the Yale medics tested to see how many needles were contaminated with the AIDS virus. But even after determining how many needles were contaminated, they still could not know how many junkies had come in contact with the virus.

The bottom line is that needle exchange programs do nothing to discourage drug abuse and have not proven to reduce the incidence of drug-related AIDS. These are sufficient reasons for lawmakers in Sacramento to reject the Brown bill.

The preferable approach to slowing the spread of AIDS through intravenous drug use is to discourage such abuse altogether, not to tacitly abet it by dispensing clean hypodermics and syringes. After all, it hardly is rational to consign him to an

Wednesday, June 10, 1992

THE SAN DIEGO UNION-TRIBUNE

OPINION

Needle exchange program best way to fight the epidemic of bad needles

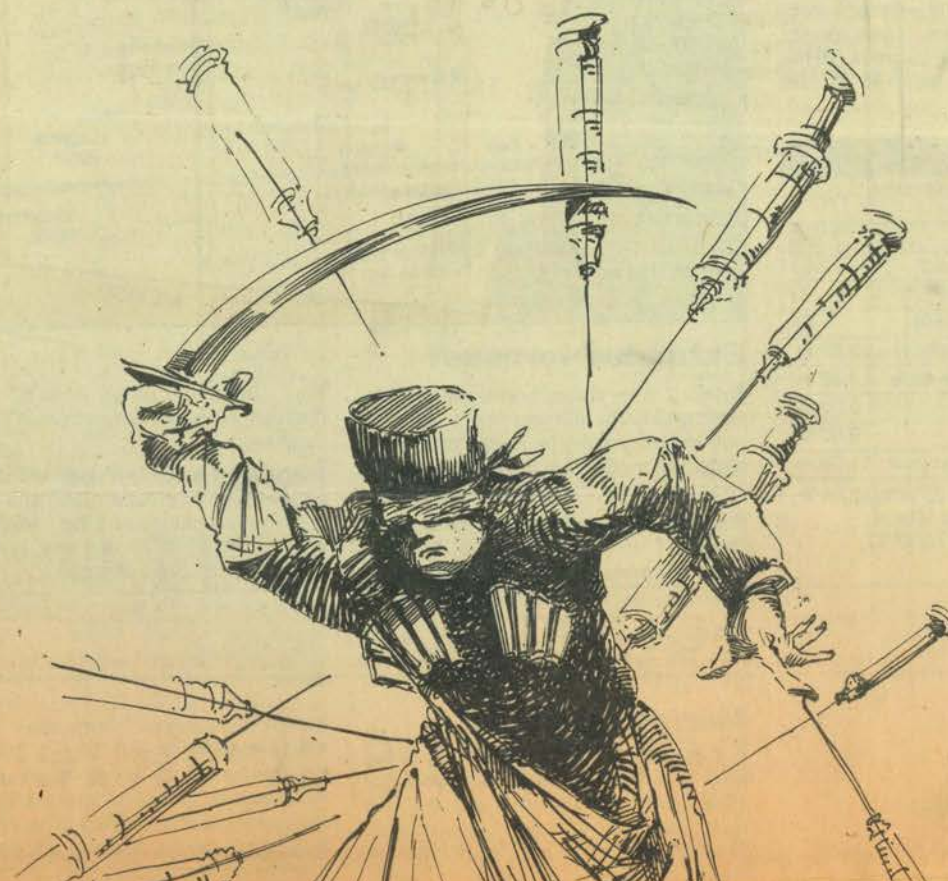
By EDWARD H. KAPLAN

No reasonable person can ignore the devastation caused by drugs in our society or the horrible consequences of human immunodeficiency virus (HIV) infection and AIDS. Faced with these two deadly epidemics racing through the inner cities of America, public programs that reduce one risk without worsening the other deserve serious, rational consideration.

Needle exchange is one such program.

For the last 18 months, a legal needle exchange program has been operated by public health professionals in New Haven, Conn. Simultaneously, an independent evaluation team from Yale University's management and medical schools has monitored this program in a careful laboratory and statistical study.

The California Legislature is considering legislation that would institute needle exchange pilot projects. *Union-Tribune* columnist Joseph Perkins recently argued in opposition to it, referring to the Yale evaluation. As the principal investigator of that New Haven research project, I wish to present an alternative discussion of needle



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Getting the Point In New Haven

The city's clean-needle program has cut the spread of AIDS. Now other towns see the light.

By DICK THOMPSON NEW HAVEN

THE VAN, PAINTED WITH VIVID stripes and a rising sun, plies the drearier streets of New Haven, Conn., drawing eager throngs like some dark version of the Good Humor truck. Four times a week, the "dope fiends," as they call themselves, line up to enter the vehicle. They identify themselves to city workers by their code names ("Carol Burnett," "Streetcat," "Wizard") and, in exchange for used needles, receive

survival kits: bottles of bleach, bottles of water, clean needles, and condoms. They do this because they are terrified of the epidemic that is raging through their city. "Just because I shoot drugs doesn't mean I don't care about AIDS. I care a lot," says a petite white woman, 45, who works as an executive assistant. That's right, says a dope dealer known as "Philip Morris": "Heroin don't make you retarded."

No, it doesn't, but for years the acrimonious debate over how to protect heroin users has impeded efforts by health au-

thorities to control the spread of AIDS. Civic leaders have been caught up in moralistic arguments over whether providing clean needles to addicts would only accelerate inner-city drug abuse. In minority communities, opponents insisted that needle handouts were akin to genocide. Meanwhile, AIDS raced through intravenous-drug-using populations. Today one-third of the nation's AIDS cases originate from IV drug use. More specifically, 71% of all females with AIDS are linked directly or indirectly to IV drug use, as are 70% of all pedi-

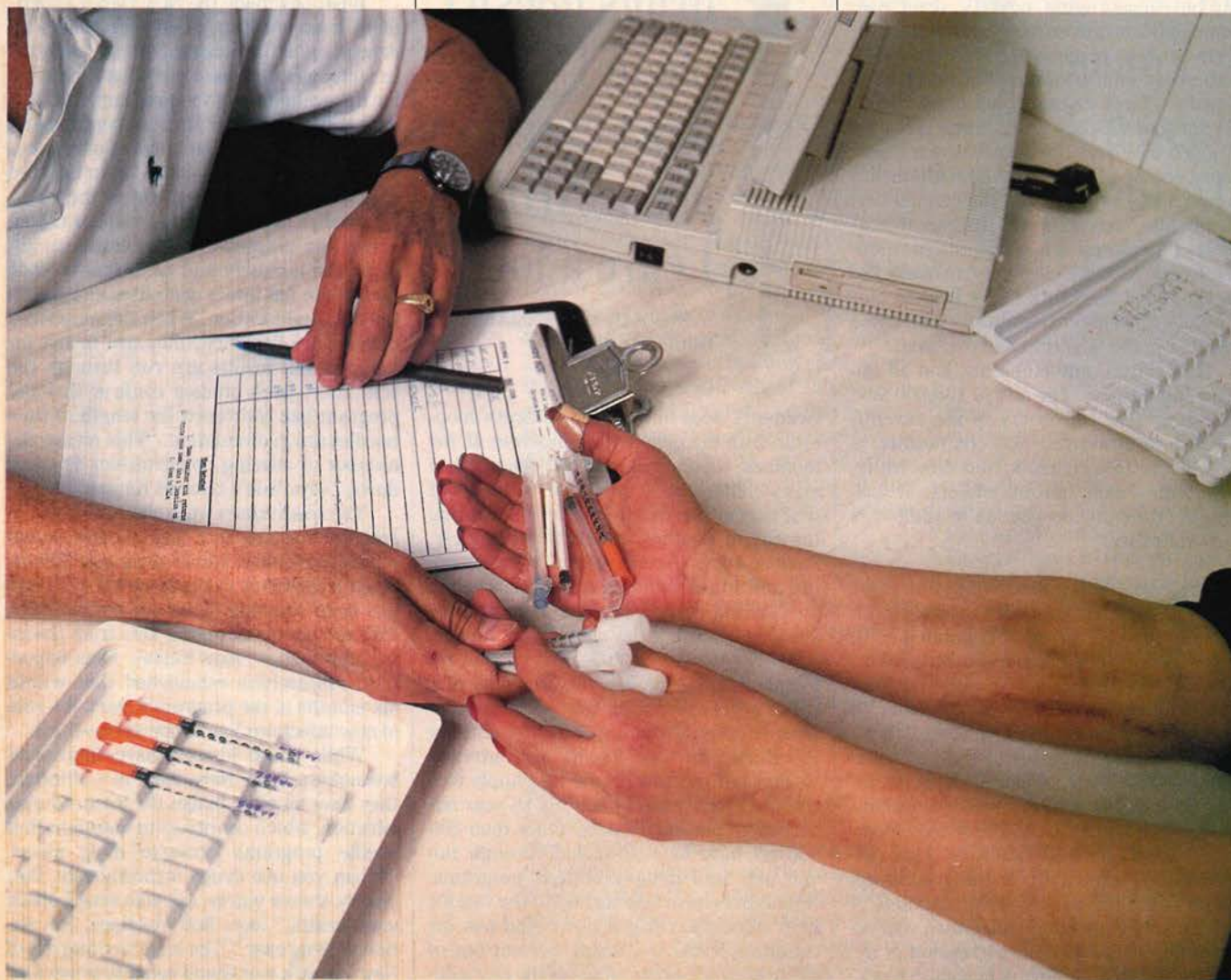
here are so used to being treated bad, they internalize that and think they're bad," says outreach worker Dominick Maldonado.

A major goal of the program has been to get contaminated needles out of heroin shooting galleries, where, according to one New Haven study, more than 90% of needles are contaminated with the AIDS virus. Addicts in these galleries can "rent" recycled needles either for money or for an exchange of drugs. After each use, addicts clean the needles in a pail of water set out every morning by the operator. The water starts out clear, but it is bloodred by afternoon. "We don't know who all got the virus," admits the proprietor of one such establishment. By exchanging needles, the project also reduces the number of contaminated needles that find their way into the city's parks, playgrounds and schools. "We used to find needles scattered throughout the building," says Edith Rawls, resident director of the downtown Y.M.C.A., which houses 131 men and women (75% are addicts). "There were dirty needles in the hallways and the bathrooms. Children would see them outside and pick them up."

What has made the New Haven experiment so compelling is that researchers independent of the program did the analysis. In fact, since the state provided no money for the evaluation of the program, Yale scientists donated their time and equipment. Using the advanced techniques of molecular biology, they were able to "interview the needles" to track the spread of the virus. All needles provided by the van are coded. When the needles are distributed to addicts, the numbers and participants' code names are fed into a computer along with the date and location. When the numbered needles are returned, they are tested for HIV, and the results are run through the computer. Such studies confirm that the program has shortened the length of time needles are in circulation. "This means the number of sharing opportunities is going down," says Yale's Edward Kaplan.

The researchers were also able to put to rest the concern that free needles would entice youngsters into IV drug use. The average participant in the program is 35 and has been shooting drugs for seven years. "We are not encouraging kids from the local high school," says Kaplan. Most important, researchers established that within six months of the program's start, the rate of new infections had dropped one-third.

While these lessons have impressed lawmakers from New York to California, they have failed to budge the Bush Administration, which continues to maintain that needle programs promote drug abuse. "When you use drugs intravenously, that clearly shows you're not concerned about your health," says Bob Martinez, the nation's "drug czar." The lines snaking out of New Haven's van would seem to prove him wrong. ■



Inside the city's van, a heroin addict trades used needles for fresh ones. The program has not led to increased drug abuse.

Controversial needle swap to expand with big grants

By Laura Johannes
Register Staff

NEW HAVEN — The city's needle exchange program, basking in the national spotlight despite stormy beginnings 18 months ago, has just netted a hefty \$1.7 million in separate three-year grants, Mayor John C. Daniels announced Friday.

The needle exchange, a demonstration project funded by the state legislature and the city, offers drug addicts clean needles in exchange for used ones. The goal is to reduce spread of the AIDS virus among addicts who share needles.

The program, which operates out of a van, has attracted national attention since August, when Yale researchers announced that they had found it effective in keeping infected needles off the streets.

Since it began Nov. 13, 1990, the exchange has signed up 1,200 addicts — more than half the city's intravenous drug users, said Elaine O'Keefe, who heads the city's AIDS Division and the needle exchange program.

Now, a three-year grant of \$572,000 from the Robert Wood Johnson Foundation will help double the program's staff to eight and buy a second van that will reach more neighborhoods and stay longer, Daniels and O'Keefe said at a press conference. The money will also pay for a full-time staffer to help the addicts get treatment.

And a \$1.1 million grant from the government will fund Yale University's unique needle-tracking system, which has documented the effectiveness of the first program so far, said Yale researchers Edward H. Kaplan and Robert Heimer.

The shower of financial support shows just how far the needle exchange concept has come since the Mayor's Task Force on AIDS first began promoting the controversial idea in the late 1980s, O'Keefe said.

"Just three years ago, those of us who advocated this program faced formidable political and moral opposition," O'Keefe said. But she said there is growing support for the idea that

Turn to Needle exchange, Page 12

Needle exchange:

Hefty grants will help city program expand

Continued from Page 1

reaching out to help addicts is more effective than treating them as outlaws.

"Today, we're at a crossroads in Connecticut and the nation. I think New Haven can take credit for helping shift attitudes," O'Keefe said.

Indeed, New York Mayor David Dinkins wrote Daniels late last year, crediting New Haven's documented success for changing his mind about needle exchange programs. Critics say the programs appear to condone drug abuse.

New York now has several needle exchanges.

In Connecticut, the legislature voted Wednesday to expand needle exchanges to two other cities, most likely Hartford and Bridgeport.

State Rep. Patricia Dillon, D-New Haven, said evidence that the needle exchange works in New Haven had an "enormous" influence on that decision.

"The program was well-designed, well-structured and carefully monitored. That's what really made the difference," said Dillon, who chairs the legislature's public health committee.

Researchers concluded that the exchange dramatically reduces the length of time a needle infected with the AIDS virus remains on the streets. The program has cut the rate of new AIDS virus infection by a third among addicts who participate, researchers estimate.

The needle exchange program also has enrolled 200 addicts into treatment, O'Keefe said.

New Haven has reported 506 AIDS cases since 1981, more than any other Connecticut community. Intravenous drug use or sex with IV drug users is to blame for two-thirds of those cases, health officials said.

Journal of Acquired Immune Deficiency Syndromes
5:1116-1118 © 1992 Raven Press, Ltd., New York

A Model-Based Estimate of HIV Infectivity via Needle Sharing

*†‡Edward H. Kaplan and †Robert Heimer

*Yale School of Organization and Management, †Department of Internal Medicine, Yale School of Medicine, and ‡Department of Operations Research, Yale University, New Haven, Connecticut

Summary: Critical to understanding the spread of the human immunodeficiency virus via needle sharing among drug users is the *infectivity*, i.e., the conditional probability of infection given injection with a shared, contaminated syringe. A simple mathematical model was constructed that relates infectivity to the prevalence of infection in needles used by drug users, the mean shared injection frequency among drug users, the probability that a needle is disinfected prior to use, and the mean AIDS incubation time. Three of these parameters have been estimated using data from the New Haven, Connecticut legal needle exchange program. Using the polymerase chain reaction to test for the presence of HIV proviral DNA in a sample of returned needles, we determined that 67.5% were HIV positive. We were able to estimate shared injection rates and disinfection rates from surveys of drug users enrolled in the needle exchange and our syringe tracking system. Current estimates of the mean AIDS incubation time are available in the literature. Our model implies that the probability of infection per injection with a contaminated syringe equals 0.0067, which is slightly higher than the transmission probabilities of 1/300 to 1/200 estimated from needlestick studies, and a factor of 3 higher than estimates of the probability of HIV transmission per vaginal sex act from an infected man to an uninfected woman. **Key Words:** Human immunodeficiency virus—Infectivity—Needle sharing.

New Haven Connecticut's legal Needle Exchange Program began operations on November 13, 1990 (1-3). Participating drug users exchange used needles for clean nondetachable needles/syringes on a one-for-one basis to a maximum of five exchanges per client visit. As clients may return any needle to the program, many needles received are "street needles" that did not originate with the program. Since there is no incentive to return program needles vs. street needles, it is reasonable to assume that the "street needles" received from clients at the beginning of the needle exchange were representative of the needles in circulation among

program clients prior to the start of the program. A sample of 160 "street needles" was tested for the presence of human immunodeficiency virus type 1 (HIV-1) proviral DNA using two rounds of polymerase chain reaction (PCR) with nested primers that recognize invariant regions of the *gag* gene (4). Single molecules of HIV cDNA on plasmids or specimens containing as few as 40 white blood cells from HIV+ patients yielded products detectable by Southern blotting with an oligonucleotide probe labeled using polynucleotide kinase and [³²P]ATP (4,5).

The level of infection in needles will depend on many factors, including the rate with which needles are shared, the fraction of injections in which needles are disinfected prior to use (e.g., with bleach), and the prevalence of infection among the drug users in question. The prevalence of infection among

Address correspondence and reprint requests to Prof. E. H. Kaplan at Yale School of Organization and Management, Box 1A, New Haven, CT 06520, U.S.A.
Manuscript received January 6, 1992; accepted March 25, 1992.

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PAGE 2

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NPR

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June 22, 1992, Monday

LENGTH: 1549 words

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2ND STORY of Level 2 printed in FULL format.

PAGE 2

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NPR

SHOW: MORNING EDITION

June 24, 1992, Wednesday

LENGTH: 1540 words

HEADLINE: NEW HAVEN NEEDLE EXCHANGE: TRACKING NEEDLES

Needle exchange gets lots of attention

By FRANK SPENCER-MOLLOY
Courant Medical Writer

NEW HAVEN — Some days the swarms of news photographers and other invited visitors are so intense, Elaine O'Keefe wonders why any drug user would risk the public scrutiny just to get a clean needle.

O'Keefe, a public-health nurse, is director of the city health department's 1½-year-old needle exchange, a program that allows addicts to swap used hypodermic syringes for clean ones, thus reducing their risk of being infected with the AIDS virus.

Last August, New Haven confirmed that needle-exchange programs do reduce the incidence of HIV-infected needles circulating through a drug-

using community. A scientific study, conducted at Yale, employing coded needles and gene-amplification techniques, showed that the clean needles were cutting the incidence of HIV-tainted needles being shared among drug users by one-third.

Teams of health authorities from across the country have called on O'Keefe to learn how the program works. Citing New Haven's experience, officials in New York, Philadelphia and Washington have begun looking at ways to ease their own legal restrictions on the sale of needles and to inaugurate needle swaps such as New Haven's.

The press is also taking note. Visitors from Time magazine, CNN and National Geographic are among the most recent to hop aboard the garishly painted delivery van that cruises poor neighborhoods collecting dirty needles, issuing

clean ones and steering clients toward drug treatment.

Seattle and Tacoma, Wash., Portland, Ore., and Boulder, Colo., are other U.S. cities with legal needle-exchange programs. But New Haven's was the first sanctioned in a state that otherwise made needle possession illegal without a doctor's prescription. And it was the first to yield solid scientific data showing it worked, although some drug-policy experts have questioned that conclusion.

Citing the New Haven program, the National Commission on AIDS last year called for the federal government to adopt needle exchange as a national public-health strategy.

The General Accounting Office, an investiga-

Please see Needle, Page A8

THE HARTFORD COURANT: Wednesday, June 24, 1992 A7

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tive arm of Congress, has looked at the program and is working on a report for Congress. U.S. Rep. Charles B. Rangel, D-N.Y., chairman of the House Select Committee on Narcotics Abuse and Control, in the past has denounced needle plans as acts of genocide against black people. Now he says he will abide by the GAO's findings.

The interest nationally is viewed by some as a testament to a grassroots effort that won vital support in New Haven from neighborhood residents, the police, the mayor, the state health commissioner and the governor. In other cities, such as Boston, opposition from any one of those elements usually has been enough to doom similar efforts.

But other states are considering copying another action on the vanguard taken by Connecticut. This year it became the first state to ease laws controlling the sale and possession of hypodermic needles. Next Wednesday a law goes into effect making it possible for anyone to buy as many as eight needles at a time over the counter from any pharmacist.

The daily stream of visitors in New Haven has disrupted the program's aim of providing confidential and easy access to clean equipment.

"It's been hard," O'Keefe said. "We try to stagger the visits. But we agreed [they are] important to do."

That openness is a change from the time the program began in the fall of 1990. At that time, to ensure confidentiality, the Mayor's Task Force on AIDS agreed to keep everyone, especially the press away from the van. Other than announcing that the long-awaited program was operating, health officials were circumspect about their activities. They did not allow the public to see



■ Elaine O'Keefe, foreground, is director of the New Haven Health Department's 1½-year-old needle-exchange program. The other AIDS outreach workers are, from left, Michael White, Chris Brewer, Dominick Maldonado, George Edwards and Sonia Lugo (in van window). All are from New Haven.

Claire Poisson / The Hartford Courant

in detail how the program worked until last summer.

These days, officials and addicts alike are accustomed to well-dressed observers tagging along for the ride.

Manhattan Borough President Ruth Messinger said she was impressed after taking the tour. New York Mayor David N. Dinkins has said that, based on the New Haven results, he was willing to reconsider his opposition to needle exchange there. Dinkins and others, including the president's drug czar, Bob Martinez, have said that needle programs only abet illegal drug use while leaving the AIDS problem unsolved.

The Bush administration has not veered from that position. Last fall, Martinez made a daylong visit to a New Haven drug-treatment clinic next to O'Keefe's AIDS office. But Martinez pointedly avoided going next door to talk to the people running the needle-exchange program.

Washington Mayor Sharon Pratt Kelly recently announced her support of needle exchange, and her office has been in touch with New Haven officials to collect data supporting an initiative in the District of

Columbia.

O'Keefe and her staff were invited to testify before the Massachusetts legislature, as Boston lawmakers tried, again in vain, to stir support for a needle program there.

She also went to Indianapolis to brief health officials there and is working with Rhode Island officials considering a program in that state.

In the 10 months since announcing its first results, the New Haven needle plan has dispensed 55,000 syringes. The number of enrollees has nearly doubled, to 1,400.

The program also recently won a \$575,000, three-year grant from the Robert Wood Johnson Foundation, money O'Keefe says will allow the program to increase its staff, buy a second van and dedicate one worker solely to enrolling heroine addicts into methadone-treatment programs.

Next month, Edward Kaplan, the Yale School of Management professor who developed the scientific model that gave evidence of the program's success, will travel to Amsterdam to update the program before the annual International AIDS Conference.

Needle-Swap Programs Found to Reduce H.I.V. Transmission

To the Editor:

Bob Martinez, director of the Office of Drug Control Policy, has urged Mayor David N. Dinkins of New York and Mayor Sharon Pratt Kelly of Washington to reconsider allowing drug addicts to receive clean hypodermic needles in programs designed to curb AIDS (news article, June 3). Contrary to the assertions of Mr. Martinez, needle-exchange programs across the country have been found to reduce transmission of the human immunodeficiency virus, and they serve as excellent recruitment sites for drug treatment services.

The Bush Administration may be able to keep its head in the sand and ignore the twin epidemics of substance abuse and H.I.V. In New York City, we cannot afford that luxury. Rates of H.I.V. transmission are increasing fastest among injection drug users, who account for 48 percent of AIDS cases in the state. New York State has the capacity to offer drug treatment to only 43,000 of its addicts, whose total numbers are estimated at 500,000.

Mayor Dinkins gave his support to community-based needle exchange

after considering the facts of the AIDS epidemic. We are joined by more than 20 substance-abuse and health-care providers from diverse communities in hoping that the Bush Administration follows the recommendations of its own National Commission on AIDS and does the same. Mr. Martinez's moralizing seems especially hollow while the Federal Government spends eight times more money for new prison beds than for new drug treatment slots. If Mr. Martinez won't finance the services we

need to save lives, he should at least get out of the way. SANDRA ESTEPA

MARIE-CARMEL PIERRE-LOUIS

ROBERT NEWMAN, M.D.

New York, June 5, 1992

FORUM

Are needle exchanges effective

New Haven program proves its worth

NEW HAVEN REGISTER 6-21-92



EDWARD H. KAPLAN

FOR the past year and a half, the AIDS division of New Haven's Health Department has operated a legal needle exchange.

This program has attracted global attention after the publication of several scientific reports. The excitement and enthusiasm follow from three key findings.

■ The fraction of needles contaminated with the AIDS virus has declined since the inception of the program in November 1990;

YES

■ More than 200 drug injectors, representing about one in six program clients, have entered drug treatment services via the needle exchange, and;

■ The age and drug use histories of new entrants to the needle exchange program have remained unchanged.

The first result was obtained via New Haven's syringe tracking and testing system, the first of its kind in the world, whereby all needles distributed receive unique tracking codes, and samples of returned needles are tested for infection with the AIDS virus.

Unlike studies of needle exchange in other settings, which relied upon self-reported behavioral data from drug injectors, syringe tracking and testing allows researchers to, in a sense, "interview" the needles. When one lets the needles do the talking, they tell an interesting story.

The length of time needles spend circulating among drug injectors has fallen significantly during the course of the program because clients frequently exchange needles. This is crucial, for even if drug injectors decline to modify their needle-sharing behavior, the needles have changed their behavior: needles are sharing fewer people.

ple. This is why the level of infection in needles has fallen.

This result translates into reduced spread of AIDS virus, for in order to become infected, an uninfected drug injector must inject with an infected needle. The rate of new infections among people is thus proportional to the level of infection in needles. On this subject, the needles have spoken clearly.

It is also worth noting that as the program is a needle exchange, the number of needles distributed to clients is balanced by the number of needles returned to the program. This law of needle conservation ensures that the public's risk of accidental needle-stick injuries cannot increase. If anything, the risk of such accidents has declined due to the clear drop in the fraction of needles infected.

Despite a lack of scientific evidence to support their claims, some critics feel that needle exchange programs encourage drug injectors to forgo addiction treatment in favor of continuing drug injection.

The data from the New Haven program dispute this claim. Not only has the needle exchange helped 200 persons enter drug treatment, the program has reached a group of injectors who previously were underserved.

Critics of needle exchange contend that such programs could create a new cadre of drug injectors. They argue that providing free needles is like serving free hot fudge sundaes at a Weight Watchers' meeting. This analogy is flawed, of course, because needle exchange is like providing free spoons.

If needle exchanges were creating drug injectors, key demographic data, such as age and duration of

drug injection, would have to change over time. This has not been the case; the data have not borne out such changes.

The needle exchange is not a perfect program; about half of those enrolled in the exchange have left. While many left to enter drug treatment, others were incarcerated, hospitalized, moved or reverted to pre-program injecting behavior. It is not clear how many apparent dropouts truly relapsed and this issue requires further study. But it is clear that risk of HIV infection has greatly diminished for retained clients while many others have been assisted into drug treatment programs.

The results obtained by Yale's evaluation team have been reviewed independently by other professionals on several occasions. The U.S. National Institute on Drug Abuse recently awarded the first federal funding for needle exchange research to the Yale study based on a thorough year-long review of the evaluation's laboratory and statistical procedures.

Based on its independent review, the Institute of Management Sciences awarded its prestigious Franz Edelman Award for Management Science Achievement for the mathematical modeling and syringe tracking and testing system at the heart of the study. And, published, peer-reviewed articles have already reported research findings in scientific journals, and more are on the way.

By contrast, there have been no peer-reviewed, published scientific studies concluding that needle exchange is ineffective and actually causes harm.

Given all available evidence, the implementation of well-run needle exchange programs linked to drug treatment services is a realistic policy option in response to both AIDS and drug abuse.

Edward H. Kaplan, is an associate professor at Yale University's School of Organization and Management, School of Medicine and Department of Operations Research. Kaplan developed the syringe tracking and testing system used in the needle exchange.

The Needle Exchange Debate

The relatively small number of communities that have implemented needle exchange attests to the controversy surrounding such programs and the difficulty communities experience when grappling with the interrelated epidemics of HIV and drugs. Following are common arguments made during debates in various communities over needle exchange.

Supporters contend:

- Needle exchange serves as a bridge to treatment and other services.
- Needle exchange decreases the number of discarded needles on the street because used needles must be exchanged for new ones.
- Needle exchange is HIV Prevention. Programs are designed to prevent HIV infection not treat drug addiction.
- Needle exchange programs are relatively inexpensive to operate. The annual operating cost of some of the existing programs is less than the projected cost of treating a person with AIDS for one year.
- Needle exchange usually serves IDUs where they congregate or at an accessible site (where other services might also be available). Ex-

isting programs have not been overly disruptive to community life.

- Findings from existing programs suggest that needle exchange reduces the amount of needle sharing among IDUs.

Opponents contend:

- Increasing access to needles will facilitate and/or promote drug use.
- Making needles more readily available may increase the number of discarded needles.
- Needle exchange programs divert funds from drug treatment programs.
- Needle exchange programs will disrupt community life by attracting drug users to certain areas.
- Needle sharing may still take place despite the availability of needles.

WEDNESDAY, JUNE 3, 1992 NY TIMES
**U.S. Drug Official Urges Mayors
 Against Needle-Swap Programs**

By ROBERT PEAR
 Special to The New York Times

WASHINGTON, June 2 — The Bush Administration today denounced the Mayors of New York City and Washington for allowing drug addicts to receive clean hypodermic needles under experimental programs intended to curb the spread of AIDS.

Martinez, the director of the Office of Drug Control Policy for the Federal Government, urged Mayor N. Dinkins of New York and Sharon Pratt Kelly of Washington to reconsider their positions. Mayors are supporting the programs as part of comprehensive efforts to combat AIDS. Martinez said there was no doubt that such programs could re-

duce drug use or stop transmission of the virus that causes AIDS. And, he said in letters to the two Mayors, the programs are "wrong on moral grounds." He said they lent drug use "a degree of official validation."

This was not the first time the Administration has expressed its concerns on needle-exchange programs but it was the most vigorous and direct criticism so far. Still, the Administration does not have the power to block the programs, and city officials in New York and Washington said they did not intend to use Federal money.

With more than 39,000 reported cases of AIDS, New York has far more than any other city. In Washington, 3,750 cases have been reported.

Ronald S. Johnson, coordinator of AIDS policy for New York City, rejected Mr. Martinez's criticism.

"There is evidence that needle exchange can reduce H.I.V. transmission," Mr. Johnson said. "The spread of H.I.V. infection is enough of a public health issue to warrant our exploration of community-based needle exchange as one option in our fight against AIDS."

Moreover, he pointed out that New York's needle exchange program, which is to begin this summer, includes education and counseling.

He said he found it objectionable "for an Administration that has done so little about the AIDS epidemic to talk about what should or should not be done on moral grounds."

Vada O. Manager, press secretary for Mayor Kelly, said the Administration's objections would not affect the Mayor's plan for a needle-exchange program. He said the City Council was expected to make changes in local law needed for such a program.

in the fight against drugs?

Addicts written off by defeatist policy

NEW HAVEN REGISTER 6-21-92



BOB MARTINEZ

"In the New Haven study, 60 percent of all the addicts participating dropped out of the program."

ment programs wouldn't be there without coercion from the criminal justice system. Needle exchange programs undercut this important pipeline to drug treatment. In New Haven, police are actually told to stand away from needle exchange sites.

Getting addicts into treatment, not handing out needles, is where we should be putting our efforts. We already know how to do this. Over the past three years, the Department of Health and Human Services has supported and evaluated outreach projects in more than 40 cities. In these cities, teams of outreach workers were dispatched to the streets to contact addicts and persuade them to end their sharing of contaminated needles and treatment. The projects proved highly successful, and the department intends to make another thirty grants this summer.

The drug treatment system is already experienced in treating persons addicted to heroin, the most commonly injected drug. The effectiveness of methadone maintenance, a widely used therapy for heroin addiction, is well researched and well documented.

scription, at any drugstore.

As Dr. Mitchell Rosenthal, president of the Phoenix House drug treatment program has pointed out: "Clean needles aren't going to alter any of the irresponsible and antisocial ways in which drug abusers threaten society. Only treatment can do this."

Research on needle exchange programs both in this country and abroad — including the New Haven study so often cited by needle exchange advocates — illustrates how difficult it is to rely on addicts to behave rationally.

In the New Haven study, 60 percent of all the addicts participating dropped out of the program and the findings on those remaining are ambiguous at best.

The study's authors assume that a needle returned by the addict individual to whom it had been issued had not been shared. Common sense tells us that an addict may share a needle several times before returning it to change. So, without more information, it is impossible to conclude whether needle exchange programs such as New Haven's reduce needle sharing, as their proponents claim.

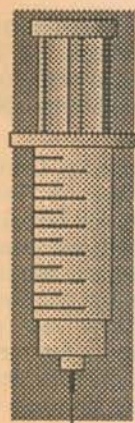
Some drug treatment experts believe that needle exchange programs can make addicts even more reluctant to seek treatment. Nationally we estimate that one-third or more of all drug users in treat-

In recent weeks the mayors of Washington, D.C., and New York have joined some other big city mayors in endorsing needle exchange programs.

The mayors believe that by providing clean hypodermic syringes to addicts they can slow the transmission of the AIDS virus among intravenous drug users, and from them to the general population.

On the face of it, needle exchange appears to make sense. The programs are cheap to run, and intuitively they would seem to work.

NO



But needle exchange is a policy born out of desperation, an admission of defeat. It facilitates addicts' continued use of drugs, and even lends their drug-taking a degree of official validation which under mines the credibility of society's message that drug use is morally wrong. It essentially writes off

some of society's most vulnerable citizens in the mistaken belief that doing so will help to save the rest of us from AIDS. And it ignores the fact that there is no compelling evidence that needle exchange programs reduce either drug use or the spread of AIDS.

Advocates of needle exchange say such programs will promote more responsible behavior by the addicts — less sharing of needles, and less risky sexual behavior. But this is a pipe dream.

Although most people will avoid behavior that they know to be potentially life-threatening, not so intravenous drug users.

Their behavior is inherently self-destructive and, as anyone who has spent time with intravenous drug users knows, it is foolish to expect responsible behavior from individuals locked in the grip of drug addiction.

Experts tell us that sharing needles is, in fact, part of the culture of intravenous drug users, rooted more in the addicts' psychology than in any scarcity of needles. Indeed, in most states needles can be purchased cheaply, without pre-

Bush aide gives no good reason to oppose needle exchange

To the Editor:

In his Forum article, Bob Martinez, director of the U.S. Office of National Drug Control Policy, offers a number of well-worn and unsupportable reasons in opposing needle exchange programs to fight the transmission of the AIDS virus among drug addicts.

Writer vindicated

To the Editor:

Concerning the New Haven needle exchange program, I hate to say I told you so. But I did. Bob Martinez, federal drug czar, agrees with me. Needle exchange is not a very intelligent approach to a behavioral problem exacerbating a lethal disease.

Frank A. Baldino
 Hamden

hard, to throw in the towel now.

Bob Martinez, former governor of Florida, is director of the U.S. Office of National Drug Control Policy.

Martinez' arguments echo those of Herbert Kleber, a former official with the Office of National Drug Control Policy and director of the APT Foundation, a local drug treatment and research center, as well as a number of other conservative, Washington-based policy makers who view addiction control as primarily a function of law enforcement.

It was this kind of reasoning that led to laws limiting needle access in a number of states following outbreaks of Hepatitis B among addicts in the late 1940s and early 1950s. In fact, these restrictions helped fuel the spread of Hepatitis B, and later, the AIDS virus, HIV, among drug injectors because they were forced to share the limited supply of available needles.

Following the success of the

New Haven program, Connecticut recently eased legal restrictions on over-the-counter sales of needles and paved the way for programs in other Connecticut communities.

Other cities and states are developing models programmed after New Haven's.

President Bush's own commission on AIDS endorsed needle exchange programs, though he has yet to act on any of its recommendations.

The fight against AIDS requires political leadership. Martinez and his boss, President Bush, seek to continue failed policies.

Peter Fisher
 New Haven

Editor's note: Peter Fisher is a member of the New Haven Needle Exchange Program Advisory Committee.

Feds blast city's needle exchange

Yale study attacked: Martinez disputes evidence of slower AIDS spread.

By Tamara Lytle

Register Washington Bureau

WASHINGTON — The federal government's drug czar launched a national attack Thursday on New Haven's needle exchange program and the Yale study that found the program effective in slowing the spread of AIDS.

Federal officials said they are concerned because the study, carrying the prestige of having been done by a Yale research team, is being used to promote needle exchange programs nationally.

"Needle exchange programs are a false promise — an act of desperation, a product of frustration," said Bob Martinez, head of the Office of National Drug Control Policy. "They squander our nation's hard-earned gains in the drug war, capitulating at a time when we should be making greater efforts to help drug users end their addiction, not perpetuate it."

Martinez's office released a bulletin Thursday criticizing the New Haven study and saying there is no evidence that needle exchanges reduce the spread of AIDS. The bulletin

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Executive Office of the President
Office of National Drug Control Policy

Needle Exchange Programs: Are They Effective?

ONDCP Bulletin No. 7

When President Bush took office, most Americans regarded the use of illegal drugs as the most serious problem confronting the Nation. Since that time, the Nation has made substantial progress in reducing drug use. But now, in response to the AIDS epidemic, there are those who are ready to sound a retreat in the war against drugs by distributing clean needles to intravenous drug users in the hope that this will slow the spread of AIDS. I believe this would be a serious mistake. We must not lose sight of the fact that illegal drugs still pose a serious threat to our Nation. Nor can we allow our concern for AIDS to undermine our determination to win the war on drugs.

In 1988, 14.5 million Americans and nearly two million young people, aged 12-17, were using drugs. In response to the devastation caused by drug use, the President boldly announced the first National Drug Control Strategy in a televised address to the Nation in 1989. That Strategy was a landmark document. Not only did it establish a coherent, coordinated policy for the national effort against drugs, but it committed unprecedented new resources for fighting drug use.

The Strategy is working; the use of illegal drugs by Americans is declining. Between 1988 and 1991, almost two million fewer Americans were using drugs, a drop of almost 13 percent. And by 1991, about half a million fewer young people were current users of drugs, a drop of 27 percent. Since 1985, the number of Americans using drugs has fallen by over 10 million.

Key to the success of the Strategy has been increasing Americans' intolerance of illicit drugs. But, for those already caught in the deadly web of addiction, we must act with compassion. The Administration therefore vigorously supports efforts to provide effective drug treatment to those

Martinez: Exchange thwarts treatment effort

Continued from Page 1

ly expanded programs from New Haven to Hartford and Bridgeport.

Elaine O'Keefe, director of the New Haven AIDS Division, said she gets calls every week from cities interested in the program and study. The Yale study tested needles for the AIDS-causing human

immunodeficiency virus. O'Keefe said she does not know whether users reuse the same needles they had originally.

"It is one of the most thorough evaluations of a needle exchange program ever done," O'Keefe said. "It is a real shame that federal leaders are not supporting a program as effective as this."

HIV is spread by sharing needles among other ways. The

change programs give users clean, fresh needles in exchange for used ones, so that they don't have to share infected needles.

Khalid Lum, spokesman for New Haven Mayor John C. Daniels, said the city stands by the effectiveness of the needle exchange program and by the study.

"This is very probably a case of

O'Keefe said the program has 600 participants. Twice that many have enrolled but some have dropped out, gotten treatment or been jailed.

"Needle exchange programs put the weapons of destruction into the hands of addicts who need treatment, not another fix," Martinez said. "Treatment is the real answer. It must be more

Kolb said the federal outreach plan has encouraged 31 percent of the participants to seek treatment, compared with 15 percent of those who went into treatment in New Haven after hooking up with the needle exchange program.

Kolb said the outreach workers teach addicts to cleanse needles with bleach if they refuse treatment. She said that is different than actually providing needles. "Every time you give them a needle, you are increasing the chance they are going to contract HIV or die of an overdose," Kolb said.

But O'Keefe said the federal support for bleach was inconsistent with the opposition to needle exchanges.

"Why is bleach OK and needles are not?" O'Keefe said.

EDITORIALS

New Haven Register

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New Haven Register
(7-46-42)

Drug czar misses city program's point

Number of AIDS infected needles has declined.

Bob Martinez, the federal government's drug control policy chief, is right. New Haven's needle exchange program isn't the answer for drug addiction.

The Yale scholars and city health workers who developed the exchange program also are right. The program is doing what it was intended to do, reduce the risk of the AIDS virus being spread by addicts' sharing infected needles.

number of AIDS infected needles has declined since the program's start in 1990. That's significant in a city where as many as three quarters of those with AIDS are linked with intravenous drug use.

New Haven's program has been the basis for launching similar programs elsewhere in Connecticut and the nation. The program hasn't expanded drug use, its administrators



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PEDIATRIC AIDS AND HIV INFECTION: FETUS TO ADOLESCENT/VOLUME 4, NUMBER 2, 1993

The Legal Perspective

Federal Response to Needle-Exchange Programs: Part II: B. Needle-Exchange Research: The New Haven Experience

By Edward H. Kaplan, Ph.D.

Introduction

The acquired immunodeficiency syndrome (AIDS) epidemic stands as the major public health concern of our time. In the United States, where roughly one-third of all reported cases of AIDS can be associated in some manner with use of injectable drugs, public health interventions that successfully slow the spread of the AIDS virus among drug injectors are in short supply. Complicating the matter is the undeniable fact that drug abuse is itself perceived to be a serious public health threat. Thus, many government officials, public health decision makers, and the public at large worry about tradeoffs in the realm of interventions directed at intravenous drug users. Will a primarily anti-AIDS measure worsen the drug epidemic? Will a primary antidrug measure worsen the AIDS epidemic? Does anything work in a cost-effective manner to lessen one risk without worsening the other?

Within this charged environment, needle-exchange programs operate in the United States, and precisely this environment makes research in needle exchange something of a professional health hazard. Some believe passionately that needle-exchange programs stand to save many lives from HIV infection. Some believe passionately that needle-exchange programs stand to propagate drug abuse, crime, and violence. And some researchers believe passionately that needle-exchange programs should be studied.

I am an active member of the third group. For the past 2-1/2 years, I have served as the principal investigator evaluating New Haven, Connecticut's, legal

needle-exchange program. Our research has led to a number of findings linking the operations of the New Haven needle exchange to both a reduction of HIV transmission risks among participating drug injectors and to the placement of drug injectors into treatment programs.¹⁻⁶ As a consequence of these findings, we have many friends from the pro-needle-exchange camp and foes from the camp opposed to the idea.

On July 9, 1992, Mr. Robert Martinez (former Governor of Florida), the Director of the Office of National Drug Control Policy (ONDCP), released a bulletin titled "Needle Exchange Programs: Are They Effective?"⁷ This seven page document represents ONDCP's "review" of completed research regarding needle exchange and concludes that no evidence exists supporting the contention that needle exchange programs reduce the spread of human immunodeficiency virus HIV, the virus responsible for AIDS. Specifically targeted in the ONDCP review is the continuing evaluation of the legal needle-exchange program in New Haven. To set the record straight, I will now provide some background facts regarding completed independent scientific reviews of our research. With this background understood, I will then respond to the key issues raised by Mr. Martinez and his staff.

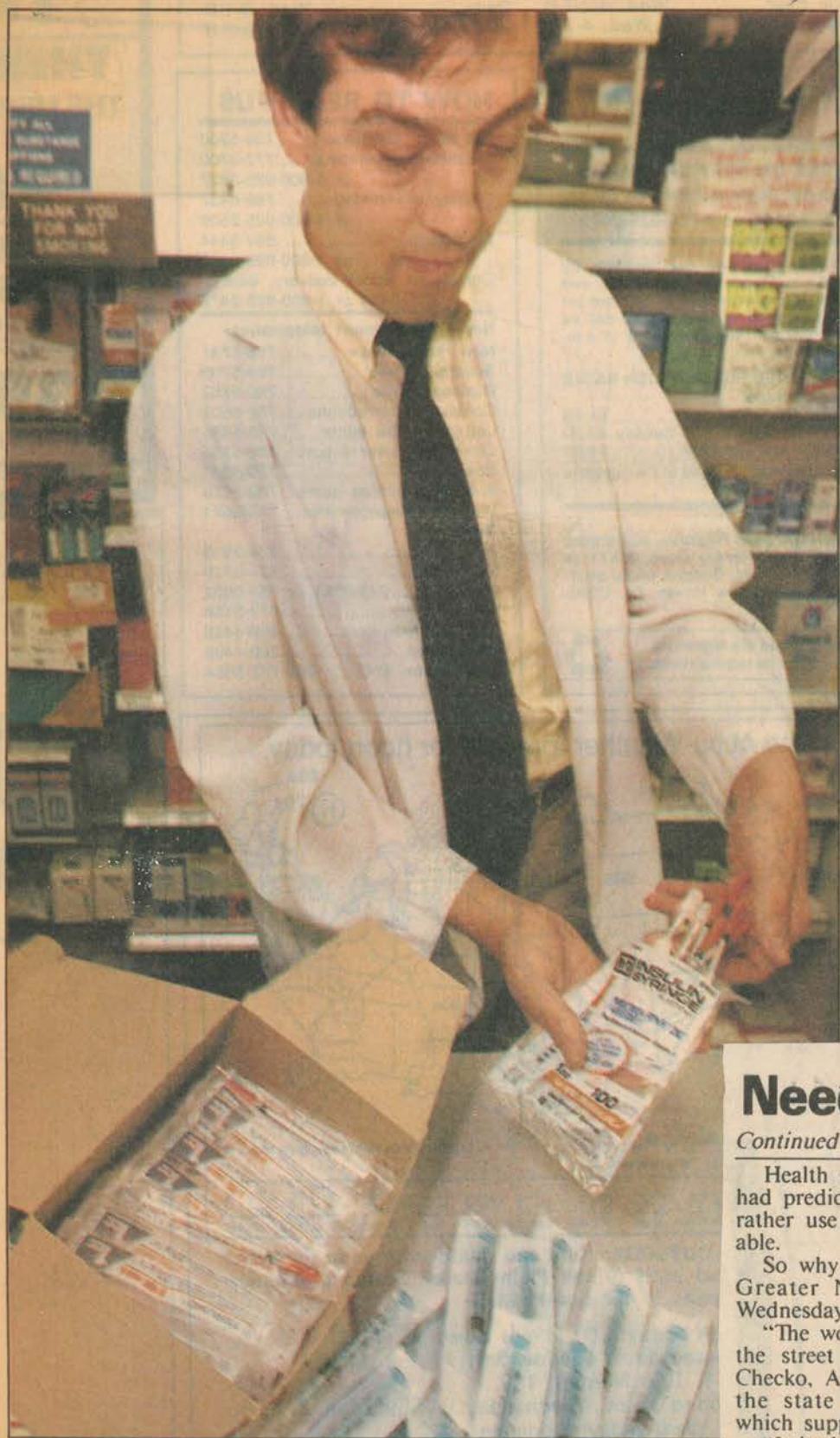
Scientific Reviews of the New Haven Needle-Exchange Evaluation

The methods underlying the evaluation of needle exchange in New Haven are new and exciting. As documented in several papers published in the open literature,²⁻⁶ in addition to our preliminary report,¹ our approach to evaluation "lets the needles do the talking." All participants in the needle-exchange program receive unique code names; all distributed needles are coded. As a consequence, for needles

Bob Martinez

BOB MARTINEZ
Director

HELP FOR ADDICTS NHR (7-2-92)



Pharmacist Robert Maleri shows some of the hypodermic needles at Ben Smith Pharmacy. A law aimed at slowing the spread of AIDS took effect Wednesday, allowing needles to be bought without prescription. **See story**

Hypodermic needle sales slow on 1st day of new law

By Laura Johannes
Register Staff

Pharmacies can now sell up to 10 syringes without a prescription, but few drug addicts in Greater New Haven took advantage of the new law Wednesday.

"We haven't got any requests so far," said Bob Maleri, manager of Ben Smith Pharmacy and Surgical Supply on Whalley Avenue.

Like other pharmacies, Ben Smith keeps the needles — which cost \$2 to \$3 for a bag of 10 — behind the counter.

The controversial new law, aimed at reducing the spread of the AIDS virus through needle sharing among intravenous drug users, took effect Wednesday.

On the street, a single used needle can sell for \$2 to \$5.

Most pharmacies, including the

CVS and Walgreen's chains, said they'll sell the needles. Some say they are happy to do so because New Haven's needle exchange program has shown that availability of clean equipment slows the spread of AIDS.

But others, including Ray Pantalena of A People's Pharmacy on Chapel Street, plan to continue selling needles only to those with prescriptions.

"I'm against doing anything that would obviously perpetuate illegal drug use," Pantalena said Wednesday morning.

Only 11 states require prescriptions for needles. Among them are New York, New Jersey, Massachusetts, Maine, New Hampshire and Rhode Island.

Turn to Needles, Page 7

Needles: Few buy syringes on 1st day of new law

Continued from Page 3

Health officials in Connecticut had predicted that addicts would rather use clean needles if available.

So why did almost nobody in Greater New Haven buy any Wednesday?

"The word may not be out on the street yet," said Patricia J. Checko, AIDS epidemiologist for the state Health Department, which supported the law.

"It is the first day. People may be a little leery of exercising their (new) power."

Another reason, said state Rep. Patricia Dillon, D-New Haven, may be that New Haven already has a good needle exchange program — which officials say has enrolled half of the city's estimated 2,400 addicts who use needles.

In New Haven, one man took the precaution of calling a local pharmacy to ask whether the needles were available. Then he came

in to buy the maximum the law allows.

The pharmacist, seeking to avoid hassles, sold him the needles even though he would have preferred not to.

"The problem with a junkie is, if you irritate them, they could cause trouble," said the pharmacist, who asked not to be identified.

One question about the new law is whether pharmacies can legally sell needles to diabetics but refuse everyone else.

"No," said Democrat state Rep. Richard D. Tulisano, a Rocky Hill lawyer who is co-chairman of the Judiciary Committee that wrote the law.

He said pharmacies might find a loophole, but the law clearly intends to allow sale to addicts.

"As a general rule you need to have a logical reason to deny someone a product," Tulisano said.

Others, including Daniel C. Le-

one, executive vice president of the Connecticut Pharmaceutical Association, read the law differently.

The association, which supported the law, believes in leaving it up to the pharmacist whether or not to require a prescription.

Yale sends big team to conference

By Laura Johannes
Register Staff

NEW HAVEN — The good, the bad and the controversial aspects of AIDS care in the city, including the pioneering needle exchange program and the area's lack of a nursing home for AIDS patients, will get a worldwide hearing this week at an international conference.

Twelve researchers from Yale-New Haven Hospital and the Yale School of Medicine will present original research at the eighth International Conference on AIDS in Amsterdam, Holland, today through Saturday.

Never before has Yale sent so many scientists to speak at the conference, which is the most important forum for new research on the disease.

"This conference traditionally provides a focus for AIDS research worldwide. It is the only meeting that brings everyone together on all issues," said Dr. Gerald Friedland, director of Yale's AIDS program.

The research from New Haven includes a profile on over-hospitalization of AIDS patients.

June Holmes, a social worker who manages Yale-New Haven's AIDS Program, dug through six months of hospital records. Her study covers 130 patients, who were hospitalized a total of 3,000 days. The conclusion: A third of

the patient days were unnecessary. Patients could have spent the time in a less expensive, more pleasant setting.

"Mostly they could live on their own, with (some medical) supervision," she said.

But the patients were kept in the hospital because they had nowhere to go, Holmes said.

They weren't well enough to live at home. And there is no nursing facility for AIDS patients in Connecticut.

Activists have tried to set one up but failed, largely due to red-tape restrictions on who would pay for the care.

On Wednesday, the city's much-publicized needle exchange program will be discussed.

Edward H. Kaplan, an associate professor at Yale, will present new results that bolster his earlier estimate that the program cut new HIV infection by one-third among the addicts who come to the van to get clean needles in exchange for dirty ones.

The first estimate, publicized a year ago at the AIDS conference, brought the program into the national spotlight.

This year, Robert Heimer, an associate research scientist who helped evaluate the needle exchange, will talk about how research such as his and Kaplan's can influence political decisions.

In Connecticut, needle ex-

change programs will be instituted in Hartford and Bridgeport. As of July 1, pharmacies can sell 10 needles without a prescription.

Other Yale research to be presented includes:

■ Early results on D4T, a promising new drug that attacks replication of the AIDS virus. It targets a different part of the viral replication cycle than AZT does.

■ Yale AIDS program nurse practitioner Ann Williams found that women infected with the AIDS virus are significantly more likely than other women to also be

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VIII International Conference on AIDS/
III STD World Congress
Amsterdam, The Netherlands
19-24 July 1992

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FINAL PROGRAM & ORAL ABSTRACTS

TRACK C: EPIDEMIOLOGY

WeC 1092 NEEDLE EXCHANGE LOWERS HIV INCIDENCE IN NEW HAVEN Kaplan, Edward H.; Heimer, Robert** Yale School of Organization and Management, and Yale School of Medicine, New Haven, CT USA, **Yale School of Medicine, New Haven, CT USA

Objective: To verify our earlier prediction that HIV incidence has been reduced among IDUs in the New Haven needle exchange program.

Methods: A syringe tracking and testing system (STT) was established whereby all needles distributed by the program receive unique tracking codes, and a sample of returned needles are tested for the presence of HIV proviral DNA using PCR. From the STT, it is possible to sequence chronologically the needles returned by individual IDUs in the program, and to statistically determine whether the infection pattern in the needles shifted from predominantly negative to predominantly positive during the course of the needle exchange, as would occur if the IDU in question became infected.

Results: Earlier modeling predicted a drop in HIV incidence from 6.4 per 100 IDUs per year to 4.3 per 100 IDUs per year owing to the operation of the needle exchange. The data employed here covered the equivalent of 9,062 client days, thus one would expect 1.07 new infections to be discovered if the incidence of infection had been reduced as predicted, with a 95% Poisson coverage interval of 0-3 infections. PCR tests of 850 needles covering 69 client IDUs (for an average of 12.3 needles tested per IDU), were statistically analyzed four ways. Three of the analyses determined mean incidence levels falling inside the coverage interval (0.31, 0.55, 1.31), while the fourth fell just outside (3.55).

Conclusions: These data are consistent with the incidence reduction forecast earlier. That the technique employed here is completely different from Kaplan's "Needles That Kill" model on which earlier conclusions were based provides additional evidence that needle exchange has reduced HIV incidence in New Haven.

Kaplan, Edward Yale School of Organization and Management,
Box 1A, New Haven, CT, USA 06520 Tel. (203)-432-6031
FAX (203)-432-9995/6316

VOLUME 1

NHR 7-22-92

New study backs needle-exchange program in city

By Laura Johannes
Register Staff

The Yale professor who drew worldwide attention to the city's needle exchange a year ago at the international AIDS conference is back this year with more evidence suggesting that his hotly debated program is cutting the AIDS infection rate.

"A new, independent analysis completely supports our earlier approach," said Edward Kaplan, an associate professor at Yale University's School of Organization and Management.

Today at the Eighth International Conference on AIDS in Amsterdam, Kaplan is scheduled to present results, which, though imprecise, suggest that the needle exchange is as effective or more so than last year's estimates.

In July 1991, Kaplan estimated that the program's van, which travels through the inner city five days a week giving drug users clean needles for used ones, cut the rate of new infections by a third.

It was the first research in the world to measure the efficacy of a needle exchange by testing the needles returned for HIV.

Kaplan compared returned needles to those found on the street. The program needles were much cleaner. That means, Kaplan concluded, that people who participated in the exchange were less likely to get infected.

Today, he'll tell other scientists that a new analysis suggests that program likely halved the rate of new infection.

"If you were going to rely on this data alone, the maximum likelihood would be about a 50 percent reduction. But given the imprecision, I wouldn't hang my hat on that," Kaplan said.

The results have a large margin of error because Kaplan had to rely solely on the needles for data. The city feared that testing clients directly might scare people away from the van.

Turn to AIDS, Page 4

APA Supports Needle Exchange Research

The Council of Representatives, at its August 1992 meeting, approved a proposal by the Ad Hoc Committee on Psychology and AIDS (COPA) that the APA adopt a policy supporting research on legal access to sterile injection equipment by drug users. It will provide a basis for APA legislative strategies and advocacy, and it will be a foundation for encouraging psychologists to develop research projects on legal access to sterile injection equipment as one mechanism in preventing the spread of HIV infection.

Programs for legal access to injection equipment (often referred to as needle exchange or syringe exchange) may be important for preventing the spread of HIV infection. Nonetheless, some people argue against injection equipment exchange programs—asserting that money used for such programs is taken away from needed drug treatment, or that the programs merely maintain drug abuse behavior. But the mere provision of a nonthreatening, health-related service offers an opportunity to approach other issues, including treatment, with the drug user. Denying syringe

exchange doesn't necessarily mean that more funds will be provided for treatment.

Explicit APA support for research on equipment exchange programs will provide a platform for advocacy efforts that potentially could: (1) open another avenue of important behavioral research on AIDS prevention as well as drug abuse treatment; (2) provide a health system contact with addicts through a salient, nonthreatening service; (3) expand the array of options for introducing prevention and treatment concepts to addicted persons.

APA Policy Resolution, adopted August 1992

RESEARCH ON LEGAL ACCESS TO STERILE INJECTION EQUIPMENT BY DRUG USERS

WHEREAS one method of transmitting the human immunodeficiency virus (HIV), which causes AIDS, from one person to another is through blood residue in shared drug injection equipment;

WHEREAS a large proportion of HIV-infected persons are injecting drug users;

WHEREAS epidemiological projections regarding the future of the AIDS epidemic among injecting drug users and their sexual partners;

WHEREAS injecting drug users and addicts from

WHEREAS the U.S. government has supported means for addicts to acquire sterile injection equipment;

WHEREAS curtailment of equipment exchange and AIDS prevention techniques that may be

WHEREAS access to health care systems to persons, including health-related education

THEREFORE BE IT RESOLVED that the legal availability of sterile injection equipment. Such research should be in the context of also treatment for HIV infection.

Copies of all American Psychological Association Rutherford in the Office on AIDS at (202) 336-6040

Ed —
Your colleagues in psychology support you!
The other night was really fun. Lets do it again soon!
With best wishes,
jeanette

Page 4 New Haven Register, Wednesday, July 22, 1992

AIDS: New study supports earlier needle-exchange results

Continued from Page 3

The analysis involved an exhaustive review of needles returned by 89 clients. A total of 1,141 needles were returned, of which 530 tested positive.

Kaplan and his partner Robert Heimer studied each client one at a time and estimated whether — and when — the person had become infected with HIV.

It worked like this: Say a man returned five needles in a row and all five tested negative for the virus. Then say he suddenly began

returning HIV-positive needles. Kaplan would conclude that the man had become infected between needles five and six.

But the method was imprecise because the test for HIV is sometimes wrong and also because some of the clients shared needles before they returned them, Kaplan said.

The needle exchange has enrolled about 1,300 people — an estimated half of the 2,500 intravenous drug users in the city, organizers said. More than 200 of them have been enrolled in drug treat-

ment programs.

Kaplan's research has provided fuel for needle exchange advocates across the country, prompting New York Mayor David Dinkins to stop opposing an exchange and also sparking debates in California and Massachusetts.

But President Bush's drug czar, Robert Martinez, issued a bulletin condemning needle exchanges and Kaplan's program specifically.

He argued that giving out needles makes it easier for people to use drugs and "undercuts the credibility of society's message that us-

ing drugs is illegal and morally wrong."

Kaplan predicted that the most recent research is unlikely to move Martinez, who didn't respond to the professor's overtures over the past year.

"I sent copies of my papers (to Martinez) and asked to meet. He never followed through," Kaplan said.

Two SOM professors among finalists in prize competition

Two professors at the School of Organization and Management are among seven finalists in this year's international competition for the prestigious Franz Edelman Award for Management Science. They are Edward Kaplan, associate professor of policy modeling and public management, and Arthur Swersey, professor of operations research.

Professor Kaplan's entry in the competition is "Let the Needles Do the Talking," which features his data collection and analysis work for the needle exchange program of the New Haven Health Department's AIDS Division. The results of the program suggest that it has reduced HIV incidence by 33%.

Professor Swersey is a finalist for his entry "Improving Fire Department Productivity: Merging Fire and Emergency Units in New Haven." The project has resulted in yearly savings of over \$1 million and substantial

improvements in emergency medical response time.

The award was named in honor of the late Franz Edelman of RCA. Mr. Edelman was responsible for management science at RCA, one of the earliest industrial management science activities. He was an early advocate of computers in the analysis of business problems.

Past winners of the international award include several companies, including American Airlines Decisions Technologies, Kodak (Australasia) and Marriott's Courtyard. This year's winners will be announced April 26.

ACHIEVERS *New HAVEN REGISTER* 8-7-92



Kirby Kennedy/Register

Mayor John C. Daniels, right, accepted an award for the city's needle exchange program Thursday at a luncheon at the Yale School of Organization and Management. Elaine O'Keefe, director of the city Health Department's HIV/AIDS division, and Edward Kaplan, associate professor at the school, also received plaques for their work in the needle exchange program.

WEEKLY BULLETIN & CALENDAR

May 4-18, 1992

Needle exchange program slowing spread of AIDS virus, say researchers

An experimental needle exchange program is dramatically slowing the spread of the virus that causes AIDS among intravenous drug users participating in the program, according to new findings reported by a team of Yale researchers.

The team gathered its data from New Haven's Needle Exchange Program, which was approved by the Connecticut state legislature in July of 1990 and began in November of that year. Intravenous drug abusers — who often share needles contaminated with HIV (human immunodeficiency virus) — are the fastest growing group to contract AIDS in the nation. The New Haven program seeks to curb this trend by allowing drug users to exchange used syringes for sterile needles on a one-to-one basis.

The study used the syringe tracking and testing (STT) system developed by Edward H. Kaplan, an associate professor in the Schools of Organization and Management

and of Medicine, who leads the research team.

"STT's philosophy is that it is possible to infer the properties of an epidemic among drug users by studying their used needles," explains Professor Kaplan. "In short, the idea is that whenever possible, one should let the needles do the talking."

Through the needle exchange program, syringes marked with traceable codes are distributed to drug users. The program's personnel keep a log of the drug users who receive and turn in syringes (whether coded or not), using fictitious names to protect the participants. In addition to noting which drug user receives and returns particular needles, they record the date and location of syringe distribution. The Yale researchers then test a sampling of both coded and uncoded syringes, using a molecular medicine technique called polymerase chain reaction to detect HIV from traces of blood left on the needles.



PHOTO BY MICHAEL MARSLAND

Edward H. Kaplan

During the first nine months of the needle exchange program, researchers discovered less evidence of HIV in syringes that came back with intact codes. In fact, statistical models suggest a 33% decrease in the rate of new infections, says Professor Kaplan.

In addition, demographic information gathered by the study revealed that the average age of individuals using the program (34 years old) and the average length of time they have been using drugs (seven years) has not changed during the course of the needle exchange program. This indicates that new addicts are not created simply because clean needles are being made available through the needle exchange program, says Professor Kaplan.

Robert Heimer, associate research scientist in medicine, who conducted the polymerase chain reaction tests, is presenting the new results at a poster session of the annual meeting of the Association of American Physicians, the American Society for Clinical Investigation and the American Federation for Clinical research, to be held May 1-4 in Baltimore. Other Yale researchers involved in the study include Bini Jariwala of the department of internal medicine and Dr. Edwin C. Cadman, the Ensign Professor of Medicine and chair of the department of internal medicine.

MFR (4-19-92)

BRIEFCASE

2 Yale profs had bright ideas

NEW HAVEN — Two Yale University School of Organization and Management professors are finalists in an international competition to find outstanding management science ideas that have been implemented.

Arthur Swersey, professor of operations research, came up with a plan to improve the efficiency of the New Haven Fire Department by merging fire and emergency units, which saved \$1 million and increased response time.

Edward Kaplan, associate professor of policy modeling and public management, came up with a needle exchange program for the AIDS Division of the New Haven Health Department that resulted in a reduction of HIV incidence by 33 percent.

Both programs have been controversial.

Winners of the Franz Edelman Award for Management Science will be announced April 26.

SOM professor wins Edelman Award

Professor Edward H. Kaplan is the winner of the 1992 Franz Edelman Award for Management Science Achievement for "Let the Needles Do the Talking," the program he created to evaluate the effectiveness of the New Haven Needle Exchange Program in reducing the spread of the virus that causes AIDS among intravenous drug users. (See related story.) Professor Kaplan shares the award with Elaine O'Keefe, director of the AIDS Division of the New Haven Health Department, which runs the needle exchange program.

The Edelman Award is presented by The Institute of Management Sciences and honors Dr. Franz Edelman of RCA, an early advocate of computers in the analysis of business problems in the industry. It is considered the world's top honor for management science achievement.

Before Professor Kaplan devised his evaluation model, there was no data to indicate whether needle exchange programs reduce the incidence of new HIV (human immunodeficiency virus) infections. The findings from his study motivated New Haven and San Francisco, as well as several state legislatures, to continue funding or to designate funds for needle exchange programs. In addition, New York City Mayor David Dinkins' reversal of his earlier opposition to needle exchange in that city was based in part on the results of Professor Kaplan's study.

Professor Kaplan, who holds appointments at the Schools of Organization and Management and of Medicine, has also received a \$178,000 grant from the Robert Wood Johnson Foundation to continue the study.



STATE OF CONNECTICUT
DEPARTMENT OF HEALTH SERVICES

OFFICE OF COMMISSIONER

May 6, 1992

Edward H. Kaplan
Associate Professor of
Policy Modeling and Public Management,
Operations Research and Medicine
Yale School of Organization and Management
Box 1A
New Haven, CT 06520

Dear Dr. Kaplan:

I can't tell you how delighted I was to read about your receipt of the 21st Franz Edelman Award. Apart from the fact that you so richly deserve it, I take particular pleasure in this good news, since over the years I have written my share of letters unsuccessfully supporting worthy people for various awards, positions, etc.

Just last night, I read the article in Yale. I do believe that your evaluation of New Haven's needle exchange program will in fact have an impact worldwide. We are all proud of you, of the New Haven Health Department, and of the New Haven community for supporting this important program.

Sincerely,

Susan S. Addiss, MPH, MURs
Commissioner

SSA/cdm
0980M

5/6/92



OFFICE OF THE GOVERNOR

Dear Ed,
congratulations on the selection of
The New Haven needle exchange as the
Edelman award recipient! I'm very
pleased for you, the project, and, of course,
S.O.M. Thank you for sharing your
good news with me and thanks again
for your help. Hope to speak with you soon.
Truly yours,
Brooke White Sandford

Temple Beth Sholom



wishes to inform you that
a contribution has been made

HAMDEN, CONNECTICUT

by Mr. & Mrs. Stuart Miller; Mazel Tov
on receiving an International Manage-
ment Award
to the Rabbi's Discretionary Fund.



OFFICE OF THE DEAN

The University of Michigan

SCHOOL OF PUBLIC HEALTH

109 SOUTH OBSERVATORY STREET
ANN ARBOR, MICHIGAN 48109-2029

May 13, 1992

Edward H. Kaplan
Yale School of Organization
and Management
Box 1A
New Haven, CT 06520

Dear Ed:

My hearty congratulations on the great news about the 21st Franz Edelman Award. I am delighted for you and your colleagues and, of course, for New Haven as well. It does seem as if progress is beginning at last. I am happy if my letter had something to do with it.

Once again, thanks for letting me know and congratulations!

With best regards,

Sincerely,

June E. Osborn, M.D.
Dean



HARVARD SCHOOL OF PUBLIC HEALTH

Department of Population and International Health

Jonathan M. Mann, MD., MPH
Professor of Epidemiology and International Health
Director, International AIDS Center
Harvard AIDS Institute

13 May 1992

Professor Edward Kaplan
Yale School of Organization and
Management
Box 1A
New Haven, CT 06520

Dear Dr. Kaplan:

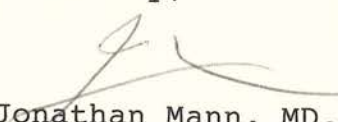
Congratulations on the well deserved award. I also think it's great that you are donating the award proceeds to AIDS services; I think that's really wonderful.

I agree with you that your policy impact is extremely important. I recommend that you apply to give a "recent report" session at the Amsterdam Conference. The way to proceed is to submit a brief description of the findings (an abstract) in a letter which also explains why it is important and why it was not ready in time to submit as a regular abstract (deadline was 2 March). Send the letter to Ms. Malinda Julien, VIII International Conference on AIDS, 8 Story Street, Cambridge, MA, 02138 and indicate that you think it should be a track D "recent report".

Then, after the summer, let's be sure to meet; I know I'd enjoy that very much.

Best regards and I hope we catch sight of each other in Amsterdam.

Sincerely,


Jonathan Mann, MD, MPH
Professor of Epidemiology and
International Health
Harvard School of Public Health

You are cordially invited to the presentation ceremony of the

**1992 Franz Edelman Award for Excellence
In the Management Sciences**

by The Institute of Management Sciences

for the New Haven Needle Exchange Program to

EDWARD H. KAPLAN, Ph.D.

Associate Professor of Policy Modeling and Public Management
Yale School of Organization and Management

Associate Professor of Medicine, Department of Internal Medicine
Associate Professor of Operations Research

ELAINE O'KEEFE

Director of the AIDS Division
New Haven Health Department

THE HONORABLE JOHN C. DANIELS

Mayor
City of New Haven

Thursday, August 6
Noon

Yale School of Organization and Management
Horchow Hall
General Motors Room
55 Hillhouse Avenue
New Haven

A light luncheon in the Horchow Hall sun parlor will follow the award presentation.

Edelman Winner Helps Settle Needle Exchange Debate, May Save Lives

The national debate over the use of sanctioned needle exchange programs to curb the spread of the human immunodeficiency virus (HIV) among the intravenous drug-using population had reached a stalemate.

Yale professor Edward Kaplan not only helped settle the debate with an ingenious use of management science and operations research, but his work was instrumental in the New Haven Health Department winning the 1992 Franz Edelman Award for Excellence in Management Science from TIMS.

Before Kaplan's work on behalf of a New Haven needle exchange program, skeptics had argued that since the country had declared war on drugs, public officials should not do anything that could be construed as encouraging drug use. They further argued that increasing the supply of needles would only increase the incidence of drug abuse by making the "weapon" — a hypodermic needle — necessary to commit the "crime" that much easier to obtain. In short, said the skeptics, any government or health agency that supports or operates a needle exchange program is sending the wrong message.

Nonsense, said advocates of needle exchange programs. You can't alter behavior, at least not in the short term. But you can reduce the number of infectious needles circulating among the drug-injecting population by exchanging used needles

for clean ones. And if you reduce the number of infectious needles and the time they are in circulation, it follows that the incidence of infections will also be reduced.

The skeptics argued from a scientifically unsupported moral and political position; advocates stood on somewhat shaky intuitive ground. Neither side had any hard scientific analysis to buttress their claims because no one had devised a means to study the dynamics of a needle exchange program other than through direct observation. Needless to say, you can't give people infected needles and then step back and see if they become infected. Likewise, studies based on data and self-reported observations from the drug injectors themselves were inherently flawed. In the absence of conclusive evidence one way or another, public officials across the country tended to stick with the status quo, which generally did not include needle exchange programs.

One thing was certain: While the debate dragged on, people were dying. Ac-

cording to the United States Center for Disease Control, more than 130,000 people died of acquired immune deficiency syndrome (AIDS) in the U.S., and another 206,000 cases of AIDS were reported to the CDC as of the end of 1991. HIV, the virus which causes AIDS, is transmitted primarily via unprotected sexual intercourse and the sharing of contaminated needles. Nearly a third of the reported AIDS cases can be traced directly to intravenous drug users (IDU), while over half of all heterosexually acquired cases of AIDS can be traced to sex with an IDU.

In November of 1990, the New Haven (Conn.) Health Department launched a local legal needle exchange program based on a new data collection and analysis technique devised by Kaplan, a professor of management science at Yale's School of Organization and Management. The technique, dubbed syringe tracking and testing (STT), enabled health officials to "interview" coded needles as they were returned to the program. Armed with reliable data, Kaplan employed management science and operations research to build a mathematical model of HIV transmission via needle sharing. The model provided scientific evidence that the needle exchange program significantly reduced the HIV incidence among participating New Haven drug users from pre-program levels, and gave public officials the evidence they needed to throw their support behind needle exchange programs elsewhere.



AIDS breakthrough (l-r): Dr. Alvin Novlick (former chairman, New Haven Mayor's Task Force on AIDS) and Sher Horosko (former task force coordinator) stand with Ed Kaplan and Elaine O'Keefe on the steps outside Woolsey Hall at Yale.

Based in large part on the New Haven results, the Connecticut legislature voted to expand needle exchange programs throughout the state. New York City officials, after meeting with Kaplan and others connected with the New Haven project, agreed to revive a needle exchange program in that city. Officials from California and Indiana contacted the New Haven Health Department with an eye toward launching needle exchange programs of their own.

In May, at the TIMS/ORSA National Joint Conference in Orlando, Fla., TIMS and the College on the Practice of Management Science of TIMS and ORSA recognized the importance of the New Haven Health Department's program by presenting the department with its highest honor, the Edelman. The winning paper, entitled "Let the Needles Do The Talking! Evaluating the New Haven Needle Exchange," was co-authored by Kaplan and Elaine O'Keefe, director of the AIDS Division of the New Haven Health Department.

"The City of New Haven Health Department's program clearly has the potential for saving lives and setting the standard for other communities," said Thomas Spencer, chairman of the Edelman Award Committee, in announcing the award. Spencer was joined on the committee by fellow judges Don Broudt, Raj Gadkari, Newton Garber, Stephen Graves, Peter Kolesar, Frederick Murphy and Elden Thomas.

"Those of us who work with injection drug users, and understand the exigencies of addiction, have always believed that needle exchange is a practical and viable means of slowing the spread of HIV in this population," O'Keefe told the luncheon crowd. "Through Ed Kaplan's brilliant use of management science we can now say with confidence that these programs can reduce the incidence of HIV infection."

In accepting the award, Kaplan thanked the Edelman Committee for bestowing "legitimacy in a research and policy area that many still view as overly controversial, if not taboo."

Noting the contributions of his colleagues in biology, epidemiology and internal medicine at Yale, along with the work of O'Keefe and the AIDS Division

of the New Haven Health Department, Kaplan said, "This was not a solo effort. ... My reward has been the privilege of documenting the success of the needle exchange; this has been the most excit-

**"Through Ed Kaplan's
brilliant use of
management science we
can now say with
confidence that these
programs can reduce the
incidence of HIV
infection."**

ing work I have ever undertaken as well as the most meaningful."

Kaplan concluded with a few thoughts about AIDS.

"It is a horrible disease that is spreading needlessly in our country and around the world," he told his audience. "AIDS is killing people; it is killing our friends. Unlike cancer and heart disease, however, the spread of AIDS can be stopped if we have the will to do so. I invite any of you so moved to think about ways to better manage this epidemic. Management science and you can make a difference."

The Edelman award is named in honor of the late Dr. Franz Edelman, a pioneer in management science at RCA and an early advocate of computers in the analysis of business problems. Committee Chairman Spencer described Edelman as "the quintessential practitioner" in his opening remarks.

The presentation in Orlando capped a nine-month-long competition which started with a call for abstracts. The committee narrowed the field through careful evaluation of the impact and techni-

cal merit of each entry before arriving at a field of seven finalists. The winner receives a cash prize of \$10,000. O'Keefe and Kaplan, who worked on the project *pro bono*, indicated they would contribute the cash prize to further AIDS research.

Second place and a \$2,500 cash award went to Bell Communications Research for a project entitled, "Improving the Utility of a Research Consortium." The paper was authored by Bruce Hoadley, Paul Katz and Amir Sadrian. Hoadley and Sadrian were joined in the presentation by Beverly Adkins from Southwestern Bell. The paper was cited for the innovative use of mathematical programming to address an allocation problem in the context of a consortium in order to maximize the utility of its research.

The five other finalists included:

- Gas Research Institute, "A Project Appraisal Methodology Helped the Gas Research Institute Transform the U.S. Natural Gas Industry: A Technological Competitiveness Case Study." Authored by William M. Burnett, Dominic J. Monetta and Barry G. Silverman; presented by Stephen Ban, CEO of the Gas Research, Silverman and Burnett.
- Vilpac Corporation of Mexico, "A CIM Architecture and Implementation in a Truck Company to Become a World Class Manufacturer." Authored by Jose Pablo Nuno, Dan L. Shunk, Jose Padillo and Benedo Beltran; presented by the authors and Miguel Vildisola, vice president of Vilpac.
- The City of New York, "Improving the New York City Arrest to Arraignment System." Authored by Richard C. Larson, Michael F. Cahn, Martin C. Shell, Judge Milton H. Mollen, Katherine N. Lapp, Michael P. Jacobson and Robert K. Kaye; presented by Cahn, Kaye, Larson and Shell.
- Merit Brass Company, "The Modernization of Merit Brass." Authored by A. Dale Flowers; presented by Flowers and Ed Waters, vice president of Merit Brass.
- The New Haven Fire Department, "Improving Fire Department Productivity: Merging Fire and Emergency Units in New Haven." Authored by Arthur J. Swersey, Louis Goldring and Earl Geyer Sr., presented by Swersey and Douglas Rae, former chief administration officer for the city of New Haven. □

—Peter Horner

NHR (6-7-92) Needle exchange program wins international honor

NEW HAVEN — Organizers of the city's needle exchange program, credited with slowing the spread of AIDS among drug abusers, have received an unusual award — not for social service, but for ingenious management.

The Institute of Management Sciences, a worldwide group of professors and industry experts based in Providence, R.I., recently picked the needle exchange for its highly com-

petitive \$10,000 Franz Edelman Award.

The needle exchange, begun in November 1991, gives addicts clean needles in exchange for used.

It was Yale University's system for testing the efficacy of the program that won the prize.

Edward Kaplan, an associate professor at Yale, was the first in the world to set up a needle tracking and testing system. By testing

needles for the AIDS virus as they were returned, Kaplan calculated that the exchange cut new infections by a third among the addicts who participate.

Kaplan shares the award with Elaine O'Keefe, who heads the needle exchange and the city health department's AIDS division. The pair plan to donate the whole award to AIDS services.

— Laura Johannes

State of Connecticut Department of Health Services

AIDS health update

Vol. 4, No. 12

June 15, 1992

A number of individuals and groups working in AIDS prevention and care in Connecticut have recently been honored with awards:

Elaine O'Keefe, director of the New Haven Health Department's AIDS Division, and Associate Professor **Edward H. Kaplan** of the Yale School of Organization and Management, are the 1992 winners of the prestigious Franz Edelman Award for Management Science Achievement, bestowed by the The Institute of Management Sciences. The Edelman award is recognized internationally as the top honor for management science achievement.

The honor comes as a result of Ms. O'Keefe's and Mr. Kaplan's work in developing and implementing a data collection and analysis method for evaluating the New Haven Needle Exchange program. The evaluation is the first to provide objective data about needle exchange programs and has sparked renewed interest in such programs across the U.S.

OR/MS Today

October 1992

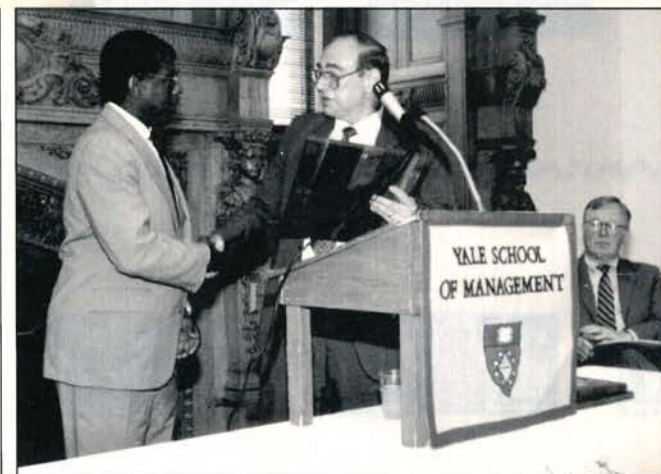
REAL WORLD

Making the World A Better Place

New Haven (Conn.) Mayor John C. Daniels recently accepted the prestigious Franz Edelman Award for Achievement in the Management Sciences on behalf of the city's Department of Health. The award, given annually by TIMS, was presented at a luncheon ceremony held at Yale University's School of Organization and Management. The event was attended by city officials, representatives from Yale and TIMS, and colleagues and friends of those who played major roles in the program for which the City of New Haven was honored — its legal needle exchange program.

Paul MacAvoy, dean of Yale's School of Organization and Management, hosted the event.

New Haven's Department of Health was honored for its innovative use of management science in the needle exchange program, which was implemented in November of 1990 to help stem the spread of HIV infection among intravenous drug users (*OR/MS Today*, June 1992). Dr. H. Newton Garber, past president and long-time active member of TIMS, and Dr.



Mayor John C. Daniels (l) of New Haven, Conn., accepts the Franz Edelman Award for Achievement in the Management Sciences from Dr. H. Newton Garber (r), a past president of TIMS.

Thomas Spencer III, chairman of the Edelman award committee for 1992, presented the award on behalf of the Society.

Also receiving plaques for their work with the needle exchange program were Dr. Edward Kaplan, an associate professor at Yale's School of Organization and Management, and Elaine O'Keefe, director of the health department's HIV/AIDS division. Kaplan devised the data collection and analysis technique, called syringe tracking and testing (STT), used in the program. Kaplan and O'Keefe were similarly honored at the TIMS/ORSA national meeting in Orlando in May.

As the authors of the pa-

per detailing New Haven's use of management science in its needle exchange program, which was submitted to the Edelman award committee for consideration, Kaplan and O'Keefe also received a \$10,000 cash award. They have donated the entire amount to various AIDS services (see page 54).

In their remarks to the New Haven audience, both Mayor Daniels and Dean MacAvoy praised the high level of cooperation between Yale and the City of New Haven for enabling the project to move forward, and expressed confidence that similar joint projects will take place in the future.

In a congratulatory letter read at the award presentation by Dr. Garber, Donald G. Morrison, TIMS president at the time of the award, said the organization was "particularly pleased to honor an application that uses management science to help save lives that might otherwise be lost to the HIV virus and AIDS. This human element is a fine example of how management science can be used to make our world a better place."

AIDS

Thoughts on "managing" a deadly epidemic

By Edward H. Kaplan
and Margaret L. Brandeau

AIDS is a defining crisis of our generation. Following the eradication of smallpox and the successful control of other infectious diseases on the one hand, and the change in sexual lifestyles on the other, who was ready for this? As the 1980s rolled on, we witnessed the spread of HIV and AIDS across America and around the world.

When one of us first became interested in AIDS research following a visit to a Boston hospital in mid-1987, a total of 52,500 AIDS cases had been reported to the United States Centers for Disease Control, of whom 31,600 had died. Since then, more than 160,000 additional cases have been reported, as have over 107,000 deaths.

Given these and other statistics descriptive of HIV/AIDS, the thought of *managing* the epidemic is callous to some. Referring to the plethora of community-based organizations providing AIDS services and government agencies involved with AIDS at the state, local and federal levels, AIDS activist and ACT UP founder Larry Kramer wrote: "All these AIDS organizations are *managing* AIDS. No one is trying to *stop* it." [Larry Kramer, "Report From the Holocaust," p. 258, St. Martin's Press, New York, 1989].

Yet, if one is serious about the AIDS epidemic, it is necessary to figure out just what to do! There is no end to the list of AIDS policy options. Should one require mandatory HIV screening of

prospective marriage partners? What mix of health care facilities is appropriate for managing the spectrum of medical problems that comprise AIDS? Is it wise to distribute condoms to high school students or exchange needles with drug injectors? Does it make sense to provide AIDS patients with promising yet unproven drugs or vaccines? Would explicit information campaigns on prime time television make matters better or worse? Should HIV-infected health care providers disclose their status? Might health care research dollars be better spent developing treatments for AIDS symptoms rather than searching for the ultimate anti-viral agent? Is it rational to ban HIV-positive persons from entering the United States?

Given the possibilities for AIDS intervention, it is clear that there is no shortage of tough decisions, and that tradeoffs must be made in the realm of AIDS and public policy. *Managing the AIDS epidemic with the goal of achieving its end is thus a crucial public health task facing America and the world today.* It is our view that operations research and management science have an important role to play in this challenge.

No discipline has a monopoly on AIDS research

One might accuse us of overstating the potential for OR/MS professional involvement in the AIDS crisis. After all, the hallmark of our training is mathematical modeling, not medicine or health care. And, within the world of quantitative research, there are exceptionally well-trained biostatisticians, ep-

idemiologists and biologists who in addition to mathematical sophistication understand the details of HIV transmission and disease progression.

However, OR/MS is more than mathematical modeling *per se*; our discipline is dedicated to *using models to make better decisions*. So, for example, while many researchers have attempted to forecast the number of new AIDS cases that will ensue over the next decade, few have attempted studies of appropriate resource allocation in response to these forecasts. While many have conducted survey-oriented behavioral studies of primary HIV interventions such as safer-sex programs or needle exchange, few have considered the operational details of these programs in which one finds the keys to program success or failure. Thus, it may be that operations research is *uniquely suited* for the sort of AIDS policy modeling that decision-makers in government and service agencies need.

The fact is that no discipline has a monopoly on AIDS research. While more medical and epidemiological study is, of course, essential, contributions from economics, statistics, sociology, psychology, anthropology and political science have proven and will continue to prove essential in understanding the AIDS epidemic and what to do about it. Operations research and management science should be part of this effort.

Some members of the OR/MS community are already involved in AIDS research. The May/June 1991 issue of *Interfaces* testifies to this, as do several recent papers and presentations by noted members of our societies including

will illustrate his methods with reference to the San Francisco epidemic.

Thinking about AIDS

We began by stating that for many of us, AIDS is a defining crisis of our time. For some, AIDS only became an issue following the revelation that certain celebrities had become infected with the AIDS virus. For others, AIDS became an issue upon discovery that a loved one, friend, or friend of a friend is infected. Still others worry about the world their children must grow up in, and the new risks they must face. And many more simply find it incredible that an infectious disease could be spreading in America in 1992.

The situation in the developing world is much, much worse. Levels of HIV infection measured in Rwanda, Uganda, Zaire, Zambia and other countries of Central Africa are frightening. Thailand is facing a plague as HIV infection has spread throughout that country. With the opening of Eastern Europe has come the discovery of drug addiction and AIDS, a familiar combination.

Thinking about AIDS can become overwhelming when one tries to tally the numbers of infected persons, AIDS cases and deaths, not to mention the actual cost of AIDS to society. The fact that HIV infection can be prevented, however, is sufficient reason to try. □

Edward H. Kaplan is an associate professor of policy modeling and public management with the Yale School of Organization and Management. He has published several papers on the subject of AIDS research. His innovative data collection and analysis technique used in conjunction with a needle-exchange program in New Haven, Conn., was instrumental in the New Haven Health Department winning the 1992 Franz Edelman Award.

Margaret L. Brandeau is an assistant professor of industrial engineering and engineering management at Stanford University. She is a recipient of a 1988 Presidential Young Investigator Award from the National Science Foundation. For the past four years she has headed an interdisciplinary research project, funded by the State of California, on cost-benefit analysis of AIDS screening programs.

AIDS

Patriot-News Harrisburg, PA (8-9-92)

Needle exchange is hailed

Infection of addicts reported to be lower

By Phil Galewitz
Patriot-News

NEW HAVEN, Conn. — The multicolored van owned by New Haven's Health Department gets many stares as it meanders around the meanest streets of the nation's sixth-poorest city.

A few minutes after it stops in a seedy neighborhood on the edge of downtown, a torrential rain begins. The van's daily customers barely seem to notice.

One by one, they walk or drive up to the van and step inside into a dark version of a Good Humor truck. The customers identify themselves by their code names, such as "Ralph," "Falcon" and "Jethro."

Then they place their used intravenous needles in a metal can and receive clean needles in return. Before they leave, the customers finish their "shopping" by taking a brown bag and filling it with condoms, bottles of bleach and bottles of water.

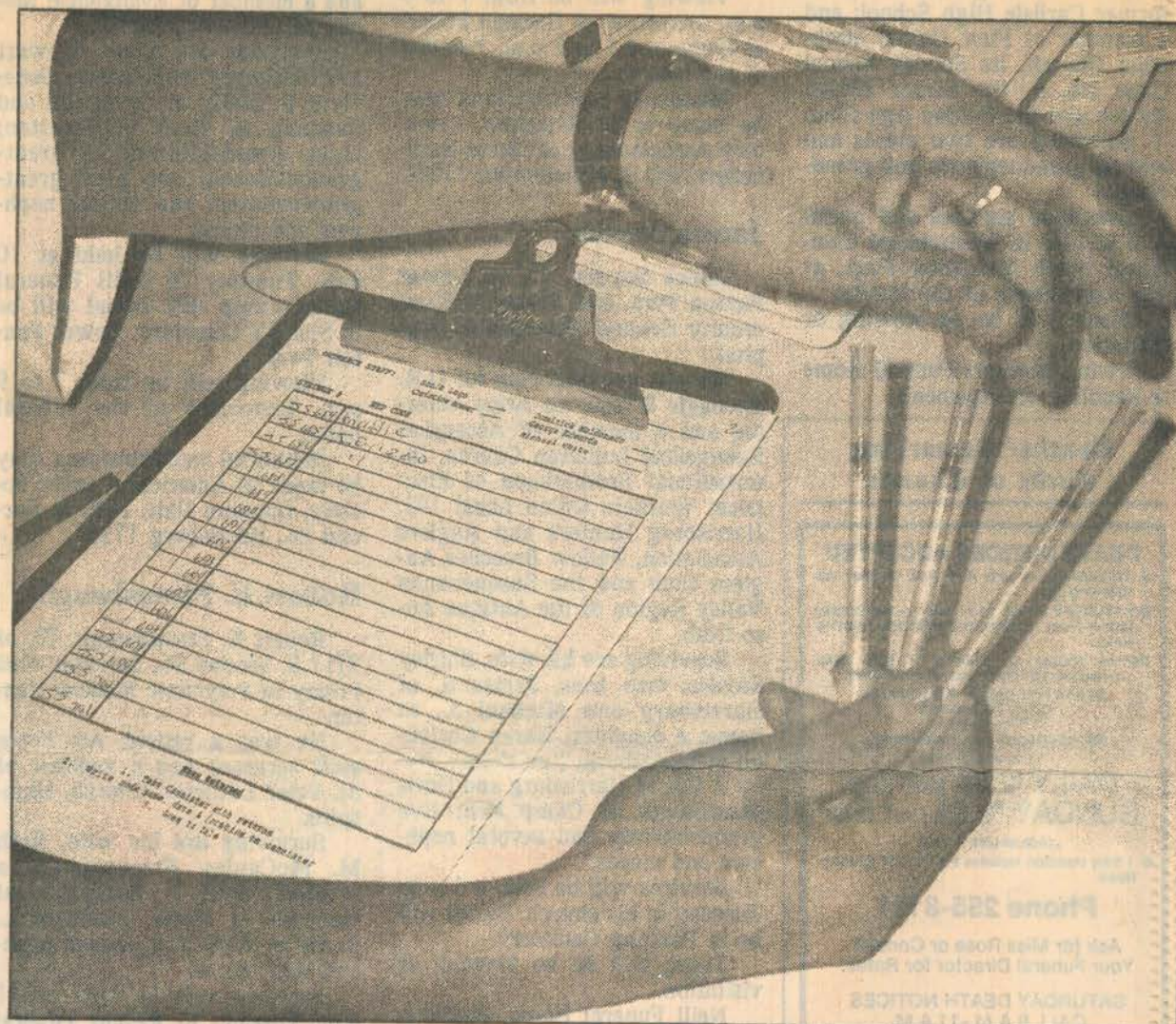
Business is booming.

More than 100 addicts will use the service today; at least 1,300 are enrolled in the needle exchange that began in November 1991.

The addicts, already suffering from the drug epidemic that has ravaged their city, come to the needle exchange to save themselves from another epidemic that is killing their friends and threatening their future: AIDS.

New Haven, the epicenter of the drug and AIDS problem in Connecticut, is one of about a dozen U.S. cities that have legal needle exchange programs. What makes New Haven stand out is research on the program by Yale University scientists which shows the exchange program has reduced the rate of AIDS transmission by a third, with no corresponding rise in drug use.

Noting the program's success, the Connecticut Legislature this summer decriminalized possession of hypodermic needles state-



Patriot-News/Phil Galewitz

BUSINESS IS BOOMING — In New Haven, at least 1,300 are enrolled in the needle exchange service.

wide and allocated funds to start needle-exchange programs in Bridgeport and Hartford.

State legislatures in New Jersey, Massachusetts, Illinois and other states also are considering removing legal barriers to needle exchange.

In Pennsylvania, state health officials have made no formal policy statement on needle exchange.

They were aware of an illegal needle exchange operating in northeast Philadelphia since November, but have taken no action to stop it even though it violates state laws regarding distribution of drug paraphernalia.

When Philadelphia Mayor Ed Rendell endorsed the exchange program last month, enabling it to expand to other locations in the city, state health officials said they would study the legality of



Patriot-News/Phil Galewitz

THERE TO HELP — From left, Elaine O'Keefe, director of the AIDS division, with workers Dominick Maldonado and Michael White.

See **NEEDLES** — Page B8

Needle-exchange program

NEEDLES — From Page B1

the program.

Few public health officials in the state expect the Casey administration, which opposes providing condoms to help prevent unwanted pregnancies, to provide needles to drug addicts.

Still, the need to do something about the spread of AIDS among IV drug users is mounting.

From 1983-90, the number of drug users with AIDS in the United States climbed from 591 to 13,759. In Pennsylvania, the number of IV drug users with AIDS has doubled since 1990. About 22 percent of the state's 6,441 AIDS cases are with drug abusers.

The National Commission on AIDS calculates that 32 percent of the 206,000 known AIDS cases in the United States began with dirty needles, if cases that are related to a sex partner's or mother's IV drug use are counted.

Selling job required

To sell their needle exchange idea in 1990, New Haven health officials say they had to convince the community that if AIDS continued to increase among IV drug users, it would spread faster among heterosexuals and to children.

"There's not usually a whole lot of sympathy for people with a drug addiction," said Elaine O'Keefe, director of the city's AIDS division.

Because the city already had used a truck to deliver bottles of bleach and water to IV drug users, outreach workers were in touch with addicts. Informal surveys showed the addicts would support the program if the city decided to go ahead.

Addicts often exchanged dirty needles because it was too costly or inconvenient to find sterile needles.

When the needle exchange started, two of every three needles collected tested positive for the HIV virus, which causes AIDS. The level did not surprise city health officials because they knew two-thirds of all AIDS cases in the city were among IV drug users.

Few customers leave the needle exchange van without a reminder from an outreach worker to seek help to drop their addictions. Already, more than 200

customers have entered drug treatment.

The inability to get addicts into drug treatment has been one of the chief reasons for the need for the exchange programs. Some health experts say exchanges are a tacit acknowledgment that a city or state is losing the drug war.

"It's apparent that we have a major drug problem in the United States," O'Keefe said. "The needle exchange reflects the reality of that epidemic and how it has brought on AIDS."

In the first year of the exchange, the Connecticut Legislature appropriated \$150,000 to the program for staff and materials.

An evaluation by independent researchers estimates the program has prevented 20 people from getting AIDS. Because each AIDS patient cost the state an estimated \$50,000 in health and welfare costs, program officials say the exchange already has paid for itself.

Edward Kaplan, an associate professor at Yale's School of Organization and Management, developed the syringe tracking and testing system used in the needle exchange. Under the system, all the needles handed out are coded and tested for HIV each time they are retrieved.

Unlike studies of needle exchanges in other settings, which relied on the addicts to report their behavior, Kaplan's tracking system allows researchers, in a sense, "to interview the needles."

The length of time the needles are in circulation among drug injectors has fallen because clients frequently exchange them in the program.

Because needles are being shared by fewer people, the level

of infection in the needles has dropped, Kaplan said. "The result translates into a reduced spread of AIDS," he said.

Kaplan answers critics

Critics of needle exchange, including the Bush administration, say providing needles to addicts only helps drive their habit and increase the number of addicts.

Kaplan, though, said that analogy is flawed because it is like assuming that giving "free spoons at a Weight Watchers' meeting would result in more people eating hot fudge sundaes."

Drug treatment officials in Pennsylvania, who admit addicts must sometimes wait up to a month or longer to get into treatment, are leery of all the attention given to needle exchange.

"We would rather see the government provide drug treatment on demand than debate issues that may only have marginal

success," said Deb Beck, president of the Drug and Alcohol and Service Providers of Pennsylvania.

David Acosta, executive director of Gay and Lesbian Latino AIDS Education Initiative in Philadelphia, which helps run the illegal needle exchange, said the exchange is necessary because of the lack of publicly-funded drug treatment in Philadelphia.

"People should be able to get into treatment when they make the decision to get help," he said. "Unfortunately, that's not reality."

The needle exchange in Philadelphia, supported by private funds from corporations and AIDS groups such as ACT-UP, operates two days a week. It has been giving clean needles, bleach kits, condoms, and literature on AIDS and drug-treatment to 300 drug addicts a month.

Because of the lack of funds, Acosta said no efforts have been made to evaluate the program's

effect on drug users.

Gary Gurian, executive director of the Pennsylvania Public Health Association, said he would support a needle exchange if the addicts were in drug treatment or on a waiting list.

"I don't think needle exchange in itself is a panacea," said Gurian, director of the Montgomery County Health Department. "From a disease control they do have their place, but they need to be modified to get people into

treatment."

Groups that provide service to AIDS patients say policy-makers must focus on the success of the exchange rather than on the moral questions involved.

"People make this an issue of morality instead of about public health," said Peg Dierkers, president of the South Central AIDS Assistance Network based in Harrisburg. "Needle exchange is about keeping people alive until we can change their behavior."

for addicts

hailed

NEEDLES: L.A. Group Swaps

Clean Syringes for Dirty Ones

LOS ANGELES TIMES

WEDNESDAY, SEPTEMBER 9, 1992 *

Clean Needles Put Into War on AIDS

■ **Health: L.A. group serves about 150 heroin addicts weekly, swapping new syringes for dirty ones in controversial approach to fighting disease.**

By AMY PYLE
TIMES STAFF WRITER

Last June, AIDS activists handing out free hypodermic syringes to heroin addicts in South-Central Los Angeles were confronted by an angry group of community leaders who believed the giveaway promoted drug use.

Undaunted, the distributors—a committee of the militant ACT-UP LA group that calls itself Clean Needles Now—temporarily shifted their focus to a drug-inundated neighborhood closer to downtown.

From curbside posts, the group claims it now serves about 150

addicts weekly, swapping one new needle for every dirty one users turn in.

"We've kind of been forced underground . . . but we're not going away," said Renee Edgington, an organizer of the effort.

Los Angeles' first concerted effort to provide syringes to discourage needle sharing—a controversial approach to preventing the fastest-growing form of AIDS transmission—has arrived late compared to many other large U.S. cities. Elsewhere, programs have been supported, or at least ignored, by government and law enforcement for up to four years.

AIDS and needle-exchange activists from more receptive parts of the country attribute the slow pace of acceptance in Los Angeles to a variety of obstacles: health agencies' fear of losing local government funding, health workers' fear of being arrested and the spread-out geography of the city, where most residents rarely come face-to-face with addicts.

"I came down there to talk to people in health offices—outreach workers—and found they were very, very receptive, but very scared," said Spero Saridakis, a San Francisco needle-exchange advocate, who joined the movement after serving as jury foreman at the trial of two men charged with illegally distributing needles.

In California and nine other states, only pharmacists have authority to distribute needles and then only to those with prescriptions. Still, the largest volunteer needle exchange in the country is operating in San Francisco, where it has been embraced by the last two mayors and generally tolerated by police.

The absence of needle exchanges in Los Angeles does not reflect a lack of demand for free syringes. The most recent estimates by the UCLA Drug Abuse Research Center show there could be as many as 190,000 injection drug users in this coun-

Please see **NEEDLES, B4**

fight it in the courts."

The concept behind needle exchanges is simple: allow addicts to trade their used syringes for new ones at no charge, thus lessening both the need and the opportunity for sharing and passing on HIV infection.

Opponents counter that needles are the tools that make injection drug abuse possible.

"Rather than give in and hand the needles out, we need to really concentrate on IV drug use by getting [addicts] off drugs," said Kathryn Barger, health deputy to county Supervisor Mike Antonovich. "Especially in areas like South-Central, we need to concentrate on cleaning the area up . . . not giving out an instrument to do an illegal activity."

Public health is governed in this county by the Board of Supervisors, which historically has taken conservative stands on AIDS-related issues.

It was not until March, 1991, that the board agreed to allow its health outreach workers to distribute bleach and condoms to addicts—several years after such practice had become common in most other large cities.

At that time, Kenneth Hahn, the supervisor who provided the swing vote made it clear he would never approve of needles. But Hahn is

retiring this year and either Watson or Burke will take his seat.

Supervisors Antonovich and Deane Dana remain opposed to needle exchanges, but Supervisor Gloria Molina supports them and Supervisor Ed Edelman said this week that, if the state bill is signed by the governor, he will ask the county health department to research the track record of exchanges elsewhere.

"It shouldn't be our personal views, it should be based upon what public health people feel is appropriate action," Edelman said. "We need to take it out of the political, morality area and make a public health decision."

The most recent research supporting needle exchange also is considered by AIDS researchers to be the most conclusive.

The ongoing study, by Yale University Professor Edward Kaplan, tested used needles returned to a city-sponsored exchange program in New Haven, Conn. It found that the percentage of HIV-tainted syringes dropped from nearly 68% at the beginning of the program in November, 1990, to about 46% today. For comparison, Kaplan tested syringes gathered at a New Haven shooting gallery—where addicts gather to inject themselves—and found that nearly 92% carried HIV.

Continued from B1

ty. At least 6% of them are thought to be infected with HIV, the virus that causes AIDS.

Los Angeles County government has consistently opposed the practice, although the Board of Supervisors' political composition is changing and so is its view of needle exchanges. The fledgling effort by Clean Needles Now is one of several indicators that this most controversial of AIDS-prevention efforts is taking hold in Los Angeles.

• State legislation that would legalize pilot needle exchanges has been approved and awaits Gov. Pete Wilson's consideration. The state Department of Health Services has advised Wilson that needle exchanges have no known negative side-effects.

"There does not appear to be a credible scientific reason to not allow needle exchange," said Mike Hughes, chief of the epidemiologic surveillance branch for the state Office of AIDS.

The Los Angeles County Commission on AIDS unanimously voted in favor of the bill, although its members are divided on whether to institute a pilot program.

• One of the bill's authors—Sen. Diane Watson—is running for county supervisor and says inaugurating a pilot exchange program

here would be one of her top goals if she is elected. Her opponent, former Supervisor Yvonne Brathwaite Burke, said she too would support such a program if it were coupled with adequate drug rehabilitation.

• Needle exchange supporters are hopeful that the new police chief, Willie L. Williams, will implement the kind of hands-off law enforcement policy that exists in San Francisco and New York. In Philadelphia, Williams' policy reportedly was to respond only if there were complaints.

Williams was out of town Friday and his spokesman, Cmdr. Bob Gil, said the issue was "not important enough to bother him with" during his trip.

• Even if none of the other efforts materialize, the nation's largest renegade needle distribution group—the National AIDS Brigade—has chosen Los Angeles as its next target, promising to force the issue with aggressive needle handouts beginning Sept. 24.

"Los Angeles has been on my list for a long time," said Jon Parker, brigade director, whose credentials include a public health degree and a past heroin addiction. "If we don't get arrested, it'll be a regular thing. If we do get arrested, it'll go underground . . . until we can

their disposal.

"Addicts are getting irritated with the workers when they don't have needles for them and, in some cases, law enforcement has had to get involved," said Christy Cowell, staff analyst for the county AIDS Commission. "It's been a colossal mess."

Even Watson said that any misstep at this junction could hinder efforts to gain public and political acceptance of an official pilot program. She recently asked Clean Needles Now to discontinue its effort, angering the group's leaders.

Edgington, of Clean Needles Now, said the negative impact of the group's activities has been greatly exaggerated. She also said the group does plan to conduct research into the effectiveness of its exchange and has been storing the used needles it has collected so far to be tested for HIV.

The National AIDS Brigade dismisses the opposition to Clean Needles Now as ridiculous and totally expected. In the end, director Parker said, the controversy will lead to public acceptance.

"When it's happening, even unofficially, that takes the shock away from it," he said. "The public says, 'How can we do it better?' instead of 'Should we do it?' because it's already happening."

Coding on the needles gathered this year by the municipal program showed that they had been circulating for an average of a week, instead of the three weeks documented at the beginning of the program. Tracking of participants showed that one in six entered drug treatment programs and one in four would have if there had been spaces for them.

Kaplan was particularly excited about some of the seemingly minor findings, which he believes prove that no new users were attracted by the free handouts: there were no declines in either the average age of participants—35—or their average length of addiction: seven years.

In Los Angeles, much of the controversy has been focused on the way in which the activist group Clean Needles Now has been carrying out its efforts—the subject of a flurry of memos circulating among county supervisors and AIDS and health officials.

Even some opponents who support exchanges charge that the ACT-UP operation lacks the organization and research necessary to make a case for a county-sanctioned program. They say it has led to nasty confrontations between addicts and the county's own health outreach workers, who have only bleach and condoms at

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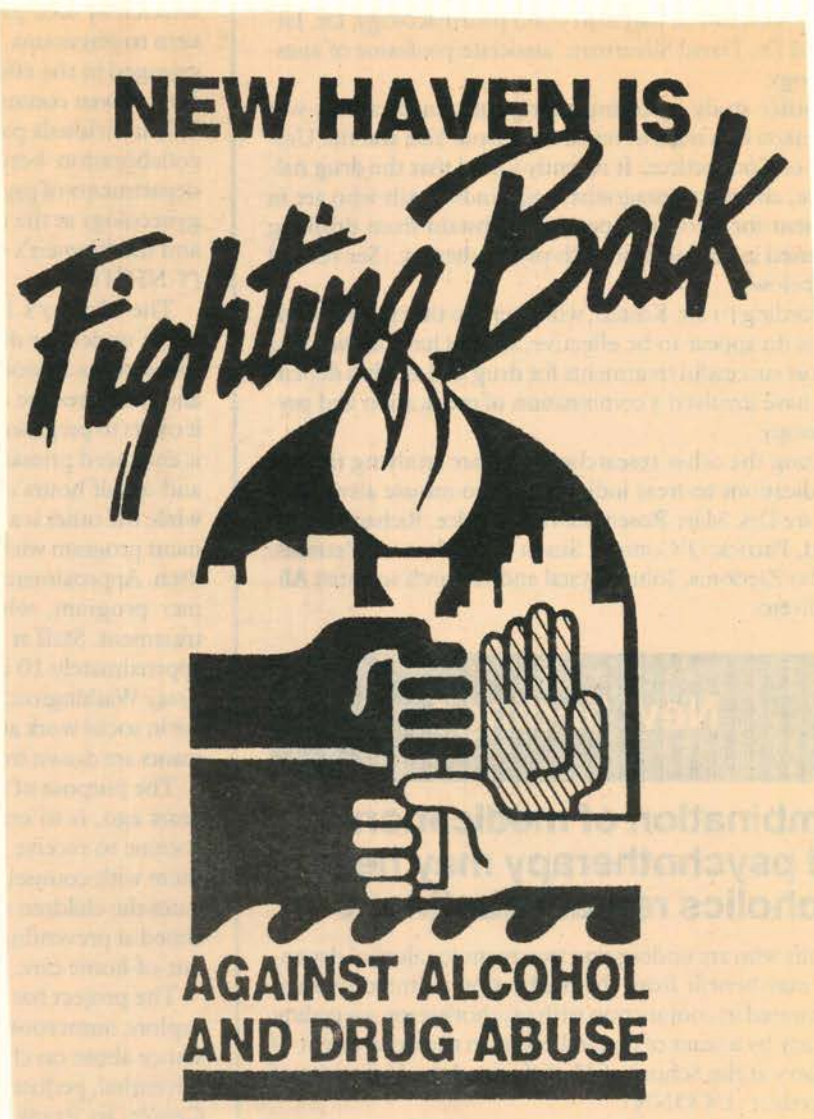
... **Edward H. Kaplan, Ph.D.**, a Yale University professor and an influential researcher. Kaplan's landmark research showing the effectiveness of New Haven's needle exchange propelled the needle exchange movement to national prominence.

... **Faye Wattleton**, president of the Planned Parenthood Federation of America from 1978 to 1991. While she is a nationally recognized advocate for family planning, Wattleton is also deeply concerned about the effect of the drug war on the health and stability of the African-American community.

... **Andrea Grubb Barthwell, M.D., Kildare I. Clarke, M.D., Don C. Des Jarlais, Ph.D., Ernest Drucker, Ph.D., Lester Grinspoon, M.D., Norman Stanley Miller, M.D., John P. Morgan, M.D., Stanton Peele, Ph.D., and many more!**

YALE IS FIGHTING BACK AGAINST ALCOHOL AND DRUG ABUSE

Fighting Back / HELPING SUBSTANCE ABUSERS



Needle Exchange Program: The City of New Haven's Needle Exchange Program (NEP), which is cited as a national model for other cities, offers intravenous drug users a way to exchange their dirty syringes for clean ones, thereby decreasing the spread of HIV infection. Yale faculty members who helped establish the program and continue to evaluate it are Edward Kaplan, associate professor of policy modeling and public management at the School of Organization and Management, who is principal investigator of the project; and Robert Heimer, associate research scientist in internal medicine, who analyzes the collected syringes to detect the presence of HIV using a laboratory procedure he developed. Dr. Edwin Cadman, the Ensign Professor of Internal Medicine and chair of the department, also assisted in establishing the program, and a number of other faculty members and students help operate the exchange effort.

The NEP is run out of a van donated by the University that travels the streets of the city four days a week. Addicts can anonymously bring their dirty needles, which are marked using traceable codes, and exchange them for clean ones. Staff on the van keep a log of the drug users who receive and turn in syringes using fictitious names and also record other pertinent information, such as the location of the transaction. Yale researchers then are able to test a sampling of coded and uncoded needles using a technique called polymerase chain reaction to detect HIV from traces of blood left on the needles.

Professor Kaplan developed the syringe tracking and testing system that allows researchers to determine whether the program is slowing the spread of HIV among intravenous drug users. He says the program has resulted in a 33% decrease in the rate of new HIV infections.

"We've been holding steady at that rate since we first reported it after the first nine months of the program," says Professor Kaplan, who has won several awards for his evaluation model. "It will be interesting to see if there will be any changes since the state of Connecticut decriminalized the possession of syringes last July."

Early next year, the intravenous drug users who participate in the NEP will also have easier access to medical care via a mobile medical van staffed by Yale physicians and health professionals.



The City of New Haven's Needle Exchange Program is run out of this van, which was donated by the University. The program was developed with the help of several Yale faculty members, who continue to be involved in its operation.

CERTIFICATE OF NOMINATION

IT IS HEREBY RECOGNIZED THAT

Edward H. Kaplan, Ph.D.

HAS BEEN NOMINATED FOR THE
CONNECTICUT HEALTH COMMISSIONER'S

AIDS LEADERSHIP AWARD

FOR HIS LEADERSHIP
IN THE FIGHT AGAINST AIDS



SUSAN S. ADDISS, MPH, MUR
COMMISSIONER
DEPARTMENT OF HEALTH SERVICES

DECEMBER 1, 1992

PREVALENCE OF HIV-INFECTED SYRINGES DURING A SYRINGE-EXCHANGE PROGRAM

To the Editor: Syringe-exchange programs represent one attempt to slow the spread of human immunodeficiency virus type 1 (HIV-1) infection among injection-drug users.¹ We evaluated such a program in New Haven, Connecticut, operated by the city's health department. The program allows injection-drug users four opportunities per week to exchange their used syringes on a one-for-one basis for clean, attached syringe-needle combinations. Our evaluation used a system of tracking and testing to record all syringes distributed and returned.² The syringes returned were tested with the polymerase chain reaction for HIV-1 proviral DNA as evidence of use by an HIV-infected injection-drug user. Two rounds of amplification and Southern blotting lowered the limits of detection to as few as two copies of HIV-1 DNA.³

The prevalence of infected syringes was determined before the start of the program for two sources (Table 1). We randomly selected and tested 160 syringes not distributed through the program that were returned as the program began. The prevalence of HIV-1 in these syringes was 68 percent. The testing of a group of 180 syringes returned through an illegal exchange that operated once a week revealed a prevalence of 63 percent — not significantly different. We tested 1860 randomly selected needles distributed through the syringe-exchange program and returned from November 14, 1990, through December 31, 1991. Initially, the prevalence of HIV-1 proviral DNA in these syringes was no different from that in the 160 needles tested before the program began. By the third month of program operation, however, the prevalence had fallen to 57 percent. In the months thereafter, the prevalence stabilized, approaching a steady-state level of 43 percent (610 of 1426), substantially lower than the initial prevalence ($P < 0.001$ by the chi-square test). Once the prevalence declined, it did not change signifi-

cantly during the following 11 months. Throughout the study, we found no changes in the demographic characteristics or drug-use habits of newly enrolled clients that could account for the decrease in the prevalence of HIV-1 proviral DNA in the needles.⁴

We conclude that the syringe-exchange program in New Haven accounted for the decrease in the percentage of syringes used by at least one HIV-1-infected injection-drug user. Since only syringes used by HIV-1-infected people and shared with uninfected people can transmit the virus, the decrease suggests that syringe exchange can slow the spread of HIV-1 infection.

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1. Stimson GV. Syringe-exchange programmes for injecting drug users. *AIDS* 1989;3:253-60.
2. Kaplan EH. Evaluating needle exchange programs via syringe tracking and testing. *AIDS Public Policy J* 1991;6:109-15.
3. Heimer R, Myers SS, Cadman EC, Kaplan EH. Detection by polymerase chain reaction of human immunodeficiency virus type 1 proviral DNA sequences in needles of injecting drug users. *J Infect Dis* 1992;165:781-2.
4. O'Keefe E, Kaplan E, Khoshnood K. City of New Haven Needle Exchange Program preliminary report. New Haven, Conn.: City of New Haven, July 1991:18-28.

Table 1. Prevalence of HIV-1 in Needles Tested before and during the Syringe-Exchange Program.

CATEGORY OF NEEDLE	No. TESTED	No. HIV-POSITIVE	PERCENT HIV-POSITIVE (95% CI)*
Used before needle exchange, Nov.-Dec. 1990	160	108	68 (60-75)
Exchanged illegally	180	113	63 (56-70)
Exchanged through the program			
Nov.-Dec. 1990	274	175	64 (58-70)
Jan. 1991	160	91	57 (49-64)
Feb.-April 1991	347	141	41 (36-46)
May-July 1991	343	139	41 (35-46)
Aug.-Oct. 1991	398	166	42 (37-47)
Nov.-Dec. 1991	338	164	49 (43-54)

*CI denotes confidence interval.

Lasciamo parlare gli aghi! Valutazione del programma di scambio siringhe a New Haven.

estratto da "Let the needles do the talking! Evaluating the New Haven needle exchange" di Edward H. Kaplan e Elaine O'Keefe, in corso di pubblicazione su *Interfacs*, 1993.

Prefazione

Edward Kaplan è un collega statistico che lavora presso l'Università di Yale e si è occupato molto, sia dal punto di vista scientifico che dal punto di vista politico-sociale, dell'epidemia di AIDS tra i tossicodipendenti nello Stato del Connecticut, e, più precisamente, a New Haven.

L'intervento, scritto in collaborazione con Elaine O'Keefe, di cui ho tradotto la parte introduttiva, di cui si riportano ampi stralci, costituisce la prima analisi costi-benefici condotta, su basi rigorosamente scientifiche, nel mondo di un programma di scambio siringhe.

I risultati sono ancora più incoraggianti di quelli riportati in altre analisi di tipo più qualitativo, di cui si fa cenno e che, proprio per carenze di tipo tecnico-scientifico, si sono pre-

Let the Needles Do the Talking! Evaluating the New Haven Needle Exchange

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New Haven, Connecticut implemented a needle exchange program in November 1990 to combat the spread of the AIDS virus. We developed a syringe tracking and testing system that provided data for mathematical models of HIV transmission. The models suggest that needle exchange reduced the HIV infection rate among program clients by 33 percent. In response, the Connecticut legislature continued funding the program, expanded needle exchange services to Bridgeport and Hartford, and decriminalized syringe possession. New needle exchange programs and legislation have also been developed in New York City, California, and Massachusetts partially as a result.

Over 138,000 people have died of acquired immune deficiency syndrome (AIDS) in the United States, while about 214,000 cases of AIDS have been reported to the United States Centers for Disease Control (CDC) as of February 1992 (CDC 1992). The human immunodeficiency virus (HIV) that causes AIDS may be transmitted via unprotected sexual intercourse, the sharing of contaminated drug injection

equipment, vertically from infected mothers to their unborn children, and very rarely via transfusion of blood or blood products. Injecting drug users (IDUs) account directly for about 29 percent of reported AIDS cases among adults and adolescents nationwide, while over half of all heterosexually acquired cases of AIDS can be traced to sex with an IDU. In addition, about 60 percent of all children with AIDS

state a valutazioni contrastanti da parte di quanti, per idee preconcrete, sono schierati pro o contro la legalizzazione delle droghe.

Questa valutazione non si presta ad interpretazioni contraddittorie in quanto basata su dati concreti e su "numeri" soltanto, riuscendo quindi molto più efficace di qualsiasi analisi qualitativa.

Proprio a seguito di quest'analisi valutativa nuove sperimentazioni si sono aperte anche in altri Stati degli USA e la legislazione del Connecticut, che proibiva il possesso di siringhe ipodermiche senza prescrizione medica, è stata recentemente modificata, decriminalizzando completamente il possesso di siringhe a partire dal primo luglio del 1992.

Carla Rossi

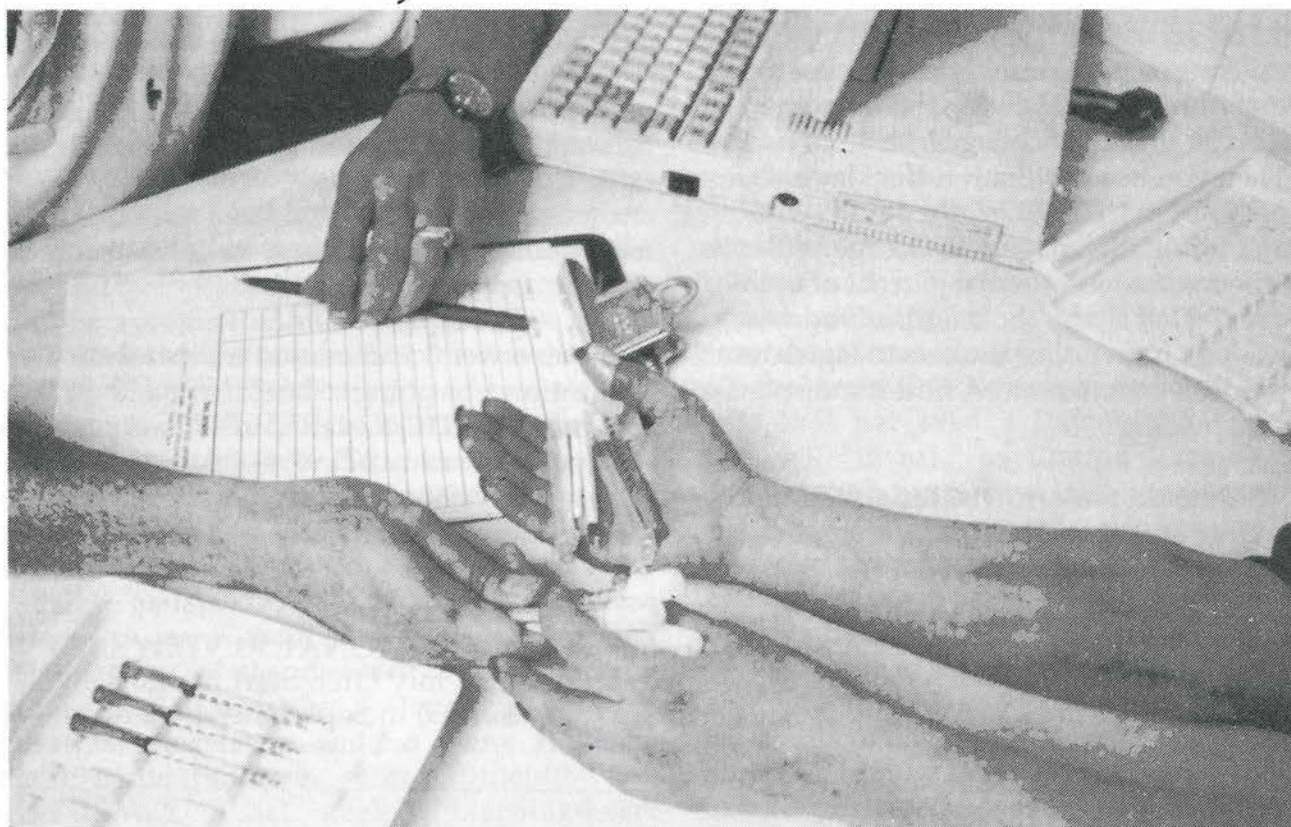
Vol. VII, No. 5

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Eli

The Journal of Conservative Thought at Yale

New Needles, New Haven, and New Ideas



Can the G.O.P. Face Up to the AIDS Crisis?

Inside: The Boy Scouts and Dwight Hall, Round II, and Accusations of Rape

Needle exchange proves successful

Yale University researchers report new findings consistent with earlier, preliminary findings that a New Haven needle exchange program is slowing the spread of the HIV virus among injecting drug users participating in the program. By sharing needles contaminated with the human immunodeficiency virus (HIV), injecting drug users nationwide have become the fastest growing domestic group to contract the fatal disease.

A member of the Yale research team, Robert Heimer, Ph.D., associate research scientist in medicine at the Yale University School of Medicine, presented further results at a poster session in Baltimore at the annual joint meeting of the Association of American Physicians, the American Society for Clinical Investigation and the American Federal for Clinical Research, on May 1. The team's study gathered data from New Haven's needle exchange program, which was approved by the Connecticut State Legislature in July 1990 and began in November of that year.

Edward H. Kaplan, Ph.D., an associate professor at Yale, led the research efforts by developing a new system to evaluate the effects of the New Haven needle exchange program, in which injecting drug users anonymously exchange used needles for sterile ones on a one-to-one basis. The system includes the use of poly-

merase chain reaction (PCR), a sophisticated molecular biology technology, which Dr. Heimer applied to needle testing. (Other Yale colleagues involved in the study include Bini Jariwala of the Internal Medicine Department, and Edwin C. Cadman, M.D., the Ensign Professor of Medicine and chairman of the Internal Medicine Department.)

In addition to documenting that such programs can reduce the spread of HIV, the study suggests that offering clean needles does not create a new generation of addicts, emboldened to try intravenous drugs because of the reduced risk of contracting AIDS. Earlier findings were announced in the *AIDS and Public Policy Journal*, the *Journal of Acquired Immunodeficiency Syndromes* and the *Journal of Infectious Diseases*.

In explaining the syringe tracking and testing (STT) system that he developed, Dr. Kaplan said, "STT's philosophy is that it is possible to infer the properties of an epidemic among injecting drug users by studying their used needles. In short, the idea is that whenever possible, one should let the needles do the talking."

As its name implies, the syringe tracking and testing system uses a two-pronged approach:

• **Tracking:** Dr. Kaplan explains that outreach workers from the New Haven Health Department

AIDS Division distribute syringes marked with traceable codes. Drug users can turn in needles whether the syringes have been coded or not. Each drug user, selecting a fictitious name to protect his or her anonymity, receives and turns in syringes, which are logged. In addition to noting which drug user receives and returns particular needles, outreach workers record the date and location of syringe distribution and return.

• **Testing:** Samplings of both coded and uncoded syringes are tested as addicts turn in syringes to determine if they have been contaminated with HIV. The researchers employ PCR to amplify DNA markers associated with HIV that remain in the traces of blood in the returned needles.

During the first 12 months of the needle exchange program, researchers discovered a reduced prevalence of HIV in syringes that came back with intact codes. In fact, statistical models suggest a 33 percent decrease in the rate of new infections.

"Introducing the STT system has allowed us to provide the first definitive link between the operations of a needle exchange program and the course of the AIDS epidemic among intravenous users in a given local," Dr. Kaplan commented. "This had yet to be established using traditional evaluation approaches."

FEBRUARY 1993/77
CT POLICE
CHIEF

Needle exchanges are effective

Add New York City to the list of communities, including New Haven, in which needle exchanges seem to work. Allowing drug addicts to exchange their used needles for clean ones seems to be reducing needle sharing — a prime means of transmitting the AIDS virus.

But what about Hartford and Bridgeport, which were authorized by the General Assembly last year to start state-assisted needle exchanges? Neither has started. And a Willimantic program is still without state money.

The delay is too bad in light of the success of the pioneering exchange project in New Haven and the preliminary results from New York City. Both communities also are using the exchange program as a way to bring routine medical care to drug injectors.

Early predictions in New Haven that the percentage of HIV-infected needles would drop by one-third have proven accurate, according to Yale University researcher Edward Kaplan. About 40 percent of the needles brought in to be swapped

now carry HIV, down from nearly 70 percent when the project began in 1990. Presumably, this would mean fewer drug users are being infected with the AIDS virus.

In its first six months, the New York City needle-exchange project was used by 5,000 of the estimated 200,000 drug injectors — half of whom are said to carry the HIV virus. Preliminary data indicate that the exchange addicts are sharing needles less — now 20 percent are, down from 30 percent. About 700 of those in the program have obtained detoxification or other medical services.

The Hartford and Bridgeport projects are still hiring and training personnel and plan to begin soon. The hitherto illegal street exchange program in Willimantic is in the process of meeting eligibility requirements so that it can be funded.

Even though none of the existing exchange programs has put a big dent in the number of intravenous drug users, they have lowered the amount of needle sharing among addicts. That, in itself, is a significant step in the battle against AIDS.

NEW YORK TIMES (2-17-93)

Needle Exchange Is Called Effective

Continued From Page A1

court tower near City Hall.

By Mayor Dinkins changed his mind and endorsed a second try after Yale University researchers reported that a needle exchange program in New Haven, which relied on a van cruising through neighborhoods where drug users lived, had sharply reduced new HIV infections.

The city started four new experimental programs between July and November of last year with money from the American Foundation for AIDS Research, a private organization, and the New York State Department of Health. Unlike the first program, the new ones are run by community groups that were already experienced in working with drug users.

Some critics of needle exchange programs said yesterday that they were unimpressed by the city's initial findings. Mitchell S. Rosenthal, president of Phoenix House, a drug re-

habilitation center, said that HIV-related services, according to reports submitted to the New York State Department of Health.

The preliminary data is very encouraging in terms of the interest in participating in the programs and the positive changes in behavior," said the New York City Health Commissioner, Margaret A. Hamburg. "We can already look at these programs and say they have been beneficial, clearly to the people involved."

So far, based on interviews with a randomly selected sample of 132 men and 62 women over the last four months, Dr. Des Jarlais said. "The early behavioral data shows no change in drug use since people started to use the exchanges and shows a decrease in sharing equipment."

The average participant reported injecting heroin or cocaine 88 times a month, compared with 87 times before using the exchanges. The difference, Dr. Des Jarlais said, is not statistically significant.

No Sign Plan Breeds Addicts

He said there was also no evidence so far that the programs had attracted or encouraged new addicts. Respondents reported having used drugs for an average of more than 16 years.

Those interviewed said they were sharing less: 20 percent said they still borrowed syringe needles from others, compared with 30 percent before using the programs; and 10 percent said they rented or bought used needles, compared with more than 25

have given the vaccinations to about 10 drug users. The doctors will soon move to a van and begin screening for tuberculosis and sexually transmitted diseases, said Red Sarge, the program's director.

At another site, on 110th Street and Park Avenue, next to a vacant lot by the De Witt Clinton Houses, volunteers last week ushered participants with identification cards by a red plastic container to dispose of fistfuls of used needles as temperatures dipped to 20 degrees. A volunteer recorded the number of dirty needles discarded and the number of clean ones exchanged.

Addicts at both sites said they came as much because of fear of AIDS as for the free needles. Those interested in treatment complained about hurdles like the 9-to-5 hours of the methadone program or lack of slots for drug treatment.

Mark Gilliam, co-director of the Lower East Side program, said that a common hurdle was an inability to meet admission requirements. Many lack proper identification and cannot give a permanent address.

A 40-year-old man who said he had HIV asked about a methadone program that took cash at the Harlem street site. The man said the program he attended dropped him when his income went up and he lost Medicaid. While he looked for alternatives, he was back on heroin. That day he exchanged his needles.

"I didn't want to infect nobody," he said.

New York Needle Exchanges Called Surprisingly Effective

By MIREYA NAVARRO

New York City's ambitious research effort to measure whether needle exchange programs can slow the spread of AIDS among intravenous drug users has attracted significant numbers of addicts and convinced many of them to share their needles less often, experts evaluating the program say.

Six months after the efforts began, the experts say that the city's four demonstration programs — including a storefront to dispense hypodermic needles on the Lower East Side and outreach work on the streets in Harlem and the Bronx — have succeeded in enrolling 5,000 addicts, far more than in previous needle exchange programs in the city, both legal and illegal.

In addition, they say the new programs have not resulted in increased drug use.

New York City's efforts are an important test case because of the city's large number of intravenous drug users — an estimated 200,000, half of them infected with HIV, the virus that causes AIDS. Some critics have questioned whether needle exchange programs that have shown modest results in smaller cities would also work here.

But the program evaluators, led by

Dr. Dan C. Des Jarlais, director of research for Beth Israel Medical Center's Chemical Dependency Institute, say that preliminary findings are consistent with results in other cities in Europe, Canada and the United States, including Tacoma, Wash., and Portland, Ore.

Dinkins Changed His Mind

Needle exchange programs aim at curbing the spread of HIV by replacing contaminated needles in circulation and educating users about the dangers of sharing needles. But the idea has often provoked politically charged disputes. Some critics, including at one time Mayor Dinkins, have opposed such programs for fear that they will encourage drug use and send the wrong message to young people.

Mayor Dinkins canceled the city's first legal needle exchange program shortly after taking office. It operated for less than two years from a small city Health Department office and attracted only 536 participants. Many argued it was a failure because of its site in an area of office buildings and

Continued on Page B4, Column 1

NYT (2-17-93)

Can needle exchange programs slow the spread of the AIDS virus? Statistical analysis of data from New Haven offers hope.

What Happened to HIV Transmission Among Drug Injectors in New Haven?

Edward H. Kaplan and Robert Heimer

Roughly one-third of the 242,000 AIDS cases reported to the U.S. Centers for Disease Control and Prevention can be associated in some fashion with injecting drug use. Not surprisingly, people concerned with preventing the further spread of HIV and AIDS are giving a great deal of attention to intervention programs targeting injection drug users (IDUs). One such intervention, needle exchange, may be as promising as it is controversial, according to data from a New Haven, Connecticut study.

Needle exchange programs allow IDUs to exchange their used needles for clean ones. The programs are aimed at both reducing the amount of needle sharing that occurs among IDUs and removing potentially infectious syringes from circulation. A secondary objective of many needle exchanges is to make contact with otherwise difficult-to-reach IDUs in the hope that many will consider entering drug treatment programs and perhaps will cease injecting drugs altogether. Crit-

ics of needle exchange contend that by distributing needles one is merely exacerbating existing drug abuse in the population by enabling drug injectors to continue their habits, and, perhaps worse, the availability of clean needles might even encourage noninjectors to initiate drug injection (though this latter concern is somewhat like suggesting that distributing spoons could lead to a rush on hot fudge sundaes at the local ice cream stand).

A Circulation Theory of Needle Exchange

Costs of Needle Exchange in New Haven

It cost approximately \$150,000 to operate the New Haven needle exchange during its first year of existence. This includes outreach staff salaries, operating costs for the mobile van, and supplies such as needles, bleach, and condoms. Lifetime health care costs for people with HIV infection (including progression to AIDS) can easily exceed \$100,000; this is a public expense. Even assuming only \$50,000 in lifetime health care costs due to HIV/AIDS, however, the needle exchange is cost-effective if it has averted three infections or more in its first year of operations.

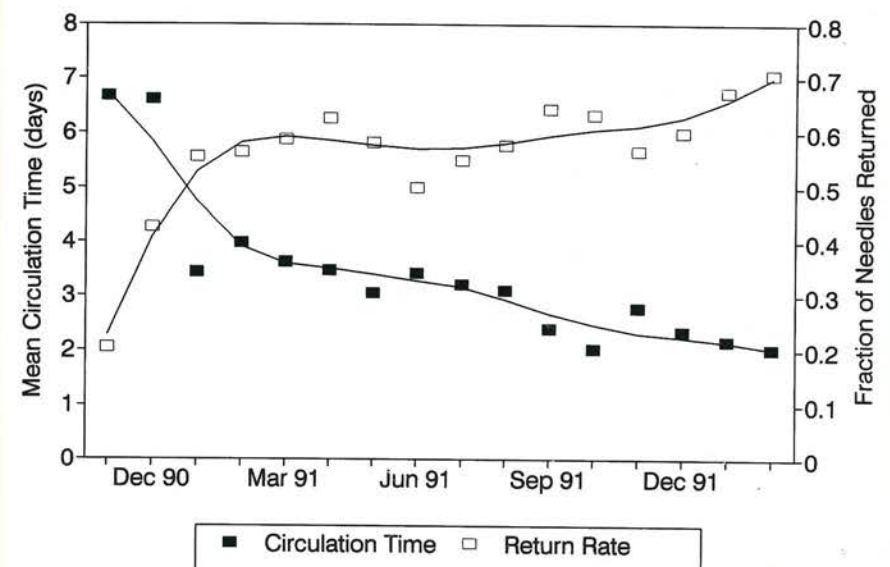


Figure 1. Mean circulation times and return rates.

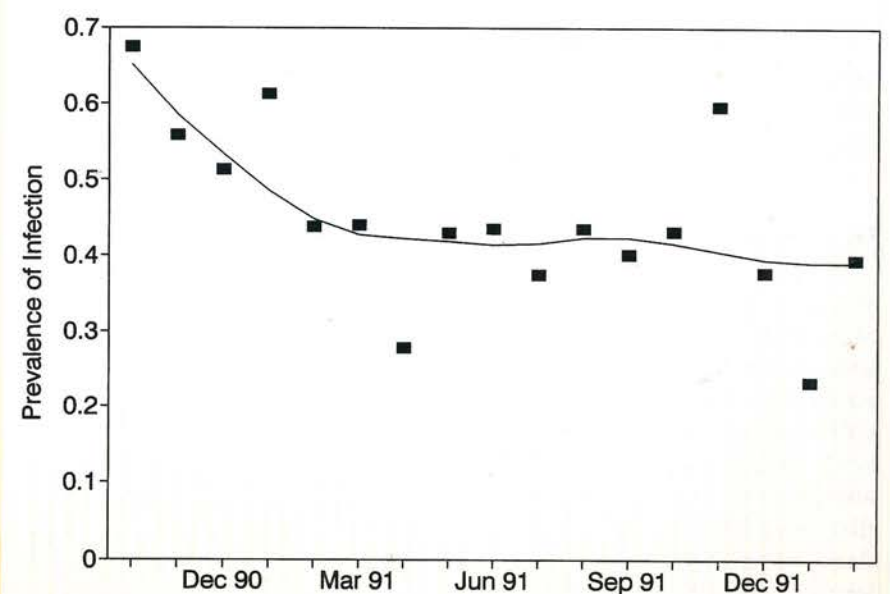


Figure 2. Prevalence of HIV-1 in needles.

CITY/STATE

Needle exchange program vindicated

By Tamara Lytle

Register Washington Bureau

WASHINGTON — A congressional audit has agreed with a controversial Yale model that shows New Haven's needle exchange to be effective in stemming the spread of AIDS.

The Government Accounting Office, Congress' investigation team, studied reports on nine needle exchange programs. The programs distribute free clean needles to drug addicts to prevent them from spreading AIDS, which can

be spread through infected needles.

Last summer, the Bush administration's drug czar released a special bulletin condemning the Yale model and needle exchange programs in general. The Clinton administration has taken no position on the programs, according to a spokeswoman at the Office of National Drug Control Strategy.

GAO said the programs show "some promise" in reducing the spread of the deadly AIDS virus. Only two of the programs studied show strong results, they said.

New Haven's needle exchange program was not one of the nine programs evaluated. But the GAO report did pass judgment on the Yale mathematical model that showed New Haven's program reduced the spread of HIV, the virus that causes AIDS, by 33 percent among intravenous drug users.

"We're looking at this as something of a federal government vindication," said Robert Heimer, assistant professor at the Yale Medical School. He worked on the program with Ed Kaplan, associate

professor of organization and management.

The Yale model tested needles returned to the exchange program for HIV and monitored whether users returned the same needles they received.

People interested in starting needle exchange programs have used the Yale model and its results in New Haven in their research.

But U.S. Rep. Charles Rangel, D-New York, chairman of the House Select Committee on Nar-

Turn to Needles, Page 4

"We're looking at this as something of a federal government vindication."

Robert Heimer
Yale Medical School

News

MEDICAL TRIBUNE, THURSDAY, MARCH 25, 1993

Needle-exchanges may be making a dent in spread of HIV

Eight months into New York City's second experiment with a program to allow intravenous drug users to exchange needles, researchers say they've reached far more IV drug users than anticipated. But they acknowledge that it's too soon to tell if the controversial program will significantly slow the spread of the AIDS virus.

More than 5,000 IV drug users have enrolled in the city's five needle exchange programs since the first of them began legal operation last summer, and researchers say that so far, participants seem to be reducing their AIDS risk by sharing needles less.

"Right now we can say the programs are off to a good start, but it will be a couple years before we are in a position to make definitive statements," said Dr. Don Des Jarlais, director of research for Beth Israel Medical Center's Chemical Dependency Institute and the lead evaluator for the programs.

"The chances of transmitting the virus when the background infection level is as high as New York are quite substantial, so that complete elimination of new infections may not be realistic," Dr. Des Jarlais said. "But it should certainly be possible to dramatically reduce the number of new infections."

The New York programs, which are funded by the state Department of Health and the American Foundation for AIDS Research, operate through community-based organizations that swap clean needles for used ones returned in anonymous exchange.

Like similar ventures across the country, the New York programs are aimed at slowing the spread of HIV by replacing possibly contaminated needles with clean ones, by educating participants about the dangers of sharing needles and making referrals to drug treatment and medical care.

The Centers for Disease Control and Prevention in Atlanta announced this month that a Connecticut law allowing IV drug users to purchase up to 10 needles and syringes at a time without a prescription appears to be decreasing needle-sharing.

The CDC said that 44 states and Washington, D.C. have laws against the possession and distribution of needles, and the sale of needles without a prescription are prohibited in 10 states and Washington.

Advocates say that in New York, the need for clean needles is great. The city Health Department estimates that there are 200,000 IV drug users in New York City, as many as 60% of whom are HIV-positive. IV drug use has surpassed unprotected sex between men as the single greatest risk factor contributing to the city's burgeoning AIDS caseload, said department spokesman Peter Lynn.

Dr. Des Jarlais said the needle-exchange programs have attracted about twice as many people as anticipated. And while there is no indication that the programs have affected the number of injections, he said participants appear to be sharing needles less.

Interviews with drug users in the program indicate that the number who share needles has dropped from 30% before the program to 20% now, and the number who buy or rent used needles has dropped from 25% to 10%. Those results, he said, are "very consistent with other U.S. and European and Australian findings."

Researchers in other cities say they have determined that needle programs can slow the spread of HIV. In Tacoma, Wash., officials say the HIV infection rate is 2% of those participating in the 5-year-old needle exchange but hovers at 8% in IV drug users not in the program. In New Haven, Conn., researchers have estimated that the needle program has prevented 20 to 25 AIDS-virus infections since opening in November 1990.

Edward Kaplan, the Yale University School of Management professor evaluating the New Haven exchange, said the exchange "is giving people the opportunity to turn needles around faster. Needles live for shorter periods of time in the community of drug injectors" and therefore have less of a chance to become contaminated, he said.

If needle-exchange programs reached as many as one-quarter of New York City drug injectors, with the same success rate of the New Haven program, Kaplan estimated that at least 1,000 HIV infections could be prevented each year.

Still, not everyone is convinced. Needle exchange programs in many cities, New York included, have met with tough opposition. Mayor David Dinkins terminated the city's first needle exchange program—a small effort that reached 300 to 400 users—soon after taking

office, and only cautiously reconsidered his position in late 1991.

Dr. Mitchell S. Rosenthal, president of the Phoenix House Foundation, the nation's largest nonprofit drug services agency, said needle programs send the wrong message about drug abuse.

"Anyone that can be engaged in a needle exchange program is engaged in a full attempt at their addiction," Rosenthal said. "Giving someone clear just facilitating the core of the illness. It is a state as a society can't do an addiction...that they [have] the capacity to get."

But Holly Hagan, a biologist with the Tacoma County Health Department, has monitored the needle program there, said that chance, needle exchange ally reduce drug addicting people with use to more consistent health.



THE WHITE HOUSE
WASHINGTON

THE WHITE HOUSE

Dear Ed -
It was good to see you in
San Francisco. Thanks for
the publication from your
research. I look forward to
further opportunities to work
together - Christine

U.S. News & World Report

MARCH 29, 1993

\$2.50

U.S. NEWS

How clean needles are saving lives

Cities are inspired by New Haven's success

"Drugs have been around since before Socrates," says Silky, a street-worn heroin addict and soapbox philosopher in New Haven, Conn. "And a drug addict's gonna figure out how to get them, regardless." On a recent morning, he joined 20 other heroin users who traded their dirty syringes for sterile ones at the city's needle-exchange van.

While policy makers continue to debate the merits and morality of distributing clean needles to drug addicts, the evidence grows that these programs are averting new cases of HIV infection and saving lives. The New Haven experience is the most convincing. A team of Yale University researchers has been studying the city's needle-exchange program, launched in 1990. Among its findings: The share of returned needles testing positive for the AIDS virus has dropped sharply—from 68 percent to 41 percent; more addicts are trading in more needles and they are holding on to them a shorter time, suggesting that they are sharing them less; and finally, the Yale group estimates a drop of at least 33 percent in the rate of new HIV infections.

Inspiring others. The record in New Haven, which follows promising results from Holland, Sweden and other countries, has spawned similar efforts elsewhere. Last week, San Francisco Mayor Frank Jordan declared a public health emergency so his city could begin funding a successful—but until now, illegal—needle-exchange program despite opposition from state officials. In New York City, where AIDS activists had operated street-corner distributions since 1990, the programs were legalized last year after Mayor David Dinkins dropped his previous resistance. Early indications are positive: Needle sharing is down, referrals to treatment are up, and there is no sign that the programs have attracted new drug users.

Still, opposition to needle-exchange programs is strong among many conservative politicians and some religious and

black leaders. In most cities, they remain illegal, often run by local advocates while police look the other way. And President Bush ignored the recommendation of his National Commission on AIDS last year when he extended a ban on federal funding for such projects. "All the evidence strongly suggests that these programs can work well," observes



Clean up. More health officials back the idea.

Prof. Edward Kaplan, head of the Yale research team. "So the idea that they shouldn't even be considered strikes me as very bad public policy." A review by the federal General Accounting Office, due out this week, is expected to reinforce the positive findings.

Of course, the best medicine for heroin addicts is treatment, not sterile needles. While New Haven's program encourages clients to seek treatment, only about 1 addict in 6 has enrolled. Many of those who refuse or drop out end up like Silky. He contracted HIV from years of sharing needles and now laments the happier times he spent with the woman he loved and a daughter he adored. "But God didn't curse me, I cursed my damn self," he says, sadly. Then he flashes a toothless grin, hustles a dollar from a staff member on the needle-exchange van and shuffles off with his clean syringes into a cold New England morning.

BY DORIAN FRIEDMAN



You are cordially invited to attend a reception
to celebrate the granting of tenure to

Edward H. Kaplan

Thursday, April 15

5:30-8:00 p.m.

at the home of Robert and Noël Heiser
56 Cold Spring Street
New Haven, CT

R.S.V.P.

562-5718

AIDS IN CONNECTICUT

BY KAREN BAAR AND MARK BITTMAN

It was in 1980, before the disease even had a name, that Connecticut's first case of AIDS was reported. Since then, nearly 3,000 cases of full-blown AIDS have surfaced among residents in 130 of the state's 169 cities and towns. Roughly 1,500 of these people have died from the disease, and an estimated 20,000 more are HIV-positive. Victims of this frightening near-epidemic include the well-known (we lost a congressman to AIDS) and the unknown, gay and straight, men and women, drug users and teetotalers. Currently, Connecticut has 90 cases of AIDS per 100,000 people, a number almost everyone expects to grow dramatically.

But the course of AIDS in Connecticut is shifting. Like a deadly and erratic storm moving through the population, it is finding its new victims among society's most vulnerable: the ignorant, the unprotected and the very young. And while for many the danger of the storm may seem less severe than it did even a few years ago, the casualties and costs for treating those who are sick are really just beginning to mount.

First of all, it appears that AIDS will not reach as widely or rapidly into every corner of society as had first been feared. Experts maintain—as they have from the beginning—that non-drug addicted persons who are sensible about sex seem to stand little chance of contracting the disease. At the same time, among those who have become infected with the HIV virus there has been a change as well. Gay men, who by and large have learned to practice safe sex, are seeing a slower increase in the rate of infection; intravenous drug users, prostitutes and the children of both are seeing a faster one. It was five years ago that the number of intravenous drug users with AIDS in Connecticut surpassed the number of gay men with AIDS. That same pattern is developing in the rest of the country, but nowhere is it as pronounced as it is here.

The pattern also means that the transmission of AIDS is now dominated by African-American and Latin people. In 1992, 59 percent of those with AIDS in Connecticut were people of color—even though only 13 percent of the state's population consists of minorities.

**AFTER
13 YEARS,
THE COURSE OF
THE DEADLY
DISEASE HAS
SHIFTED. WHO
DOES IT AFFECT
NOW?
AND WHAT IS
BEING DONE TO
STOP IT?**

Although there are plenty of white IV drug users in Connecticut, they are not infected by HIV in comparable numbers, according to Alvin Novick, a Yale biology professor and AIDS activist who edits the *AIDS and Public Policy Journal*, because they have better access to uninfected injection equipment and are more apt to make use of social services than are minority IV drug users.

Vulnerable, too, are the family members of drug users. And since some female drug users support their habit through prostitution, they may be at double risk—safe sex is not always a top priority among prostitutes. The result is that Connecticut has an unusually high rate of infection among women and

children: Women represent 20 percent of the cases here, double the national average, and, in part because of advanced methods of detection, we have the highest proportion of pediatric AIDS cases in the entire country.

The numbers among adolescents are more elusive but, says Novick, "All kids are vulnerable, because they don't always believe adults. Runaways and dropouts are especially vulnerable—they lose contact with wise educators and counselors, they're alienated and consequently hard to find, programs for them are underfunded, and they may turn to the drug or sex industries in an attempt to eke out a living."

It is hard to tell if infection rates among young people are increasing rapidly, because there is no systematic way of sampling HIV infection among them, and because the lag time between infection with HIV and a diagnosis of AIDS can be 10 years or more.

Connecticut, however, may be in better shape than many other states when it comes to preventing the spread of AIDS among those young people who remain in school.

In 1984, a joint task force of the departments of Health Services and Education first began to address the issue of admitting HIV-positive children to the state's public schools. That process was

own. And the most successful example of an AIDS-prevention program, one that has acted not only as a national model but an international one, is the needle-exchange program in New Haven.

In 1987, when the idea of the needle exchange first surfaced in New Haven, the concept was simple: Allow addicts to swap their used needles for clean ones to slow the spread of AIDS through contaminated equipment. Not surprisingly, there was considerable opposition to the idea, from drug-treatment centers, clergy, law-enforcement officials, and members of the African-American community, who believed that anything short of drug treatment would mean continued enslavement of blacks to drugs.

But proponents of the idea, among them Novick and Elaine O'Keefe, former head of the AIDS division of the New Haven Health Department and now in charge of the Stratford Health Department, argued that although people are understandably uncomfortable with IV drug use, needle exchange is a cost-effective way to control the spread of HIV. "There are two diseases here," says Ed Kaplan, a professor at the Yale School of Organization and Management, who is the program's evaluator. "One is HIV, and the other is IV drug abuse. Needle exchange helps control the spread of the first without increasing the spread of the second."

In New Haven, both Mayor John Daniels and Police Chief Nicholas Pastore favored the program. And, in the spring of 1990, a bill enabling a single demonstration project passed the state Legislature. Part of this bill required that the program be evaluated, and that the evaluation be reported within one year of start-up—a short period of time, as these things go. That's when Kaplan, who constructs mathematical models designed to look at public-policy issues, became involved.

"It was tricky," says Kaplan, "because many of the normal things researchers do were out of bounds." There could be no testing of clients, for instance, because program administrators thought testing would keep clients from coming in. And, although Yale and the Robert Wood Johnson Foundation put up some money, funding was barely adequate. Finally, the time frame was an issue, because of the great time lag between infection and symptoms and the short evaluation period. Still, Kaplan set out to determine, within a year, whether the needle-exchange program would succeed in controlling the spread of HIV and moving addicts toward drug treatment.

It was Kaplan's ingenious, simple solution to this problem that made the New Haven project unique. "If we couldn't test the

clients," he says, "we'd test the needles. Even if people don't change their behavior, the behavior of the needle changes. Before the exchange, needles lived as long as they were useful; now, each needle is used by fewer people." From an evaluation standpoint, "interviewing" the needle had another benefit: The study would not rely on self-reported data, always a weak link.

Each enrollee in the program has a code name, and every needle a code number. Thus, the program—which operates from a van four days a week, six hours a day, and serves about 300 people a month—can track whether an exchanged needle was returned by its original borrower and how long it was in circulation. It can also determine whether the needle became infected during its use. Kaplan was looking for a rise in the number of needles returned

accompanied by declines in the length of time needles stayed out and the number that were infected.

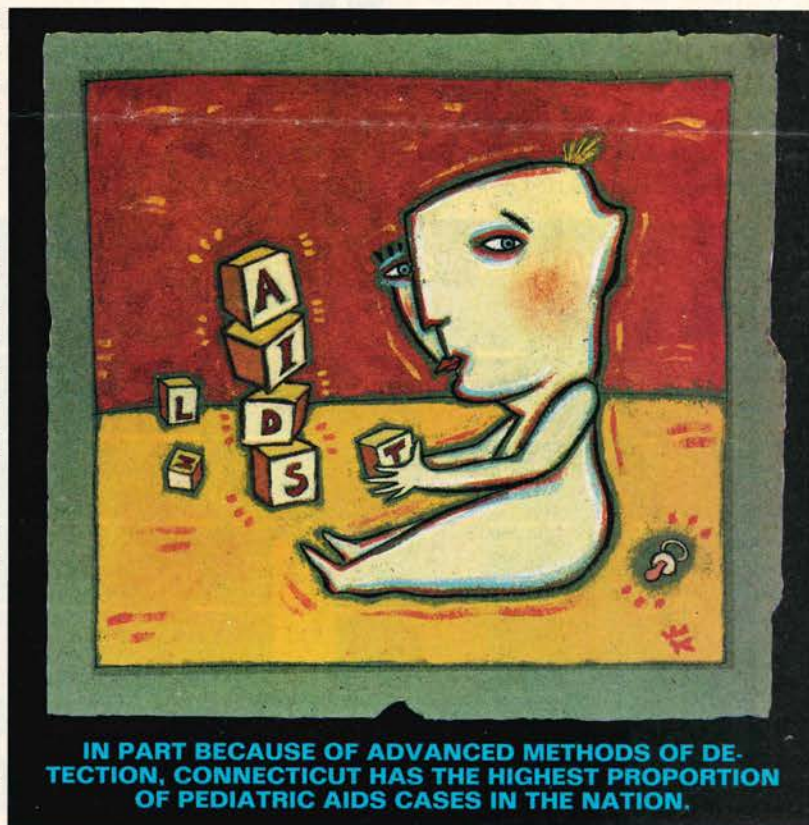
He was right on all counts, especially the all-important infection rate. Before the needle-exchange program, 44 of 48 needles tested at a shooting gallery were infected, as were 108 out of 160 in people's own possession. With needle exchange, the rate of infected needles is about 45 percent; in recent months, says Kaplan, the rate appears to be lowering even further, to about 40 percent.

Even better, about one in four people who participate in the program request placement into drug-treatment (because of limited space

in drug treatment programs, not all are placed right away), a total of about 300 people in the two years since the program began. "It's one of the prides of the needle-exchange program that many of our clients ask for treatment, and we get it for them," says Kaplan. "Our goal is to get them to treatment alive and not infected with HIV."

Now in its third year, the program is widely seen as an unqualified success. Yale and the city are cooperating to put a second needle-exchange van on the streets, and a third van will provide basic health-care services for clients and their families. "Now we'll function not only as an intake service for drug-treatment programs," says Kaplan, "but for health care in general."

Hartford and Bridgeport have plans for their own programs, and other communities in the state are discussing it as well. The program evaluation won the prestigious Institute of Management Services award in 1992, a \$10,000 prize given to Kaplan and O'Keefe that they promptly donated to AIDS services. The state Legislature has voted to decriminalize needle purchasing without a prescription,



JEAN CHRISTIAN KNAFF

March 1993

NEEDLE EXCHANGE
PROGRAMSResearch Suggests
Promise as an AIDS
Prevention Strategy**GAO: Needle Exchanges Show
'Promise;' Surgeon General Could
Authorize Fed Funding**

■ In the most significant judgment on the issue yet by an impartial federal agency, the General Accounting Office reported in March that needle exchange programs show promise as an AIDS prevention strategy.

The GAO examined published research on needle exchange programs worldwide, then drew its own conclusions by applying GAO's standards of "strong evidence" to the published findings. GAO concluded that:

- **Reduced needle sharing was associated with at least two of the exchange programs.**

- **Most studies show clean needle programs do not lead to increases in injection drug use among participants.** GAO found strong evidence from five of nine exchanges showing no increase in drug use, casting doubt on fears that drug users might increase the amount they use due to clean needles making the behavior "safer."

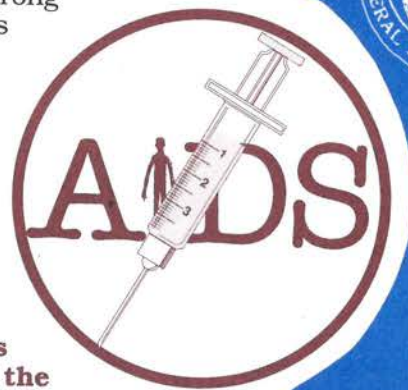
- **Needle exchange programs provide a useful link to treatment and other health services.**

- **A Yale University study of the New Haven needle exchange had a sound scientific basis for its finding that the program reduced the rate of new HIV infections by 33 percent.** The Yale study released in 1992 found that the New Haven program succeeded in its goal of reducing the spread of the HIV virus. GAO said the Yale study's estimate of the reduction among needle program participants was conservative.

- **Prohibitions on federal funding of needle exchange programs could be suspended if the Surgeon General determines that such programs work to reduce the spread of HIV.** The federal ban on such funding once required a finding by the president to be overridden. In newer versions of the ban, the Surgeon General is required to determine that needle exchange works to override the ban.

To obtain a free copy of the GAO report, call (202) 512-6000, or fax (301) 258-4066. Ask for the report by its document number: GAO/HRD-93-60. After the first copy, the report costs \$2 per copy. Mail orders should include a check or money order for the appropriate amount and should be addressed to: U.S. General Accounting Office, P.O. Box 6015, Gaithersburg, MD 20884-6015.

The Drug Policy Letter; No. 19



AIDS Health Update (CT) 5-4-93

**GAO Reviews Needle Exchange
Evaluation Model**

The New Haven needle exchange program's evaluation model, developed by Yale University researcher **Edward Kaplan**, which estimates a 33% reduction in new HIV infections among program participants, is believable and conservative, according to a report recently released by the U.S. General Accounting Office (GAO).

The GAO, Congress' research arm, found that the model produced a "conservative estimate of the program's impact." The report went on, "Our experts agree that Dr. Kaplan's assumptions served to underestimate the impact of the New Haven program on the rate of new HIV infections."

The report also analyzed studies of needle exchange programs in Australia, Canada, the Netherlands, Sweden, England, and, in the United States, Tacoma, Washington. It concluded that drug use did not increase among users, and that the programs were successful in reaching out to injection drug users and referring them to drug treatment and other health services.

Copies of the report can be obtained by calling Sue Murray at the AIDS Section, 240-9122.

Bar Codes Track HIV Infected Needles

New Haven's successful needle exchange program is helping to prevent the spread of AIDS among addicts.

Deborah Navas, Editor

New Haven, Connecticut, is probably best known as the home of Yale University; that New Haven ranks among the top ten poorest cities in the nation is far less common knowledge. With a population of 129,000, the city has its share of problems associated with poor urban areas: among them a high crime rate and a high rate of drug abuse, with an estimated population of 2300 drug injectors. Consequently, because needle sharing among injecting drug users has been identified as the main reason for the rapid spread of the human immunodeficiency virus (HIV) that causes AIDS, in the last few years New Haven has also seen an alarming rise in HIV infection and the AIDS disease among its population.

For these reasons the city proved an ideal testing ground for an innovative (and controversial) AIDS intervention program: a needle exchange program undertaken by Yale University and New Haven's health department. It was the first-ever federally funded project of its type. Needle exchange programs operate on the theory that providing clean needles for old ones will reduce needle sharing among drug injectors, and slow HIV transmission as a result. Yale's bar code-based syringe tracking and testing (STT) system has been active for nearly three years, and the resulting



The mobile base of operation was donated by Yale and repainted by a local artist.

data strongly suggest that needle exchange significantly slows the rate of infection without encouraging new drug use.

Needle exchange is a hot political issue, and New Haven's health officials had to work hard—through community education efforts, as well as pressuring the legislature to lift a ban on possession of hypodermics—to implement the Yale-sponsored program, which began in November 1990.

Edward H. Kaplan, a professor at both the Yale School of Management and the Yale School of Medicine, is the principal

investigator evaluating the program's effectiveness, and he helped design the methodology in an effort to gather reliable data on the relationship between injecting behavior and the spread of HIV. Traditional evaluation approaches used data from surveys of needle exchange clients that could not be independently verified, and further, such studies could not determine rapidly if the program was succeeding.

The STT system, based on coded syringes, was developed as part of Professor Kaplan's evaluation effort, making it possible to obtain accurate,

looking at the program. "Our work broke the log jam," said Ed Kaplan. "We've gotten requests for information from California, Philadelphia, New Jersey—a number of states. It's having an impact." □

APPLICATION PROFILE

Company Name:
Department of Health
New Haven, Connecticut

Business: Health care/needle exchange program

Hardware/Software: Datalogic DL 60 CCD scanners; Compaq laptop, 386 PC; preprinted labels

Primary Application: Tracking syringes

Primary Benefit: Accurate measure of effectiveness of the needle exchange program

Resources:
Asset Management Technologies, Inc.
555 Highland Ave.
Cheshire, CT 06410
(203) 250-7226
Datalogic, Inc.
104 Whispering Pines Dr.
Scotts Valley, CA 95066
(408) 438-7000

PO-C24-3177

CLIENT SHIFT OR NEEDLE EXCHANGE: WHAT CAUSED THE HIV PREVALENCE DROP IN NEEDLES RETURNED TO NEW HAVEN'S NEP?
Edward H. Kaplan, Yale School of Organization and Management; Kaveh Khoshnood, Dept. of Epidemiology and Public Health, Yale Medical School; Robert Heimer, Dept. of Internal Medicine, Yale Medical School

OBJECTIVE: To see if demographic or behavioral shifts in New Haven's NEP clientele explain the observed ~33% HIV drop in returned needles; to contrast this hypothesis with the circulation theory of needle exchange.

METHODS: Nine self-reported variables (age, gender, ethnicity, years of injection, injection freq., sharing freq., cleaning freq., cocaine use, shooting gallery use) were extracted from baseline client surveys for those clients active in each month. The presence of client shift was tested using Multivariate Analysis of Variance (MANOVA). Circulation theory was characterized by six operational variables observed monthly (# active clients; # client visits; # needles distributed; # needles returned; needle circulation times; needle return rates).

RESULTS: From 2101 client months, the MANOVA found no significant simultaneous change in the client shift variables (Wilks' Lambda $p=0.0578$; Pillai's Trace $p=0.0638$; Hotelling-Lawley Trace $p=0.0521$). Return rates rose from 20% to 70%, while circulation times fell from 7 days to 2 days, consistent with the HIV drop in needles.

CONCLUSION: The data suggest that NEP operations, not client shift, were responsible for the observed drop in HIV infected needles returned to the NEP.



IXth International Conference on AIDS

in affiliation with the
IVth STD World Congress

BERLIN
June 6-11, 1993

Needle Exchange Decreases the Prevalence of HIV-1 Proviral DNA in Returned Syringes in New Haven, Connecticut

ROBERT HEIMER, Ph.D., EDWARD H. KAPLAN, Ph.D., KAVEH KHOSHNOOD, M.P.H.,
BINI JARIWALA, B.S., EDWIN C. CADMAN, M.D., New Haven, Connecticut

PURPOSE: To report on the deployment of the syringe tracking and testing system in the New Haven needle exchange program, which is the first federally funded evaluation of a needle exchange program conducted in the United States.

PATIENTS AND METHODS: A legal needle exchange for intravenous drug users began in New Haven, Connecticut, in November 1990. All syringes distributed by the program received unique tracking codes. Syringes were tracked and HIV-1 proviral DNA prevalence in returned syringes was assessed using polymerase chain reaction and Southern blotting.

RESULTS: At the outset of the program, the prevalence of HIV-1 proviral DNA in syringes exceeded two thirds. Prevalence decreased rapidly to less than 45% during the first 3 months of the program and remained at this level for the following 10 months. During the periods of decreasing prevalence and subsequent steady state, no changes in the demographics of program participants or in the drug use habits of newly enrolling clients that could account for the decrease in HIV-1 prevalence in needles were detected. In addition, the program referred almost 20% of its clients to drug treatment programs.

CONCLUSION: The needle exchange program in New Haven has decreased the percentage of syringes testing positive for HIV-1 proviral DNA among needle exchange clients while simultaneously serving as an entry point for drug treatment.

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PATIENTS /

The New in mid-Nov city's health a van donate city neighb remain anor ing fictitiou card that all plete a brief vey includes the duratio jectiions, and exchange us

Straight Talk

page 21 ►



YALE'S
NEIGHBORHOOD

You've brought up your kids in New Haven. What has that been like?

We live in the East Rock neighborhood, which obviously is of a different character from some of the less advantaged neighborhoods in the city. But it's a wonderful place to raise kids. Our kids run up and down the block, play with the neighbors, go back and forth in each other's yards. It's a very secure and attractive urban environment.

Have your kids had enough to do?

There's no question that our kids, growing up in a family of upper-middle-class professionals, take advantage of features of the community that a lot of less advantaged kids don't. The Neighborhood Music School, The Creative

THE ADVOCATE (8/19-25/93)

Arts Workshop. Museums. Soccer programs. They seem sadly to have much higher participation rates from white neighborhoods than black neighborhoods.

How come you didn't you didn't send your kids to public school?

Education is our lives. We decided that the opportunities at the schools we've used—Foote and Hopkins—were so extraordinary.

We had mixed feelings all along. I went to



public schools all my life. In principle I would like to see the public schools strong enough that [families like us] would use them.

What can you do as Yale president to encourage the next generation of Levins to send their kids to public school?

We can cooperate to try to bring some of the ideas we have... We have some national figures in the elementary and secondary education. James Comer, Ed Zigler.

One of those national figures recently left New Haven because, he said, Yale didn't

consider his research in New Haven schools legitimate enough for tenure. Roger Weissberg. He developed a national model for kids who feel an urge to act out in class ...

I don't know the details of his situation. I would tend on the face of it to be skeptical of his claim. Take a similar example of Ed Kaplan, who developed the needle-exchange program. A lot of people said he invested an awful lot of time in a program of social action and may have jeopardized his academic career here. But in fact the work he did was very high in quality. He just got tenure this year with very enthusiastic recognition. It's not like we're telling people to stay away from the problems here.

I'd like to see more. Our social science departments have tended to be on the theoretical side.



THE OTHER
NEW HAVEN

From the Department of Internal Medicine, School of Medicine (RH, EHK, BJ, ECC), School of Organization and Management (EHK), Department of Operations Research (EHK), and Department of Epidemiology and Public Health (KK), Yale University, New Haven, Connecticut.
Financial support was provided by grants from the Robert Wood Johnson Foundation and the National Institute on Drug Abuse (DA 07676-01).
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Manuscript submitted December 18, 1992, and accepted December 23, 1992.

Needle exchange effort wins support

New Haven program finds HIV down among addict clients

By Richard O'Mara
Staff Writer

NEW HAVEN — Four times a week a van rolls away from the city health department's outreach office here loaded with hope, charity and good intentions.

And needles. Lots of needles.

Aboard the van are three or four social workers. They are bound for the city's worst parts, determined to get these needles into the proper hands — the shaky grasp of New Haven's heroin and cocaine addicts.

About 2,500 are so afflicted here, about 2 percent of the city's population, probably a lower rate than in Baltimore. Baltimore doesn't have a needle exchange program but, with political support from City Hall and, more recently, from Gov. William Donald Schaefer, seems headed in that direction.

In addition to the needles, the van carries little bottles of antiseptic

“Baltimore needs this program. When I lived in Baltimore near Erdman Avenue, I saw they got a lot of IV drug abusers there. It could save lives.”

Needle exchange client

bleach, pure water, condoms, alcohol wipes, cookers (little caps to heat heroin in), cotton — just about everything an injecting drug addict might need to protect himself or herself from the HIV virus that opens the door of the body to AIDS.

These supplies are liberally dispensed — free. Everything, that is, but the needles, which are very carefully dispensed — but still are free.

Needles are bar-coded and numbered. An addict who brings in three old needles gets three new ones. One addict, an unhappy-looking man named Felix, thin as a stick figure, brought in 24 needles and left the van with 24 new ones.

“He's lost a lot of weight,” community health worker Mark Kinzly observed of Felix, who has been exchanging needles at every opportunity for almost three years, though he doesn't appear likely to be doing it much longer.

“Every week we pick up the papers and see our own clients in the obituaries,” said Dominick Maldonado, also a community health worker, “Last week, we lost two.”

The van also carries literature, a library of pamphlets on the self-protective strategies against acquired immune deficiency syndrome.

Taken together, the van and its

See **NEEDLES**, 6A, Col. 1

Balt. Sun., 9/6/93

to one of Mr. Maldonado's clients, who boarded the van in a neighborhood called The Hill and declared:

“Baltimore needs this program. When I lived in Baltimore near Erdman Avenue, I saw they got a lot of IV [intravenous] drug abusers there. It could save lives.”

His name was Beep. Or at least that's the name he was registered under. Most addicts use code names and are encouraged to do so. One calls himself George Bush.

When Beep went to Baltimore with his girlfriend, he carried a little travel kit of clean needles and other necessities, because such things — “works,” the addicts call them — are illegal in Maryland.

Sale of syringes legal

Not here. A year ago, encouraged by the success of the needle program in reducing the incidence of AIDS among addicts, the Connecticut Legislature legalized the sale of syringes without prescription by pharmacies. Now addicts have a choice: They can pay for their needles (about 50 cents each), or continue to get them free from the needle exchange.

The legalized sale of needles has reduced the traffic through the van by about half, said Mr. Maldonado. He is the soft-spoken boss on the van; he refers to the addicts as “clients” even as they call themselves “dope fiends.”

Mr. Maldonado has been with the program since it began in November 1990, on a \$25,000 grant from the Connecticut Legislature.

The start-up money was not surrendered readily. In fact, in 1988 when the New Haven Health Department asked the state for funds to set up the program, it got the same answer the Maryland General Assembly gave Mayor Schmoke.

“I was told flat out, don't come

“From November 1990 to November 1991, 900 people enrolled in the program,” said Mr. Quinn. “We expected 300.”

To date, about 1,600 have registered. The monthly average of clients is about 300. Some have died; some have dropped out; others have made more positive choices.

“The number that is most pleasing to us is that one out of four of them have gotten into treatment,” Mr. Quinn said. “People actually come to our needle-exchange vans and ask us to get them into treatment programs.”

The New Haven needle exchange is not the first in the country, but it is the first legal one in the Northeast and the most thoroughly evaluated. Most of that was done by Professor Edward Kaplan of Yale's School of Organization and Management.

He showed that since the program started, the incidence of human immune deficiency virus infection among the participating addicts has dropped 33 percent as shown by testing of needles returned.

“We are taking contaminated needles out of circulation,” said Mr. Quinn. “We are putting clean needles into circulation.”

The New Haven program has changed a few minds previously averse to needle exchange as a method of combating AIDS. Mayor David Dinkins of New York came around; Mayor Sharon Pratt Kelly of Washington endorsed it.

Which is not to say opposition does not continue strong. Many people believe that handing out drug paraphernalia does not square with the law enforcement approach to drug abuse.

Many others believe that such “cooperative” policies might even encourage substance abuse.

THE SUN

nge sees HIV decline

New York's Rep. Charles B. Rangel is quoted in *The Atlantic* magazine as saying the “evidence simply does not support a wide-scale expansion of needle programs. . . .”

Also, the University of Maryland's Dr. Stephen Thomas, director of the Minority Health Research Laboratory at College Park, reports widespread resistance to needle exchange from “some of the front-line leaders in the black community.” He and his colleague, Dr. Sandra Crouse Quinn, will publish an article in *The Journal of Public Health Policy* detailing the nature of this opposition.

Confronting that resistance are the statistics. One, contained in the *Atlantic* article, is that “a third of the 253,000 AIDS cases in the United States have been linked directly or indirectly to drug injection, and intravenous drug users are the fastest-growing at-risk group.”

Of about 830 people in New Haven with “full-blown AIDS, 57 percent are intravenous drug users,” Mr. Maldonado said.

In New York, the HIV infection rate among needle-using addicts is about 60 percent. In Baltimore, it's close to 40 percent, Mayor Schmoke says.

Faster turnaround

Needle exchange programs are proliferating, if slowly, across the country. Last year, about 2 million needles were exchanged, a fourfold increase in two years.

In needle exchange, rapid turnaround of the needles is everything. They have to turn around fast if the program's purpose is to be served.

“What you want,” said Dr. Kaplan, “is for the time when the needle is put out to when it is returned to be as short as possible.”

The shorter the time, the fewer the addicts who might use the needle — and the lower the chance of HIV infection.

This was the assumption, but how to test it?

“By interviewing the needles,” Dr. Kaplan answered. This, he explained, is done by bar-coding and numbering every needle turned over to an addict, then testing it for HIV when it is returned.

The turnaround time in the New Haven program has been reduced from about a week per needle to two to three days.

“Our idea was that as the circulation time goes down, the level of infection on the needles goes down,” Dr. Kaplan said. “And here's the punch line: It does.”

Meanwhile, out on the street, life goes on, after a fashion.

Not long after Beep departed, Donel appeared.

“I use my own name,” he said. “I been a dope fiend too long. I ain't trying to hide it.”

He's 51, a former Black Panther member who has been on drugs for 34 years. This day he's sick from going without heroin for three days.

Then Gee appears, a middle-aged addict who looks as if he has never seen the sun. He said he has been on methadone for 15 years, and “sometimes it don't work for me.”

Gee is followed by Bob, a talkative addict who rejected free condoms.

“I can't get no girlfriend anymore,” he said. “Drugs is my woman now.”

Hard-core addicts

Then came Spitfire, who kept wiping the sweat from his face with his balled-up T-shirt and speaking in machine-gun bursts. He was high, but not too high to count out his old needles and the replacements.

By the end of the morning, 58 clean needles had been exchanged for 58 used ones. Nine addicts had come into the van within 90 minutes, some HIV-positive, some not.

Some appeared undernourished, some did not; some were chatty, some were sullen; some were sick, some were not. But all were moved to do this much to keep themselves alive.

These are the hardest of the hard-core addicts, the kind who were not expected to have that kind of motivation.

“I happen to think the addicts are motivated,” Mr. Maldonado said. “They are used to being treated like the scum of the earth. If you treat them like human beings, with dignity, they will respond. And they are responding.”

YALE UNIVERSITY
NEW HAVEN CONNECTICUT

OFFICE OF THE PRESIDENT

September 9, 1993

Caldwell B. Esselstyn, Jr., M.D.
c/o Ms. Julia B. Polk
Foundation Secretary and Treasurer
Caldwell B. Esselstyn Foundation
1202 Troy-Schenectady Road
Latham, New York 12110

Dear Dr. Esselstyn:

It gives me great pleasure to write you today in response to Julia Polk's letter of August 12 inviting Yale University to submit a formal proposal to the Foundation concerning the perpetual management of the Caldwell B. Esselstyn Foundation's \$600,000 bequest. I believe that the sustained work of our medical and nursing schools to develop effective primary health care strategies, especially for young people, coincides with the Foundation's goals for this program. Deans Gerard N. Burrow and Judith B. Krauss join me in expressing the University's gratitude for the opportunity to describe our proposed endowment program in greater detail.

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Caldwell B. Esselstyn, Jr., M.D.
September 9, 1993
Page 2

Creation of a program for Esselstyn Endowed Scholars in Urban Health would provide a permanent mechanism to encourage faculty to devote their sabbaticals to areas relevant to the health of urban communities exemplified by New Haven. Furthermore, the imprimatur of an "Esselstyn Scholar" is expected to provide prestige and luster to encourage further members of Yale's medical and nursing faculty to spend their sabbatical leaves in activities that have some bearing on the health problems in an urban environment similar to that surrounding the Yale School of Medicine.

To illustrate the range of the University's faculty in areas of urban health, I offer two "case studies" that underscore the value of Yale's sabbatical leaves of absence to the School's ongoing research efforts in urban health. Although New Haven is a small city with 130,000 residents, the city encompasses the same range of contemporary medical and social ills -- and in proportion to its population -- one would find in the South Bronx. AIDS displays a cruel prevalence in New Haven's inner city, with a disproportionately large 60% of the city's AIDS cases associated in some fashion with injecting drug use, compared to the national figure of 33%. Not surprisingly, people concerned with preventing the further spread of HIV and AIDS have begun to devote a great deal of attention to intervention programs targeting injection drug users (IDUs).

In response to the rise in the number of HIV infections due to injection drug use, Edward H. Kaplan, Professor of Management Sciences and Medicine at Yale's School of Organization and Management, developed a needle exchange program in which IDUs exchange their used needles for clean ones. The program also attempts to place IDUs into drug treatment programs, an activity that further reduces HIV transmission risks. An expert on mathematical modeling, Professor Kaplan formulated his unique research design and theory that needle exchange reduces the spread of AIDS while on sabbatical at the Survey Research Center at the University of California at Berkeley several years ago.

Through a syringe tracking and testing system, participants in the needle exchange receive unique code names while all distributed syringes also receive unique tracking codes. When needles are exchanged, outreach staff record the code name of the client receiving the needles, along with the date (and location) of the exchange, so it is immediately known who received each program needle, when and where. In the program's first full year of legal operation in New Haven (1992-93), the level of HIV infection in needles exchanged fell from 67.5% prior to the program to below 45%, suggesting a reduction in HIV transmission due to needle sharing on the order of 33%. Professor Kaplan has received funding from the National Institute of Drug Abuse and the Robert Wood Johnson Foundation to continue this important work to slow the spread of this deadly disease. Next year, Professor Kaplan plans to go to Hebrew University to help develop a system to evaluate AIDS interventions in Israel and to formulate a systematic overview of AIDS in urban areas. The University is understandably proud of Professor Kaplan's outstanding research on the reduction of HIV transmission, which has led to a dramatic improvement in clinical outcomes for New Haven's IDU population.

The second case I would like to share with you concerns Dr. Robert M. Donaldson, Jr., David Paige Smith Professor of Medicine and former Acting Dean of the School of Medicine, who is currently concluding a one-year sabbatical to study social aspects of medicine. A fellow in the Division of Health Improvement, founded by the Henry J. Kaiser Family Foundation, and a

I sincerely hope the Caldwell B. Esselstyn Foundation will entrust the management of its bequest to Yale University to provide permanent sabbatical support for our faculty's urban health research initiatives. The University would deeply appreciate the opportunity to honor the memory of Caldwell B. Esselstyn of the Yale Class of 1924 with this named research sabbatical program as a testament to your father's -- and your family's -- contribution to American health care while sustaining Yale's efforts to achieve lasting public health solutions for this country.

Sincerely,

Richard C. Levin
Richard C. Levin

RCL/cg

enclosures

cc: Gerard N. Burrow, M.D.
Judith B. Krauss, R.N., M.S.N.

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September 17, 1993

Edward Kaplan, Ph.D.
Associate Professor
Policy Modeling and Public Management
52 Hillhouse Avenue

Dear Ed:

We truly appreciate your participation in the annual Ivy medical alumni magazine editors' retreat held for the first time at Yale on Monday, September 13th.

Our Ivy guests were extremely interested in your fine remarks on the New Haven Needle-Exchange Program, and they were impressed with Yale's dedication and commitment to the community.

Thank you so very much for participating.

Sincerely,

Helaine
Helaine Patterson
Director

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The Hartford Courant

Monday, September 27, 1993

Established 1764

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In Hartford's needle exchange program:

- Thirteen percent of the clients said they had worked as prostitutes.
- More than 75 percent of the clients are men.
- Nearly 70 percent are between the ages of 31 and 45.
- Ninety percent say they are Hispanic.
- Nearly 20 percent say they are homeless.
- Five percent said they had jobs.

The Hartford Courant

Officials say city's needle program works

By ERIC LIPTON
Courant Staff Writer

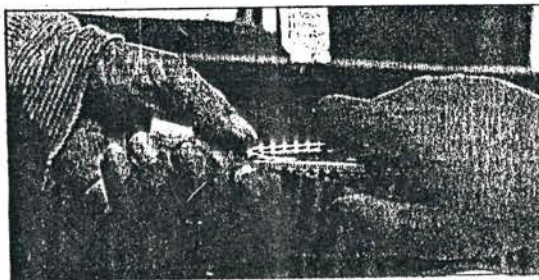
Hartford's 6-month-old needle exchange program is giving out clean needles four times faster than expected and attracting lines of drug addicts at its three stops.

More than 500 people have enrolled in the AIDS prevention program since late March and about 12,000 needles have been distributed.

Drug users, who can exchange needles at the Hartford Health Department van three days a week, say they are relieved to have a free and consistent source of needles and other drug paraphernalia.

"It takes a lot off your mind," said a 46-year-old Frog Hollow addict who said he is working hard to avoid AIDS. "You don't have to worry about using someone else's works and when you buy works off the street, you don't know for sure they are new."

Health officials said they are pleased the program is such a suc-



John J.P. Coleman / Special to The Courant

■ A staffer with the Hartford Health Department's needle exchange van hands a set of clean needles to a client, left, at Albany Avenue and Bedford Street in the city.

cess and say they are looking for more money to try to expand the program so it can stop in more places and operate five days a week.

"It is successful beyond our expectations," said Assistant Health

Director Ann Darling, who supervises the health department AIDS program. "The acceptance by drug users has been overwhelming."

Acquired immune deficiency syndrome, or AIDS, is the leading cause

of death among young men in Hartford. Most of the city's AIDS cases — about 70 percent — are attributed to intravenous drug use. Without a steady supply of new needles, users often share old needles, spreading the disease.

Since the early 1980s, 795 city residents have been diagnosed with the disease and 390 have died.

The needle exchange van — it is actually a converted white-and-green recreational vehicle — is run by three workers, one white, one black and one Hispanic. They were selected as part of an effort to develop a rapport with drug users. The van is supervised by John Corcoran, a 48-year-old Vietnam veteran who has worked as a drug counselor and stockbroker. Corcoran works for the city health department, while the other two staff members are employed by Latinos/as Contra SIDA and the Urban League of Greater Hartford.

Drug users are given one needle

Please see Health, Page A4

A4 THE HARTFORD COURANT, Monday, September 27, 1993

Health officials call needle exchange effort a success

Continued from Page 1

for each one they turn in, with a maximum of five per day. They are also given a brown bag filled with alcohol prep pads, two small plastic bottles of water and bleach, several condoms and bottle caps used to mix the drugs. Referrals to drug treatment or AIDS testing and counseling programs are also made, if the client is interested.

On a recent day this month, 75 people exchanged needles and a total of 236 needles were given out.

"This is probably the most important job I've ever done," Corcoran said this week, while on the van. "This is not going to promote people to shoot dope. I am not giving needles to anybody that is not already addicted."

Surveys taken as drug users anonymously sign up for the needle exchange program have produced a profile of the average intravenous drug user.

Over 60 percent of the clients say they had injected drugs more than 100 times in the last 30 days and 13 percent said they had worked as prostitutes.

More than 75 percent of the clients are men and nearly 70 percent of the clients are between the ages of 31 and 45. All but 10 percent of the clients are black or Hispanic. Nearly 20 percent say they are homeless, while only 5 percent said they had jobs. And 74 percent of the people said that even though they are using drugs, they have already been in a drug treatment or detoxification program.

The van stops are on the edge of the city's most active drug markets: off Park Street, Albany Avenue and in Stowe Village. Some of the city's most popular shooting galleries are nearby, and many of the users walk directly from the van to abandoned buildings, where they shoot up. Men and women constantly mill around the areas, acting as runners for dealers, who remain out of sight.

All of the drug users interviewed know that they can get the disease by sharing needles. But if no clean needles are available, their need for a shot of heroin or cocaine quickly overcomes their fear.

"When you are dope sick, you don't care," said one 34-year-old woman who has been addicted most of her life.

Tests of used needles collected by the exchange show that 55 percent of them have traces of the virus that causes AIDS, suggesting that more than half of the needle exchange clients already have the virus. The goal over the next several years will be to lower that percentage. One way that number will be cut is by reducing the time a needle spends in circulation, which will decrease the likelihood that the needle will be used by a person with the AIDS virus.

Eventually the program hopes to reduce the percentage of intravenous drug users who have the AIDS virus.

In New Haven, where a needle exchange has been operating for three years, about 40 percent of the needles tested have traces of the virus, down from 68 percent when the exchange started, said Yale Professor Edward H. Kaplan. That decline suggests that there has been a 33 percent reduction in the infection rate among people using the exchange, Kaplan said.

Many of the clients of the Hartford needle exchange program realize they already have the virus that causes AIDS, but they still want clean needles, hoping they will not reinfect themselves or catch some other disease.

Fresh needles also make it easier to inject the drug, resulting in less pain and scarring, they said.

Walter, a 46-year-old addict from Stowe Village, is a regular at the van, even though he is in the final stages of the fatal disease.

"My immune system is very weak," said Walter, whose gaunt face and body and facial sores expose his illness. "Getting reinfected could kick me right off the map."

The needle exchange program did encounter some bumps starting up. Some police officers were initially uncomfortable with the program, and on several occasions during the first weeks they harassed clients or parked police cars next to the van. The stop in Frog Hollow also was moved after complaints by merchants.

Some drug users, particularly those in Frog Hollow, said that they are still afraid to use the needle exchange because of the intense police presence in the area.

"I don't want to be pinpointed," said one addict, who said she buys clean needles at the pharmacy. "I don't use it."

Nationally, there are about 37 needle exchange programs, half of which are legally sanctioned by local or state governments. Connecticut has four of the legal programs. Besides Hartford and New Haven, the programs are in Bridgeport and Willimantic.

A law prohibits the federal government from financing needle exchange programs unless the surgeon general determines that they do not increase drug use and that they reduce the infection rate. A \$400,000 national study sponsored by the U.S. Centers for Disease Control and Prevention that addresses these questions will be released Thursday.

But evidence gathered by Kaplan and other researchers has already put pressure on the federal government to recognize needle exchanges as an effective health measure.

"There have been studies in the U.S., in Europe and in Australia, each with different methodologies," said Kaplan, who is a professor of management sciences and medicine. "The bottom lines all converge: Needle exchange is indeed an effective way of reducing transmission" of the virus that causes AIDS, he said.

In Hartford, the city and state are splitting the \$64,000 annual cost of the program.

"If you save one person's life, you have more than paid for the program," said Merrill Singer, the director of research at the Hispanic Health Council, which is one of the agencies helping to run the needle exchange.

U.S. PRESENTERS

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*WORKSHOP ON NEEDLE EXCHANGE AND
BLEACH DISTRIBUTION PROGRAMS*

Edward Kaplan

September 27-28, 1993
Baltimore, MD

**WORKSHOP ON NEEDLE EXCHANGE AND
BLEACH DISTRIBUTION PROGRAMS**

**EDWARD
KAPLAN**

Omni Inner Harbor, Baltimore, MD
September 27-28, 1993

WORKSHOP ON NEEDLE EXCHANGE AND BLEACH DISTRIBUTION PROGRAMS
September 27-28, 1993, Baltimore, Maryland
LOCATION: LIBERTY BALLROOM A, MAIN LEVEL, Omni Inner Harbor Hotel
101 West Fayette Street, Baltimore, MD 21201; telephone: 410/752-1100 and fax: 410/625-3805

September 28, 1993

PLENARY IV: Evaluation Methods

- FOCI:** research methods and design; measurement issues associated with the evaluation of needle exchange and bleach programs
- 1:00 p.m. Needle Exchange Evaluation Strategies (NOREEN HARRIS AND SHEIGLA MURPHY)
 - 2:00 p.m. Bleach Distribution Programs Evaluation Strategies (EDWARD KAPLAN)
 - 2:30 p.m. Math Modeling (EDWARD KAPLAN)
 - 3:30 p.m. DISCUSSANT: ROBERT BOOTH
 - 4:00 p.m. Snack and refreshment break in foyer

The Hartford Courant.

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1993, The Hartford Courant Co.

Friday, October 1, 1993

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THE HARTFORD COURANT (10-1-93) p. A5

Needle exchanges effective on AIDS, study says

Wire and Staff Reports

SAN FRANCISCO — Programs that supply sterile needles to drug addicts protect them and their families from infection with the AIDS virus and should be part of a broad assault on the deadly disease, a team of researchers said in a federally funded study released here Thursday.

The 18-month study offers the most comprehensive look to date at needle-exchange programs, which allow addicts to trade their used syringes for clean ones, thus reducing the possibility that contaminated needles will be shared and the HIV infection will spread.

The researchers and AIDS activists hope the study will persuade federal officials to lift the ban on using federal funds to pay for needle-exchange programs. State laws

prohibiting the sale of syringes without a prescription should also be repealed, the researchers said. Connecticut has already repealed such a law.

Sponsored by the U.S. Centers for Disease Control and Prevention, the study reviewed the 37 needle-exchange programs operating in the United States and others in Canada and Europe, where the tactic is more widely accepted.

Their most important conclusion, the scientists said, is that needle exchanges are preventing HIV infections in drug users, their sex partners and their children. That finding was based, in part, on evidence collected in New Haven that showed a 33 percent reduction in the rate of new infections among needle-exchange clients.

In another key finding, the scientists said they found no evidence

that distributing needles leads to an increase in drug use — a key argument voiced by critics.

"Getting a clean syringe into the hands of a drug user — and getting contaminated syringes out of circulation — can prevent HIV infection among users," said Dr. Peter Lurie, who led a 12-member research group at the University of California, San Francisco. "Our research confirms what should have been obvious all along."

Health experts throughout Connecticut praised the report, saying it is time for the federal government to recognize that needle exchanges are an effective way to combat AIDS.

Connecticut has four needle-exchange programs, in New Haven, Hartford, Bridgeport and Willimantic. Statewide, more than half of the AIDS cases diagnosed since the ear-

ly 1980s are attributed to intravenous drug use, with an even higher percentage in the state's largest cities. About 2,245 Connecticut residents have died of AIDS.

"The needle exchange is probably the most effective thing we are doing to curb the spread of AIDS and to protect the public," Hartford Health Director Mark A. Mitchell said Thursday.

Hartford could use federal grant money to expand its needle exchange, which now operates only three days a week.

Yale University Professor Edward H. Kaplan, who works with the New Haven exchange, said he hopes the California study will satisfy needle-exchange critics. Hartford's needle exchange costs \$64,000 a year, while treating a single person with AIDS averages \$119,000, Kaplan said.

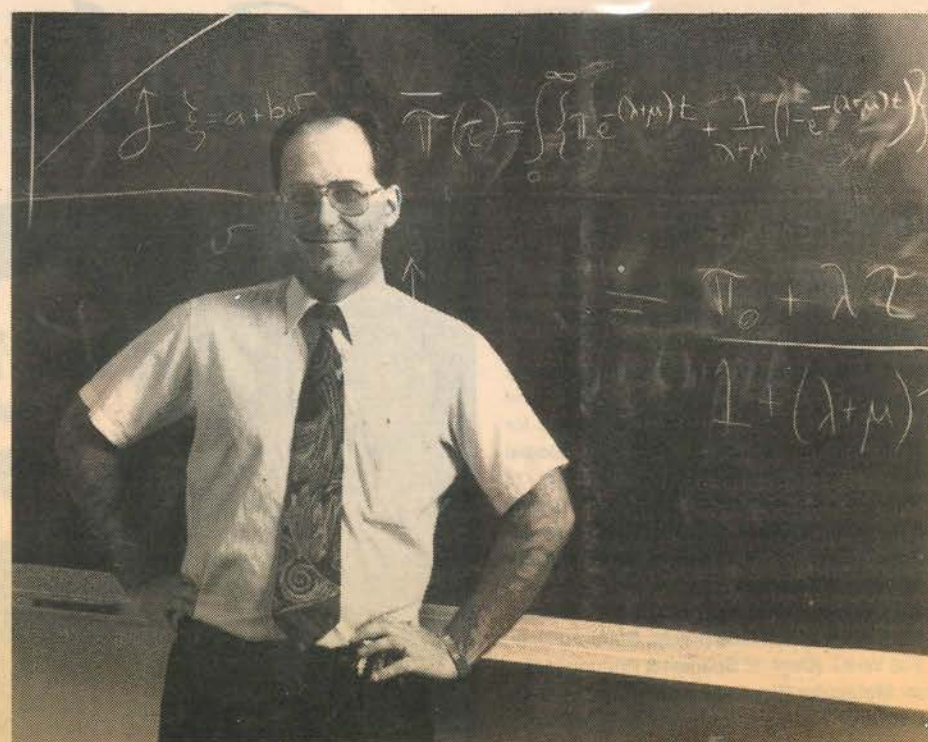
WEEKLY BULLETIN & CALENDAR DEC. 6-13, 1993

7

Study of needle exchange favors continuing program

The success of the three-year-old New Haven Needle Exchange Program and similar programs throughout the world indicates that the federal government should repeal its ban on using federal funds for needle exchange services, according to a comprehensive new study.

The New Haven Needle Exchange Program is supported by the city's Health Department. Edward H. Kaplan, who was recently named professor of management sciences at the School of Organization and Management and professor of medicine in the department of internal medicine at the School of Medicine, is principal investigator of the team of Yale researchers involved in the evaluation study of the program. Also playing key roles in the success of the New Haven Needle Exchange Program were Dr. Robert Heimer, assistant professor of medicine; Dr. Edwin Cadman, Ensign Professor of Medicine and chair of the department of internal medicine; and research assistant



Edward H. Kaplan

Studies in U.S. Back Needle Exchanges

To the Editor:

NYT 2-1-94

"Needle Exchanges Can Work" (editorial, Jan. 24) states that "a growing body of data now suggests needle exchanges offer more promise than risk." Yes, however, it is not mostly "a smattering of studies conducted abroad" that supports the efficacy of such programs.

The most comprehensive United States study of needle exchange programs, financed by the Centers for Disease Control and Prevention, was released last Sept. 30. Conducted over 18 months by researchers at the University of California at San Francisco and at Berkeley, it evaluates needle-exchange programs in North America, Europe and Australia.

Further, under the auspices of Representative Charles B. Rangel, chairman of the Select Committee on Narcotics Abuse and Control, the General Accounting Office released a report last March endorsing needle exchange programs as an AIDS-prevention strategy among drug injectors.

Both these studies cite the pioneering work of Prof. Edward H. Kaplan of the Yale School of Organization and Management in modeling the dynamics of needle exchange. Together with the laboratory research of Dr. Robert Heimer at the Yale Medical School, who has tested needles for the presence of HIV, these Government-financed investigators have provided a scientific foundation for the New Haven needle exchange program, the success of which has inspired similar programs in many other American cities.

KARIN A. NOBILE
Asst. Media Relations Director, Yale
School of Organization & Management
New Haven, Jan. 26, 1994

THE WHITE HOUSE
WASHINGTON



THE WHITE HOUSE
WASHINGTON

February 28, 1994

Edward H. Kaplan
Professor of Management Sciences
and Medicine
Yale School of Organization and Management
Box 1-A
New Haven, Connecticut 06520-7368

Dear Ed:

Thank you for the paper on AIDS policy modeling. It is a helpful framework for considering how to better anticipate and evaluate the impact of what we do.

I hope all is going well, and I look forward to seeing you before too long.

Sincerely,

Kristine M. Gebbie, R.N., M.N.
National AIDS Policy Coordinator

AIDS policy modeling by example

Edward H. Kaplan[†] and Margaret L. Brandeau^{*}

AIDS 1994, 8 (suppl 1):S333-S340

Keywords: AIDS policy, mathematical modeling, program evaluation, policy analysis, resource allocation, HIV transmission

Introduction

Many interventions to slow or halt the AIDS epidemic have been proposed. Some, including needle-exchange programs, high school-based condom availability programs, mandatory contact tracing, screening programs targeted to specific population groups, and immigration bans on HIV-infected individuals, have been vigorously debated. Decision makers often do not have reliable information about the probable worth of a given intervention, or about the appropriate allocation of resources among competing programs. However, doing nothing also represents a policy decision—and possibly a costly one.

Policy modeling can provide AIDS decision-makers with quantitative estimates of the outcomes of a given intervention, and the uncertainty of these estimates. Policy models can also identify the effects of interventions that are not modeled, and the costs and benefits of good policy decisions. For making explicit the underlying assumptions of a given policy, following from Grover and his health-care or grants (including they might be able to hear HIV-infer

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the immigration of people at risk for heart disease. That proposals for banning the latter group have been voiced suggests that the arguments of wishing to bar HIV-infected immigrants on of avoiding additional health-care costs unjustifiably against HIV-positive immigrants. In the past few years, policy in a range of AIDS-related issues. For instance, in addition to analysis of immigration have been developed testing programs (6,7), protective and policy between. Policy

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EDITORIAL REVIEW

A circulation theory of needle exchange

Edward H. Kaplan^{*†‡} and Robert Heimer[†]

AIDS 1994, 8:567-574

Keywords: Needle exchange, program evaluation, injecting drug users, HIV transmission, policy modeling, polymerase chain reaction, mathematical modeling

Introduction

HIV infection and AIDS are transmitted, amongst other routes, through sharing of drug-injection equipment. Almost one-third of the AIDS cases reported in the United States has been associated directly or indirectly with drug injection [1]. Needle-exchange programs have been established with the aim of slowing the spread of AIDS by enabling drug injectors to trade used for clean needles [2-4]. Such programs have existed for some time in Europe and Australia, where they are widely accepted as preventive. More recently, programs have started in Canada and the United States [5,6]. Aside from the political controversy that accompanies discussion of these programs in the United States [7,8] is the question of effectiveness: do needle-exchange programs reduce HIV transmission among participating drug injectors?

Several published studies suggest that these programs offer considerable protection against HIV infection [9-15]. Many of these studies rely on needle-exchange participants' self-reported changes of risky behavior as a principal data source [16]. However, in an environment in which injectors are repeatedly informed of the health risks associated with needle sharing, it is perhaps not surprising to learn that clients report reductions in needle-sharing rates after exposure to needle exchange. That the potential for social desirability biases in self-reporting exists

in no way proves that the behavioral studies are wrong. However, since it is difficult to verify self-reported behavioral changes, there is a role for studies that rely on other data sources. (We recognize that the policy relevance of this argument is less pressing outside the United States.)

Another concern is that, even if behavioral data are reported accurately, it is not clear what role needle-exchange operations play in eliciting behavior changes [17]. To establish the efficacy of needle exchange requires a clear linkage between the distribution and return of needles on the one hand and HIV risk reduction on the other. It is the specific effect of needle exchange on HIV transmission dynamics that should be estimated.

Here, we formulate a circulation theory of needle exchange that highlights the fundamental impact such programs have on the behavior of needles, and present data derived from 20 months of needle-exchange operations in New Haven (Connecticut, USA), which are free from self-reporting concerns. We begin with a discussion of our primary data source, the syringe tracking and testing system. In the following sections, we integrate an intuitive account of the theory with more formal mathematical developments facilitating empirical tests of the theory developed. We also consider competing hypotheses, which, if correct, could explain some of the observed data without ascribing any benefit to

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HIV Incidence Among Needle Exchange Participants: Estimates from Syringe Tracking and Testing Data

*Edward H. Kaplan and †Robert Heimer
Yale University, New Haven, CT, U.S.A.

Summary: This paper develops a statistical procedure for estimating the HIV infection rate among needle exchange clients without using any self-reported information. Instead, data are accumulated by following the distribution and return of sequentially labeled syringes and by testing a sample of returns for the presence of HIV-1 proviral DNA using polymerase chain reaction. For each drug injector in the sample, a maximum likelihood change point model is constructed to determine if a statistically significant upward shift in the fraction of needles tested HIV positive is evident, as would occur if the injector is infected. A second maximum likelihood change point model is applied to the syringe tracking and testing data to estimate the HIV incidence rate among new infections per 100 drug exchange participants per year.

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Dean Stanley J. Garstka cordially invites you to celebrate the research achievements of the National Institute on Drug Abuse-funded project, A Syringe Tracking and Testing System for IVDU Epidemics (Professor Edward H. Kaplan, Principal Investigator).

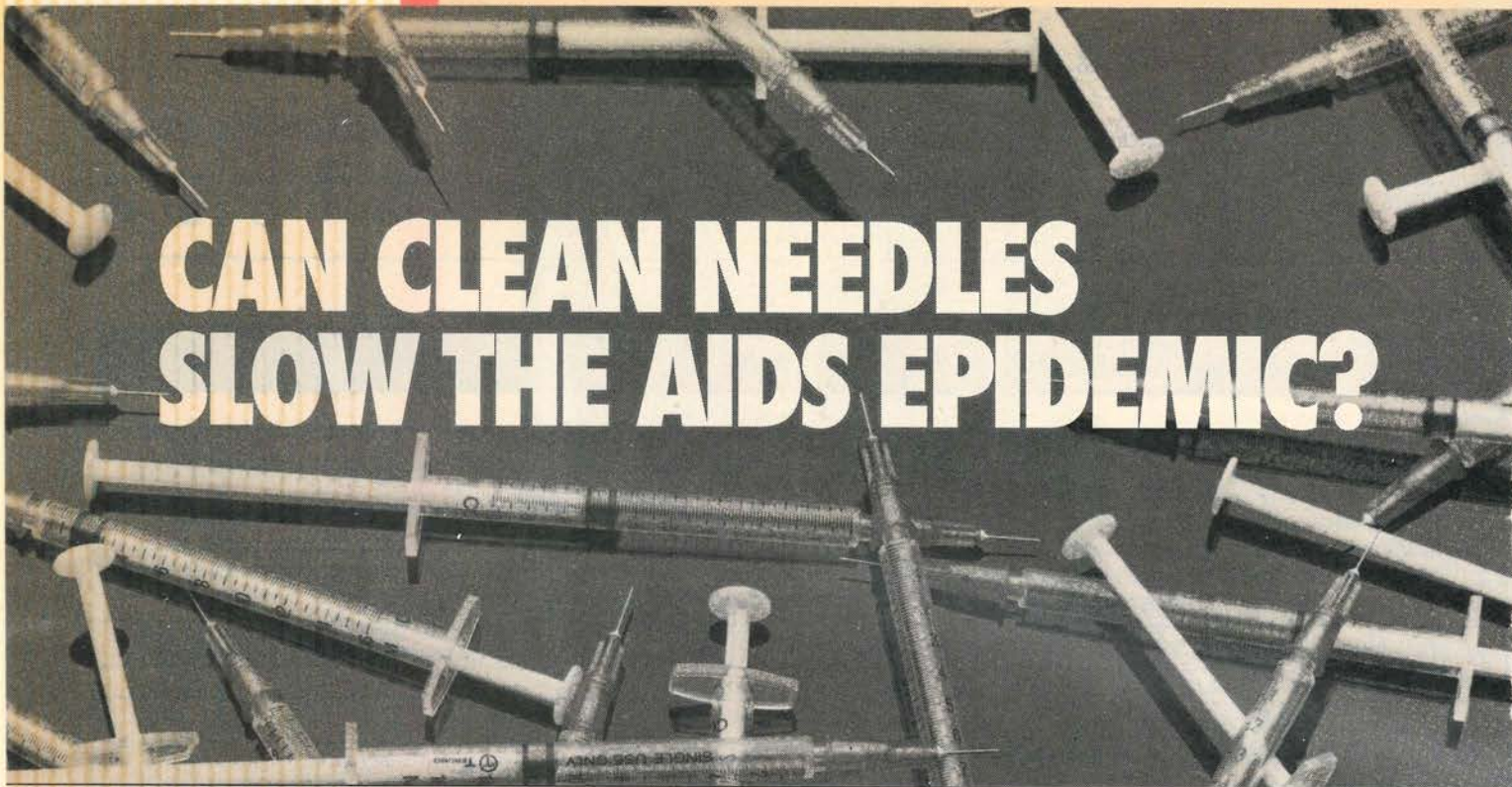
As this project comes to a close, the research team will display published papers, conference posters, and slide and video shows documenting the project's major research methods and findings. Also, our special guest, Dr. Peter Hartsock, of the Division of Epidemiology and Prevention at NIDA, will discuss the project in light of NIDA's commitment to HIV prevention research.

Please join us on:

Thursday, April 6
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A light luncheon will be served in the Horchow Hall sun parlor.



CAN CLEAN NEEDLES SLOW THE AIDS EPIDEMIC?

The message was "just say no."
The AIDS virus paid no attention.
From New Haven comes a more
effective message.

Early in the AIDS epidemic, even before the virus that causes it was identified, it was clear the mysterious disease was spreading rapidly among drug users. Soon it was also appearing in their sexual partners and their children. AIDS is now among the 10 most common causes of death in American children under five. In New York State, it is the second leading cause of death in black children under five, and the leading cause of death in Hispanic children of that age. Just east of upper Manhattan, in the South Bronx, almost 5 percent of all children under 13 years old—an estimated 4000 in number—are infected with the AIDS virus.

Moreover, the number of children affected is rising rapidly. New cases of pediatric AIDS in 1992 rose 13.4 percent over 1991, some 13 times the rate of increase among drug injectors themselves. Among women of child-bearing age infected sexually (primarily by addicts), the rate is rising even faster. In 1992, 2442 women were diagnosed with AIDS con-

tracted sexually, a 17 percent jump over 1991 and the highest increase for any group. For the first time, the annual number of such cases surpassed that of women who inject drugs. Overall, the number of drug-related AIDS victims among those who have never injected drugs now exceeds 15,000.

An escalating epidemic

Human immunodeficiency virus, or HIV, the agent that causes AIDS, is transmitted by sexual intercourse, by injection or transfusion of HIV-tainted blood or blood products, and from an infected mother to her fetus or newborn. One-third of the 339,000 AIDS cases reported to the U.S. Centers for Disease Control and Prevention (the CDC) by late 1993 have been associated directly or indirectly with injecting heroin, cocaine, or both. Some 60 percent of all those affected have died—a greater number of fatalities than the nation experienced in Vietnam.

In striking contrast to health-care workers, who have rarely been infected with HIV in thousands of needle-stick exposures to it, drug injectors have rapidly acquired the infection. Laws restricting possession of injection equipment, under penalty of imprisonment, encourage the sharing of needles and syringes. And frequent injections—often three to four times a day among heroin users and even more among cocaine users—raise the risk of encountering contaminated equipment.

Intravenous drug use has become the most important factor in the

spread of AIDS in the U.S. Although the majority of AIDS cases to date has occurred among homosexual and bisexual men, the percentage of drug-related cases has been increasing while that for homosexual and bisexual men has declined in each of the last three years.

Surging epidemics among drug injectors are not the norm among Western nations. Several European countries and Australia have blunted the spread of AIDS far more successfully than the United States has. Where the U.S. has relied primarily on punishment and advertising campaigns of the "just say no" variety to combat drug use, most Western nations have stressed more direct forms of disease prevention.

To mitigate harm

Even before the threat of AIDS was apparent, the Netherlands sought to prevent transmission of hepatitis B, a common blood-borne infection, by allowing addicts to exchange used needles and syringes for new, sterile ones. As the risk of AIDS grew, cities such as Amsterdam expanded their needle-exchange programs. The government's harm-reduction measures also included regular medical examinations for addicts, distribution of methadone and condoms, and referral to hospitals.

Such efforts appear to be working. In a study published in the American Journal of Public Health in 1991, researchers at the Municipal Health Service in Amsterdam reported that HIV infection rates in a group of 622 drug injectors had remained stable

May 1990, the bill also mandated that the program be evaluated. The state health department chose professor **Edward H. Kaplan** of Yale University's schools of management and of medicine to conduct an independent appraisal.

Evaluating needle-exchange programs has long proved formidable, partly because of the chance that self-reported accounts of drug use could be unreliable. Addicts dependent on a program might conceivably report what they think interviewers want to hear; such self-reports are hard to verify in a scientific way. Thus, even though a variety of studies, both here and abroad, have shown favorable results for needle-exchange, opponents of the programs have commonly attacked the reliability of the findings.

Accordingly, Kaplan devised an evaluation method that departed entirely from previous studies. Instead of interviewing participants, the program would "interview" the needles. They would be tracked by special codes assigned to the syringes themselves and to the participants who picked them up and returned them. Random samples of the returned needles would then be tested for traces of HIV contamination.

The evaluation relied on mathematical modeling techniques to estimate HIV infection rates. The approach was similar to one used to study the spread of malaria, which spreads from humans to mosquitoes and back to humans. In this instance, contaminated injection equipment replaced the mosquito. Overall, the method avoided any dependence on self-reports by addicts or changes in their behavior. It was the behavior of the *needles* that mattered.

Listening to the needles

As the project progressed, random testing of the needles for traces of HIV showed a significant decline in contamination rates. Of 579 program needles tested by March 1991, 50.3 percent were positive for HIV, down from 67.5 percent for a baseline sample of 160 street needles serving as a comparison. Eventually, the contamination rate in program needles fell to 40.5 percent.

On the basis of the contamination rates, the circulation time of the needles, and other data, the mathematical model estimated that the program reduced HIV transmission rates by 33 percent among those who participated.

Two major studies conducted for

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Transcript

DATE June 20, 1995
TIME 10:00-11:00 PM (ET)
NETWORK Discovery
PROGRAM The Cronkite Report

* * * * *

Cronkite: The concept of harm reduction says this: some people always have used drugs and probably some people always will. The object now is to try to reduce the harm that those drugs do, both to the people who use them and to the rest of us. In the era of AIDS, harm reduction takes on new urgency. In America today almost half the new HIV infections trace directly to contaminated needles. So harm reduction means AIDS reduction, and the outstanding example of harm reduction in America today is a little white van that prowls the mean streets of New Haven, Connecticut.

Cronkite: Five years ago faced with an explosion of AIDS among drug injectors, Connecticut changed its laws to allow this. Addicts can come to the van, turn in their used needles and receive the same number of new ones free. The

reason for this. We're a long way from the pretty beach, across the tracks on the wrong side of town. What's happening on and around this old Dodge Dart is against the law here and probably where you live too. Every evening Heather Edney and her young volunteers set up the Santa Cruz needle exchange, offering sterile new needles for old used ones, condoms for safe sex, food if you're hungry, help if you want to get treatment for your drug habit. In Santa Cruz as in most of the country it's illegal to distribute syringes without a doctor's prescription. City officials know the exchange is here, but as long as it stays invisible to the tourists, nobody seems to bother it. In our two hours here not a single police car came by.

Heather Edney (Santa Cruz Needle Exchange): We feel like we have every right to be out there. We're doing this community a service, we're doing them a favor, and they need to recognize that, and they do. Every night that we're out, you know, getting clean needles onto the street is another night that a cop doesn't have to worry about getting stuck with a dirty needle during a pat down. And they've got kids, they don't want their kids to come across dirty needles you know getting stuck in a sandbox. That, when you can put it to them like that, even if they hate drug users, when you put it to them like that they understand it.

Cronkite: Private contributions pay for these syringes, about eight cents each. There's a great deal of controversy about needle exchange and its toleration of drug addiction. And if needle exchange does indeed help stem the AIDS epidemic, there are those who will say, well maybe the people who get AIDS deserve it, which brings us back to Augie and his mother Vickie.

Vickie (Mother): I wasn't gay and I didn't use needles and I caught AIDS.

Cronkite: When Vickie was seven months pregnant with Augie she decided to be tested for HIV. Her doctor told her she couldn't possibly have it; didn't fit the profile. But finally she took the test anyway. Her mother Pam remembers.

Pam (Vickie's mother): She was sobbing so hard she couldn't even talk, and all I finally got out of her was mom I have AIDS, mom I have AIDS. It came from a boyfriend that had been an IV drug user prior to their relationship. Vickie's older son Arland was born before she contracted AIDS. But Augie was born infected with the virus. In her last years Vickie wanted to warn young people about dirty needles and unprotected sex. While she still could she gave talks to school children, and she made this tape.

Vickie: I'm afraid to watch my son die, and I'm afraid to

die myself. Since we both have AIDS I try and make our time together special as much as possible. I keep hoping that he'll have a future, I keep hoping that he's going to live to go through high school and get married and have kids, but in the back of my mind I don't think that it'll go that far, I don't think he'll live that long.

Cronkite: Four years ago when Augie was three, Vickie died. Augie is still here, playing with his friend Heather on the beach. No one can say for how long. But had clean needles been available eight years ago, had one young man used them, Augie might have a future and Vickie might still be alive. Two human faces to keep in mind in the debate over harm reduction and whether to legalize needle exchange in America.

Edney: You know we talk about his mom and how she's in heaven, how she's waiting for him, and he knows that, he knows that he has somewhere to go when it's time, he knows he's got someone waiting for him when it's time. You know at night we go outside and we find the brightest star and we know that that's her saying that she loves him.

Cronkite: In a moment, the most challenging idea of all: should we simply call off the war?

#

FOCUS

In a state of denial

Thousands of Americans will die of AIDS because politicians refuse to believe scientists who say needle exchanges make good sense

Norman Bauman, New York

"EVERYBODY who shoots drugs knows about the needle exchange," says Norman, a New York heroin addict in his 40s. Three years ago he tested negative for HIV, "thank God". He uses a Harlem shooting gallery—an apartment where people go to inject drugs. Clean syringes are part of the service, so he never shares needles. The gallery operator collects clean needles free of charge at a Harlem needle exchange.

Norman is one of the lucky few. There are only 76 needle exchanges in the US—all set up with private money—serving perhaps 10 per cent of its estimated 1 to 2 million intravenous drug users. The problem is that federal funds cannot be spent on distributing needles until President Bill Clinton's health officials acknowledge that needle exchanges reduce the spread of HIV and do not encourage drug use.

At the same time, state laws prohibit the distribution of needles without a doctor's permission. According to Denise Paone of Beth Israel Medical Center in New York, more intravenous drug users live in New York than in any other city in the world—about 200 000 people—and half of them are HIV-positive. Despite the enormity of the problem, New York State legislators still refuse to repeal the needle laws.

Last month, the calls of activists and researchers who have lobbied the Clinton administration to support needle exchanges were repeated by a panel of eminent scientists brought together by the US National Academy of Sciences. The panel's report concludes that American laws "unwittingly" contribute to the sharing of contaminated needles, and that "needle exchange programmes can be effective in preventing the spread of HIV and do not increase the use of illegal drugs".

The activists and researchers say this evidence has been staring politicians in the face for some time. "They've had this information for two years and they haven't acted on it," says Dave Fratello of the Drug Policy Foundation, a lobbying organisation based in Washington DC. Peter Lurie from

the University of California, San Francisco, goes further. "The failure to implement needle exchange programmes is the worst thing that has ever happened in terms of the federal response to AIDS," he says.

In 1993, Lurie wrote a report for the US Centers for Disease Control assessing the public health impact of needle exchange programmes. It reached the same conclusions as the academy report. But Clinton's assistant secretary for health, Philip Lee, says Lurie's report lacked scientific rigour. However, when a copy of Lee's review of the report was leaked to the press last February, it showed that his own staff supported Lurie.

In the two years since his report, says Lurie, HIV has infected 50 000 intravenous drug users, their sexual partners and children. So official delay will cost thousands of lives. "There is now a complete consensus of all the bodies that have looked at this issue," says Lurie.

Paone is also frustrated with politicians' inaction. "They said before we can act on policy we want scientific studies," she says. Her group found that regular participation in exchange programmes cut an individual's risk of HIV infection by half. "So now where's the policy change?"

The academy's report has now added to the evidence in favour of needle exchanges. It drew its conclusions firstly from studies by Edward Kaplan at an exchange in New Haven, Connecticut. These found that over three months the proportion of needles infected with HIV that were returned to an exchange fell from 67 per cent to 42 per cent.

The panel's second main source was a study in Tacoma, Washington, which compared rates of viral infection among intravenous drug users attending a needle exchange with those of people visiting an HIV testing centre and a methadone programme. The incidence of HIV was too low for statistical sampling, so the researchers used hepatitis B and C as



Needle exchanges slow the spread of HIV



surrogates. They found that only 25 per cent of patients who tested positive for hepatitis B had used the exchange, whereas among those who tested negative for hepatitis B, 74 per cent had used the exchange.

"That's awfully close to being a direct demonstration that the needle exchange reduces the incidence of a blood borne viral disease," says Lincoln Moses, professor of statistics at Stanford University, who chaired the academy panel.

The academy's report seems so far to have made little impact in Washington DC. Politicians who have opposed needle exchanges, such as Jesse Helms, the hardline Republican Senator from North Carolina, now refuse to comment. Like many who oppose exchanges, Helms still insists that they encourage drug abuse. Last month, however, members of Helms's staff who follow health affairs did not even know about the academy and Lurie reports.

From the Presidential camp, Lee's response came in a press release that concluded: "We will immediately review the report and its conclusions in consultation with the relevant [Congressional] committees."

While politicians such as Helms oppose needle exchanges on ideological grounds, many people see the Clinton administration's position as purely self-serving. Fratello says the Democrats are afraid that if they endorsed exchange programmes their conservative opponents would say

Drug addicts line up for clean syringes

By MARY PEMBERTON
Associated Press

BALTIMORE — About a dozen addicts, their clothes soaked with sweat and beads of perspiration clinging to their foreheads, line up in the 96-degree heat to get clean syringes.

Tempers flare, but no one relinquishes a spot.

"A lot of people I been getting high with, a lot of people I know, have died," says James, a 28-year-old addict with a \$300-a-day heroin and cocaine habit. "I don't want my honey catching nothing through me."

James twice shared needles because he was "sick" — needing a fix so badly he was in pain. On this, his first visit to the city's needle exchange van, he planned to get tested for AIDS.

Such services have been made possible by a three-year, \$1 million study funded by the National Institute on Drug Abuse, which is attempting to determine the effectiveness of needle exchange programs. Similar studies are being conducted in Hartford and New Haven, Conn., San Francisco and Seattle.

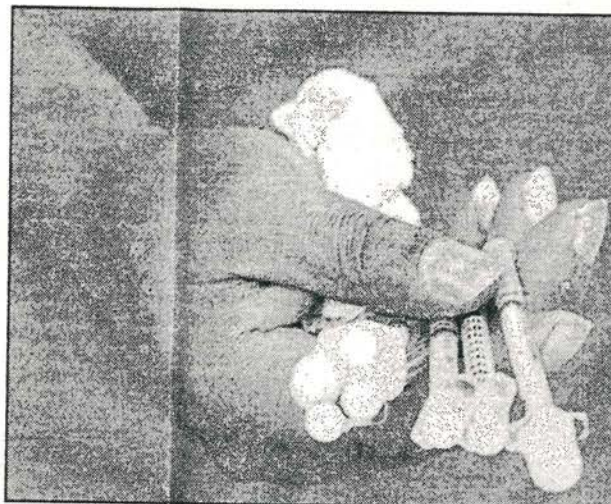
At the year anniversary mark, Baltimore's program already has more than 2,600 clients. But that's only a fraction, however, of the city's estimated 48,000 heroin and cocaine addicts.

The program's goal is to curtail the spread of AIDS, the No. 1 killer of Baltimore's young men and women.

Intravenous drug use is the main avenue for heterosexual AIDS, according to the Centers for Disease Control and Prevention. Of the 31,663 cases among heterosexuals in the United States, nearly half are connected to IV drug use.

In Baltimore, 75 percent of new AIDS cases are among intravenous drug users, their sexual partners and their children, city health commissioner Peter Bielensohn said.

"The cost of AIDS is huge," he said. "For those who are going to continue to



Associated Press

inject, we have to do something."

Bielensohn said it appears the Baltimore program has halved the number of addicts sharing needles, and scientists at the Johns Hopkins School of Hygiene and Public Health — who are conducting the study — know the program has not increased the number of needles found on city streets.

But Dr. David Vlahov, a Johns Hopkins associate professor of epidemiology, said it will be at least a few more months before it is known whether needle exchange reduces the rate of HIV infection among addicts, currently about 4 percent a year. About 30 percent of addicts in the program are infected with HIV, he said.

Baltimore's program is modeled after one begun in New Haven in 1990. That program has cut the rate of HIV infection

among intravenous drug users by one-third, said Edward Kaplan, a Yale University professor of management sciences and medicine.

In Baltimore, each clean syringe has been bar-coded so scientists will know who received it and how long it remained in the community. Some of the syringes also will be DNA-tested to determine if more than one person used it and if the users have HIV.

Along with clean syringes, addicts receive alcohol wipes, cotton and a metal dish to cook heroin. If they want, they can get bleach to clean dirty needles and condoms to keep from transmitting HIV, the virus that causes AIDS, to their sexual partners.

"We don't judge them. We don't tell them to get tested. We just try to get them to be safer," said Michele Brown, director

of the Baltimore program.

About 20 percent of addicts seeking needles decide to get into drug treatment, Vlahov said.

Although needle exchange programs across the country appear to be having a positive impact, a program operating in Chicago since 1992 has not reduced the number of addicts sharing needles, said Mary Utne O'Brien, associate professor of epidemiology at the University of Illinois Chicago School of Public Health.

Instead, it has created a black market for clean syringes, she said. About 80 percent of addicts receive three times more needles than they use, she said, and barter or sell the rest for drugs.

"We have not found less risk behavior reported by those who use needle exchange," O'Brien said. "I think addicts are going in for economic reasons."

And Michael Gimbel, director of the Office of Substance Abuse for Baltimore County, argues that long-term drug treatment programs are a far better approach than needle exchange. He kicked his heroin addiction in 1972 by going into drug treatment for a year.

"All we are doing is giving them a needle for a day," he said. "I was an addict, I know. They don't care about AIDS. ... All they care about is getting their next fix of heroin."

Back at the line in the baking heat, a young woman steps inside the van, plucks three dirty syringes from her plastic cosmetic case and places them on the counter. A man comes in with a few dozen syringes crammed into an empty potato chip can.

George, a 43-year-old addict, said he once got endocarditis — an inflammation of the heart lining caused by a bacterial infection — from repeatedly using the same dull needle.

"One time I kept using and using and a piece of skin got stuck in my vein," he said. "Now, I use them and exchange them."

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Needle Exchange Program Yields Results

Yale administrators, faculty in management and medicine, and state and local government officials will assemble Thursday, April 6, at the Yale School of Management (SOM) to celebrate the research achievements made possible by the National Institute on Drug Abuse's (NIDA) three-year grant project: *A Syringe Tracking and Testing System for IVU Epidemics*.

The reception will be held from noon to 2 p.m. in the General Motors Room of Horchow Hall, 55 Hillhouse Avenue. There, Yale researchers will display published papers and conference posters from the Inter-

national AIDS Conference, and show slide and video presentations documenting major research methods and findings. Dr. Peter Hartsock, from NIDA's Division of Epidemiology and Prevention Research, will offer remarks. Members of the Yale community are cordially invited.

The NIDA-funded research project, which began in April, 1992 and will conclude this March 31, was led by Edward H. Kaplan, Ph.D., professor of management sciences at SOM and professor of medicine at the Yale School of Medicine. The grant enabled Yale researchers to track syringes

that were distributed in a needle-exchange program operated by New Haven's Department of Health. The results of their comprehensive research efforts quantify that such programs reduce the rate and risk of HIV infection.

"This project was the first federally-funded study of the efficacy of needle exchange in reducing HIV transmission among drug injectors," said Kaplan. "It provided objective evidence that the New Haven program reduced HIV transmission risks."

According to City Health Director William P. Quinn, "The success of this project

demonstrates the way the City of New Haven and the University working together can have a profound impact on the public health of this community as well as the rest of the country."

For his analysis of New Haven's legal needle-exchange program (together with Elaine O'Keefe, former AIDS director), Professor Kaplan earned the Franz Edelman Award for Management Science Achievement from the Institute of Management Sciences.

counts an equal number of new syringes labeled with bar codes.

After waving them through a laser to register the syringe under the person's code number, the staffer drops the syringes into a crisp, brown lunch bag.

Picking up the bag, the user leaves with, "Have a nice day."

"They just scan. It's like a grocery store," said Dr. Beilenson. In the early months, when as many as 80 to 90 new drug users were coming to the van a week, the team even established an express line, for those who were already registered.

Earl Roscoe, 39, said he used to steal needles from hospitals and diabetics. He shared needles with other people to get high. But for the past four months, he's been using only sterile needles.

Through the caring, nonjudgmental attitude of the van's workers, Mr. Roscoe also leaves the van with something equally precious.

"It's not just to get a needle and go out and shoot dope," Mr. Roscoe said. "They help you."

Each year for three years, the National Institute on Drug Abuse is funding a \$200,000 evaluation of the program, considered one of the most extensive studies of any needle exchange program in the country.

Dr. David Vlahov, associate professor of epidemiology at the Johns Hopkins School of Hygiene and Public Health, said his team is examining how much the needles have been shared and the prevalence of HIV, the human immunodeficiency virus. It's too early to know if Baltimore's program is slowing the spread of AIDS.

"The initial data is very encouraging," Dr. Vlahov said. "We're seeing reductions in high-risk behavior."

Mayor Kurt L. Schmoke finally won approval last year from the state legislature for the city's health department to run a needle exchange program. The city spends roughly \$410,000 a year on the program, half of that for 90 treatment slots.

Providing money for treatment has opened a door for a group of hard-core addicts who have never been in treatment. They struggle, and some still use drugs occasionally. Others have started school or found jobs. And after years of being acutely aware that many people don't even want to touch them, some have recovered their dignity.

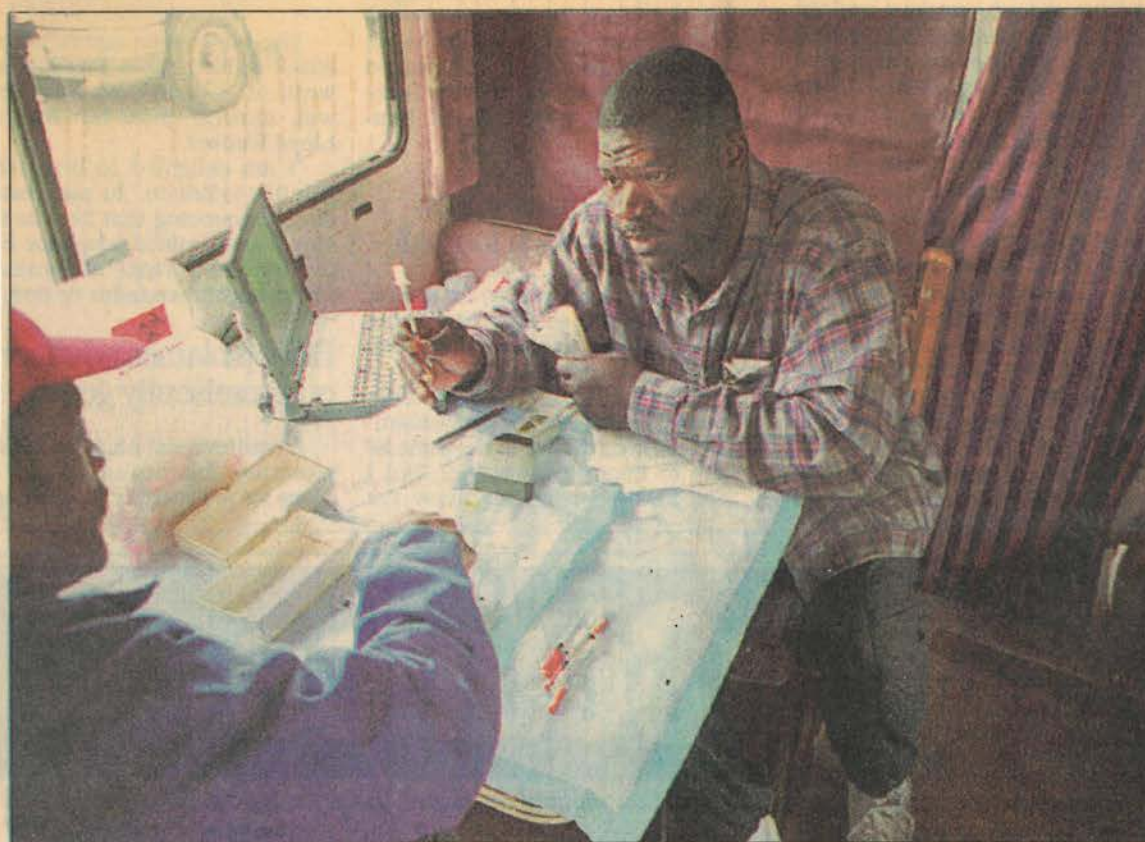
Pam Day, 34, said she was able to do perhaps the most important thing she'll ever do.

"I've always been a little baby, a spoiled brat," said the West Baltimore woman. She didn't have to work because her mother always took care of her. But about the same time Ms. Day got into treatment, two strokes incapacitated her 72-year-old mother. And because Ms. Day had stopped using heroine and cocaine, she was able to care for her.

Feeding her mother, cleaning her, telling her she loved her, Ms. Day knew she was finally doing something right.

"I knew that after all the things I put her through, in a way, I had made amends. I was there when she needed me most," Ms. Day said. On the March day her mother died, Ms. Day was by her side, trying to make her comfortable.

"I felt as though she was at peace,



ANDRE LAMBERTSON/SUN STAFF PHOTO

George Laney, a staff member of the Baltimore City Health Department's Needle Exchange Program, screens a participant in the mobile unit on North Caroline Street.

SYRINGE TRADE FIGHTS AIDS

9024-Edward Kaplan
Enrollment exceeds
expectations by far

FRONT PAGE

By Diana K. Sugg
Sun Staff Writer

In the chilly wind and spitting rain, a dozen people lined up alongside the Winnebago, quietly waiting their turn. One by one, they climbed into the warm van, nodding hello.

Then they got down to business.

Reaching deep in their pockets, plastic bags and even a child's lunch box decorated with cartoon characters, they pulled out handfuls of syringes — needles they had used to inject themselves with heroin and cocaine. Some had five or six, others as many as 80.

Because he knew he wasn't taking care of her and his two sons.

They were living with his mother-in-law on Mount Street. He heard about the needle exchange site nearby and got there an hour early one day, sitting on the cold sidewalk to make sure he wouldn't miss the van.

Now Mr. Alston is working at a fast-food restaurant, supporting his family. "I feel great," he said. "I'm just glad they took the time out to give me help."

Mr. Alston and Ms. Day are now in rehabilitation at Bon Secours Hospital's New Hope Treatment Center. Anne Carney, the center's director of substance abuse programs, said the center sees people who have never been in treatment, particularly women who need extra support because of child care or domestic abuse issues. New Hope started two women's

This is the Baltimore City Health Department's Needle Exchange Program. After nine months, it has attracted about 2,300 people — nearly five times more than anticipated for the entire first year. Based on results so far, city Health Commissioner Dr. Peter Beilenson wants to double the number of locations and people served, if money can be found.

Police, residents and drug users say the program has cut down on syringes on the sidewalks and addicts on the corners. A significant proportion of participants are now injecting drugs at home rather than on the street or in a crack house. And a scientific study has determined that they are sharing half as many needles — lessening the chance of spreading AIDS.

The van visits North Caroline Street in the morning and North

Mount Street in the afternoon every day except Wednesday. Now other neighborhoods, such as Park Heights, want a site.

"It would help the community tremendously. A lot of diabetics are getting robbed of their needles," said Goldie Mason, president of the Alcott Tenant Association.

"Some people don't want it in the neighborhood, but you can't get rid of the junkie. The junkie is in your neighborhood already."

The premise of the program is that making needles readily available prevents drug addicts from spreading the acquired immune deficiency syndrome and other infectious diseases.

At a counter inside the cream-colored van, a drug user spreads out dirty needles. A staff worker

See **NEEDLES**, 18A

are the regular participants of IV drug users and their babies. AIDS is the No. 1 killer of all young people in Baltimore, black and white, male and female, ages 25 through 44.

Needle exchange workers counsel the people who come to the van about AIDS and not sharing needles. They're encouraged to be tested for HIV. All they have to do is walk a few steps to the back of the van, where their blood is drawn.

Two weeks later, in that same small space, behind a folding door, they are told the results. Michele Brown, the program's director, remembers the day that every person she informed was HIV-positive.

"I try to explain to them that this knowledge is better to have. But I don't think I'll ever get used to it."

In the middle of the van, a first-timer is registering. Staffer George Laney reads off the questions and

taps the answers into a laptop computer. The participants never have to give their names, and the only way they are identified is through a code number.

"When did you first use IV drugs? Do you shoot cocaine? Heroin? How many times a day?"

Mr. Laney hands the person a card, explaining he can show it to police so he will not be prosecuted for possession of the coded syringes.

Then Mr. Laney grabs the man's hand and looks straight into his eyes: "Come back, man."

About a quarter of the people who use the needle exchange program want drug treatment. Many said they had been turned away elsewhere because they had no health insurance or waiting lists were too long.

There are roughly 48,000 drug addicts in Baltimore and only about 5,700 treatment slots.

Others, such as a Dundalk mother and her 17-year-old daughter, who came to the Caroline Street site one morning, aren't looking for treatment. They just want to avoid AIDS.

Needle-exchange critics such as Mike Gimbel, director of the Baltimore County Office of Substance Abuse, said all the money should be spent on treatment.

"We've got to come up with long-term solutions that will change behavior, and these kind of programs do not change behavior, they actually support their behavior," said Mr. Gimbel, a former heroin addict. "I'm very concerned that there's a hidden agenda here. It's the first step towards legalization of drugs."

While acknowledging that the needle exchange program sends a mixed message, Dr. Beilenson said something had to be done to try to slow the spread of AIDS.

Some people point to results from a similar program in New Haven, Conn., which has been able to reduce the rate of new AIDS infections by about 40 percent, according to Yale University's Dr. Edward Kaplan.

The National Institute on Drug Abuse is funding several studies to examine the effectiveness of needle exchanges. Dr. Harry Haverkos, director of the institute's Office of AIDS, said some programs have shown significant success. However, he said researchers in other cities are preparing to publish studies that raise some concerns.

So far, Baltimore's needle exchange program has gone smoothly except for a few instances of people trying to sell the needles.

"There was a lot of skepticism ... but we haven't had any problem," said Maj. Alvin Winkler of Baltimore City Police. "It's been fantastic."

Henry Brandon, 46, said people sometimes are embarrassed standing in line outside the van. Others aren't shy. Herbert Thomas, 33, has been touting the program among his acquaintances in West Baltimore because he believes they need it.

"Lots of people walking around here don't care about themselves. You can see it in their faces. All they're living for is to get high," Mr. Thomas said. "It's pathetic."

Standing next to him, staring down the street, Willie Williams, 31, said something under his breath.

"That's me."

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More governments choosing needle distribution

By JOSEPH DEE
Staff Writer

TRENTON — New Jersey lawmakers and Gov. Christie Whitman are becoming increasingly isolated in their stances against needle exchange programs.

Critics of the current law, which makes it illegal to possess or distribute hypodermic needles for the purpose of injecting illicit drugs, argue that it is destroying lives.

While the debate meanders along, illegal needle exchanges such as the one Diana McCague and her cohorts started in New Brunswick might sprout up elsewhere. Needle exchanges have proven to be a popular source of sterile needles among addicts who are not ready to give up drugs but who hope to avoid becoming infected with the AIDS virus.

Trenton City Council President William Young said he has ambivalent feelings about needle exchanges. "You give them needles because you know they are going to shoot up. Some of those people you see at Five Points (also known as the Battle Monument) have been doing it since the beginning of time," Young said.

"But I'm opposed to anything that encourages people to do drugs," Young said. The fear of AIDS might deter some people from starting to use heroin, and that the availability of clean needles would remove that deterrent. "People might think, 'Hey, I've got no risk,'" Young said.

A needle exchange program backed by the government may make some young people think that using heroin is government-approved. "That's what I fear," Young said.

YALE UNIVERSITY Professor Edward H. Kaplan, citing a Sept. 1993 report prepared by University of California researchers for the Centers for Disease Control, said there were 37 needle-exchange programs in the United States at the time the report was published. Most of them were legally sanctioned,



Staff photos by Mark Sherman

These one-time-use hypodermic needles are marked to be used only once.

some were illegal yet tolerated, and others were illegal and underground, he said.

Sen. Wynona Lipman, D-Newark, is the sponsor of a bill that would require the state health department commissioner to set up a demonstration needle exchange program in the Garden State. But she admits to having no idea if her colleagues will pass it. "We can probably get it through committee, but through the Senate is another matter," Lipman said.

In New York, where possession of syringes for illicit drug use is prohibited, a law gives the state health commissioner the right to designate exemptions for classes of people, such as diabetics.

New York State Commissioner of

Health Mark Chassin designated injection drug users as such a class in 1992, according to Spokeswoman Kristine Smith. "When the state first permitted needle-exchange programs in 1992, about 1,200 people registered," Smith said. "Now there are 22,000 people participating in the seven authorized programs. There are five sites in New York City, one in Buffalo and one in Rochester," Smith said.

NEW JERSEY health Commissioner Leonard Fishman has no power to designate exemptions. Efforts to reach him were unsuccessful.

Asked if the health department has any plans to spearhead an effort to permit needle exchanges, Deputy Commissioner Leah Ziskin said,

"We're aware of the governor's position. Mr. Fishman and others continue to gather all additional information on this subject. The department is aware that the sharing of needles is a significant mode of transmission in this state."

Gov. Christie Whitman was asked recently if she would sign a bill that leaves the decision of permitting needle exchange programs up to municipal officials. "No. To my mind the first test they'd have to pass is they'd have to make drug use legal. It's against the law — we shouldn't be doing it."

The mayor of Los Angeles came to a different conclusion last month when he directed the police to not hassle existing, illegal needle exchanges there. Mayor Richard Riordan



A drug addict injects himself.

declared an AIDS crisis and directed the city attorney and the police department to avoid investigations of needle exchange programs. Such programs are illegal under California law.

If activists in other New Jersey cities decide to reproduce the type of needle-exchange program McCague and her associates have been operating in New Brunswick since January, there is no way to predict how local law enforcement officials will react.

MERCER COUNTY Prosecutor Maryann Bielamowicz said it is unlikely that her office would get involved if a program started up anywhere in the county. Unless it was a large-scale operation or needles were being given to minors, she would leave it to local police and municipal court officials to handle the matter, Bielamowicz said.

But Trenton's Deputy Police Chief Joe Constance said he would take a rigid law-and-order approach if a needle exchange program cropped up in Trenton. "It is against the law, and I would enforce the law. It condones drug use. Addicts are always looking for new 'works.' I think it will promote drug use," Constance said. "I'm sure they're doing it to curtail AIDS. My point is get off

drugs, get into a program. That will prevent AIDS. Next we will be giving away drugs," Constance said.

After she was informed that an illegal needle exchange was in operation in the state, Gov. Whitman was asked if those who are giving out needles should be punished. "Well frankly, in the scope of what we have to face on the war against drugs they're not the first place I'd go to enforce the law. But it is illegal and if there are extra resources then — what they're doing is illegal — but it's not what I'd put on the top priority in the way to deal with the war on drugs."

NEW JERSEY was moving toward legalizing needle exchange programs under the administration of former Gov. Jim Florio, according to Bruce Siegel, who served as commissioner of the health department from 1992 until January, 1994.

"I think needle exchanges are important," Siegel said. "There is a big body of research that shows they are effective. And there is no evidence that needle exchanges lead to more drug use. I wish that when I was health commissioner we could have gotten a bill passed legalizing this in New Jersey."

"Needle exchanges are a piece of the puzzle. It's one part of what needs to be done," said Wayne Wiebel, Professor at the University of Illinois at Chicago's School of Public Health. Wiebel, who has run an AIDS community outreach program in Chicago since the mid-1980s, said, "Everyone agrees that users need to be helped to get off drugs. They need to be channeled into the existing system that can provide AIDS education, a disinfectant, medical treatment and drug treatment."

Wiebel said his research shows there is a huge savings when the cost of needle exchange programs are compared to what comes out of taxpayers' pockets when an uninsured addict develops AIDS. Kaplan said the average cost of treating an AIDS patient is \$119,000.

Until and unless there is a change in state law, illegal programs like the one in New Brunswick will serve a vital role, said Siegel, who serves on needle exchange's advisory board at McCague's request.

"I think they're headed in the right direction. They're brave people," Siegel said. "You've got an epidemic, it's killing people, and you have a tool that can't stop it but can slow it down. It should be used."

Christie Whitman
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Addict

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"I saw someone use a needle after someone who they knew was infected. It's just desperation. The sickness is so great," he said.

A needle-exchange program definitely would help the addicts in Trenton avoid getting AIDS, said Kevin, who said he knows 30 to 40 users and presumes there are many more

that many here. "If there was a swap program, I'd use it," he said.

He believes such a program would have other benefits. Addicts often throw out broken sets in parking lots, on streets and other places where they could be found by children, he said. If there was a needle exchange program that required addicts to return a needle to get a clean one, those used and possibly contaminated needles would

not be tossed to the ground, Kevin said.

"What if some little kid picks it up, pricks himself, and gets AIDS? I bet it has happened. That wouldn't happen if there was a swap program," he said.

Kevin said he cannot work full time because of his habit. "I work here and there, but it's hard to hold down a full-time job. I need a bag every morning." He did not say how he came for his habit.

He said he tried to free himself from heroin by going to a detoxification program in Camden, but said they released him after just five days. "They didn't keep me long enough. After nine years, five days is not enough."



Diana McCague

"All needle exchanges start illegally. If we wait for legislation, we'll have to wait a really long time," said Diana McCague, who started the needle exchange program in New Brunswick.



Trenton police Deputy Chief Joe Constance

"I think it will promote drug use. I'm sure they're doing it to curtail AIDS. My point is get off drugs, get into a program — that will prevent AIDS. Next we will be giving away drugs," said Trenton police deputy chief Joe Constance.

Times graphic by Laura Sommerville

Needles

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been 534 AIDS cases in Mercer County, of which 519 are among adolescents and adults. Of those 519 cases, 272 are related to injection drug use, according to Department of Health statistics through June 30.

Department spokesman Bernard Edelman said some of the other Mercer County cases in other tracking categories also relate to injection drug use. He estimated that 60 percent of the cases in the county relate to dirty needles.

MCCAGUE AND her helpers secretly have handed out about 250 kits, each containing four disposable hypodermic needles, bleach for cleaning them, cotton balls, alcohol pads to sterilize the skin and a bottle cap for cooking heroin. Sometimes when they run out of the kits they give just the syringes. In all, McCague and her associates have given out 1,187 needles. Addicts have returned 82.

This article represents the first time McCague and members of the Chai Project have publicly revealed their activities. They hope the disclosure will revive the debate on the issue, which now is languishing in

the halls of the State House.

They realize that not everyone agrees with what they're doing. Those opposed to needle exchanges believe that handing out needles condones, and even encourages, drug use. They worry that syringes might fall into the hands of children, encouraging them to take up hard drugs.

Members of Chai, which means "life" in Hebrew, believe those concerns are unwarranted or alarmist. Besides, they stress, if 60 percent of the heroin addicts are infected with HIV, that means 40 percent are not. But with a single needle being used over and over again, those 40 percent may not hold out long.

"What I want to see as an outgrowth of what we're doing is for other people to see that it can be done," McCague said on a recent afternoon.

Possession and distribution of hypodermic needles for the injection of illicit drugs is a violation of state law and constitutes a disorderly persons offense, which carries a maximum sentence of six months in jail, according to Mercer County Prosecutor Maryann Bielamowicz.

MEMBERS OF Chai don't know if going public will land them in jail. New Brunswick police department Director Michael Beltranena

reacted calmly when he was informed that needles are being given away. He asked about the purpose of the group and whether group members encourage addicts to seek drug treatment. "This group is trying to prevent the spread of AIDS and is urging people to get drug treatment. It's quite admirable," Beltranena said.

"Are we going to allow drug dealing? Of course not. But here in New Brunswick there is a concern about AIDS and we must be sensitive to it. My officers would have discretion depending on the situation, to summons and release them or just send them on their way."

Repeated attempts to reach New Brunswick Mayor Jim Cahill were unsuccessful.

In Trenton, Mayor Douglas H. Palmer said of needle exchanges "It's something I would consider. I wouldn't say 'no' to one — I would look at all the options."

Palmer noted that state law prohibits the dispensation of needles to addicts and that he has sworn to uphold the law. "I would consider a needle-exchange program here if the city with proper legislative authorization. We'd have to have a full blown public discussion to educate

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