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HIV/AIDS Spread Through Shared Needles—Analysis and Action

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HIV/AIDS Spread Through Shared Needles—Analysis and Action

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"The changing demographics of the AIDS epidemic demand careful consideration as we plan our research agenda, because different prevention and intervention strategies must be applied to each sub-epidemic, here and around the world."

Dr. Neal Nathanson, Director of AIDS research
United States Department of Health and Human Services

I. Introduction

AIDS exists today as a crucially relevant subject within the global community. In the short span of less than two decades, AIDS has come to affect every culture and society on the planet, creating immense health, safety, economic, and policy concerns. The vast spread of the disease within such a small window of time has created the need for a proactive and productive counter-attack. In order to prevent the spread of and effectively conquer the HIV virus, individuals must actively involve themselves on the local, federal, and even global levels to affect change.

Rather than concentrating on the re-circulation of data and re-presentation of facts and policy, this work will focus on the disclosing of information that might possibly lead toward an ultimate goal of increased awareness and action.

This paper will focus on the spread of HIV/AIDS through injection needles within the context of the United States. It is nearly impossible to provide mathematical statistics for the overall effect of AIDS spread, based on needle sharing, on the entire world community. Aside from infecting each other, injection drug users (IDUs) introduce HIV into the non-IDU population pool through sex, blood transfusion, and other transmittable methods. This, in turn, encourages and permits the exponential spread of the disease. Logically, therefore, a prevention of HIV spread among IDUs would not only affect the IDU community, but the global community as well. Through a coupling of societal and federal mediums, there exists a genuine opportunity to decrease the spread of HIV by effectively targeting the IDU community. This opportunity is confounded immensely by the illegal nature of injection drugs and an overall governmental refusal to assist in any real action, aside from the unrealistic and ineffective illegalizing of drug use.

Until this widespread and hazardous epidemic can be successfully
controlled, the global community faces the responsibility of realistically re-focusing its energies and powers. Specifically, the United States government bears the burden of relaxing and augmenting certain active drug laws and policies if any realistic progress on the AIDS front is to be achieved. In order for this to occur, there is a need for strong public awareness and support. As members of society, we individually face the responsibility of knowledge and action. The goal of this project has been to compile information that would facilitate this knowledge and action, and hopefully, affect change.

II. Epidemic

In 1999, President Clinton released to the National Institute of Health, the 2000 fiscal year budget for AIDS research. $1,833,826,000 will be spent this year on AIDS-related programs and research (none of this money is budgeted for government involvement in needle exchange programs). This is the largest yet allowed budget for AIDS research, as the AIDS crisis in America, and the world, is growing rapidly.

On November 5, 1999, the National Minority AIDS Council held their third annual United States Conference on AIDS in Denver, Colorado. At the conference, updated statistics on AIDS were discussed. It is currently believed that up to 900,000 individuals in the United States are living with AIDS. This represents a mere 3% of the global calculations of 30 million people infected worldwide, with great concentration in regions, including predominantly, sub-Saharan Africa.

A University of California study in 1991 detailed the significance of AIDS in relation to the IDU community; it was approximated at that time that 1/3 of all new United States AIDS cases were IDUs themselves, their spouses, or their children. At very least, 10,000 new infections occur among IDUs, their spouses, or their children, every year. It can be logically assumed that in the 8 years since this study was conducted, that AIDS rates among IDUs and their families has increased. These facts clearly show the effect that shared needles have on AIDS prevalence. In New York City alone, it is currently estimated that 50% of all IDUs carry HIV antibodies or are infected with the AIDS virus.

These few facts in themselves indicate that the intravenous drug using community has a tremendous effect on national AIDS prevalence, and serves as a direct target group for AIDS reduction.

III. Interview with an Injection Drug User

‘Peter’ (name changed) is a 23-year-old heterosexual male in the middle of a two year jail sentence at the Massachusetts Correctional Institute in Shirley, Massachusetts. He was convicted in 1998 for attempted armed robbery of a convenience store. "We did it for money for drugs. We’d been
shooting [heroin] all morning and I was so f——d up that I picked up the register and walked out of the store,” he said with a laugh during our lunchtime telephone interview.

Peter is part of a rehabilitation work program that allows minimum-security inmates to leave the facility during the business day to work. He currently serves food in a business facility, and has also tested HIV positive as a result of needle sharing. “We knew that it was stupid . . . It’s like one of those things you know is a really stupid thing to do, but it doesn’t really matter at the time . . . Sometimes I’d look at [the syringe with blood inside] and it would freak me out . . . but most of the time it didn’t matter.” Peter said that he and his friends would use the same needle a maximum of four or five times before the needle would bend beyond repair or break off. “Usually it wasn’t even that much . . . Like half of the time, we would only use one twice.”

One of the main goals in this interview was to try to determine where IDUs obtain their needles, if not through a Needle Exchange Program. Peter was, however, not able to supply this information. “I don’t really know . . . One of my friends’ mothers had Diabetes, I’m pretty sure that’s where he got his . . . Actually, that is where he got them . . . But someone always had one, it was no big deal.”

None of Peter’s associates participated in Needle Exchange Programs. He explained that it was not really considered, and that if given the direct opportunity to participate, he is not sure how he or his friends would have responded. “Now I’d probably say that I would’ve done it, but I don’t know if I really would’ve done it back then. I didn’t let too many people know [that I was an injection drug user].” At this point, Peter became slightly defensive and did not seem to be willing to respond to more personal questions relating his illness to his drug use. He did admit, in more explicit terms, that he knows that he made a mistake and is mainly concerned with how his illness has affected his parents and siblings.

Peter was given drug treatment as part of his rehabilitation and no longer uses drugs. He is tested monthly as part of his work release program. He is unaware of the HIV status of his drug friends, but says that they are aware of his condition.

IV. Solutions

As part of a proposed course a student group spent a great deal of time considering the option of needle exchange programs. NEPs in theory provide a safe and protected means for IDUs to exchange used needles for new, preventing the spread of HIV. The pros and cons of NEPs have been considered heavily, and this project was used as a means to search for alternate means of preventing the spread of HIV within the IDU community.

The search began with a thorough review of the United States Patent records for syringes designed with the intent of single-use, preventing the
The concept of shared needles. An initial search produced approximately 107 realistic considerations for implementation. The list was then narrowed down to five active and viable patents, including resources for contact information of the designers. Unfortunately, upon attempt, all five designers were unreachable. This proved to hinder exploration into these models. However, the registered patents were later used in interviews with representatives from both the medical and governmental communities, regarding the possibility of the implementation of similar models. Further exploration uncovered companies and organizations currently involved in such work. Safety Syringes, Inc. of California, for example, is currently working on models for syringes that restrict extraneous use, within a health care environment. It was then necessary to determine whether or not the implementation of such syringes, restricted to one use, would have any bearing on the medical community.

V. The Medical Community

In the consideration of any new form of syringe, made to replace the existing standard models that can be reused by IDUs, one must focus primarily on the implications within the medical community. To remove the supply of needles from IDUs effectively would mean a complete change in the medical system, in terms of techniques used for vaccine administration and blood drawing. Existing supplies of multi-usable syringes would have to be exhausted and replaced with the newer models. In order to better understand the implications of such a change, it was most appropriate to direct these inquiries to a medical professional.

Lisa Tyree is a certified and registered nurse and has been practicing medicine for nearly 20 years. Currently working in a pediatric practice, Ms. Tyree spent many years working as a nurse manager for adult care in both private practice and hospital settings. During a telephone interview, Ms. Tyree discussed the implementation of a new form of syringe and its possible effects on the medical community. "More than anything," she started, "when you talk about changing a common procedure [such as immunization injection] you need to think about how it is going to affect the doctors . . . Most [doctors] are very set in their ways, especially older ones."

Ms. Tyree explained the process of preparing a syringe for an injection. "It's actually not a complicated procedure. Syringes come individually wrapped for sanitary purposes. When they are needed, they are taken out of the wrapping. Smaller viles of pre-measured immunizations are held upside down while [a nurse] inserts the needle into the seal . . . [The Nurse] pulls back the plunger and the medication fills the chamber, and after the measurements are made, [the injection] is ready." According to Ms. Tyree, the syringes used to take blood samples and the syringes used to administer a shot are structurally the same, although size and dimension often differ. "Newer
HIV/AIDS Spread Through Shared Needles

blood-drawing syringes are equipped with devices that make the blood draw less manual," she explained. Although the devices are inherently the same, blood-draw syringes come as smaller chambers encapsulated in a larger syringe, while the outside syringe acts mainly as a means of puncturing a vein.

Given this background, Ms. Tyree was then briefed on the nature of this inquiry and explained the reasoning behind the replacement of the standard syringe and syringe-filling techniques with the proposed options. This explained, Ms. Tyree then looked over the 5 single-use syringe prototypes that had been faxed to her. She added "I think it is going to be extremely difficult to be able to make a change like this on such a huge scale... You'd be asking the entire medical community to change its methods... based on the idea that it might have a positive effect on AIDS... [It is] a very good idea in theory, but proving its effectiveness in [reality] would be more difficult... If you can somehow prove that changing the syringe will have a definite effect, you will have much better luck."

Ms. Tyree raised an extremely valid and previously unconsidered notion. "The biggest consideration for something like this, aside from the patient, is the insurance companies. If you can convince the health insurance industry that these new needles will have no negative effect on patients and will prevent [the spread of] AIDS, you might see some changes." In reference to the procedural change that may be caused by the implementation of a specially designed syringe, Ms. Tyree commented, "part of working in the medical field is expecting that procedures will change. None of [the patent designs] are impossibilities, they just involve a period of re-training and education." She ended the interview by adding "I worked a few years ago with a woman who was in Haiti working with kids. She was giving a shot and accidentally stuck herself, and wound up contracting Hepatitis B. I can say, as a nurse, that it would be nice to know that we were using devices that would prevent [these accidental infections] from happening."

VI. A Government Standpoint

If any changes are to occur, from mainstreamed needle exchange programs to a new policy for syringe design, the United States Government must fundamentally support them, both financially and legally. However, governmental targeting of AIDS prevention through the IDU community is seriously lacking. For example, as previously mentioned, current policy dictates that NEPs must be funded privately, at the expense of the individual or individuals involved. The government’s seemingly outdated and narrow-minded approach to this type of AIDS prevention is difficult to grasp, and in order to further understanding, an interview was conducted with a governmental voice.

Matthew Donahue is a 36-year-old government employee living in
Washington D.C. He has worked with the government for ten years, serving predominantly as a representative for the Environmental Protection Agency, and was eager to discuss government involvement in AIDS prevention such as Needle Exchange. “It’s wrong to say that the government is not doing what it can to curve AIDS in the United States,” he explained. “We are spending billions of dollars a year in AIDS research, and as it stands, that in itself is usually not enough.” When questioned about the government’s lack of involvement in Needle Exchange Programs, Mr. Donahue referenced points that I had brought up prior to the interview. “It’s exactly what you said earlier. Drug laws are carefully established and really cannot be altered unless it can be absolutely proven that [needle exchange programs] will not encourage drug use, and have an absolute effect on the existence of AIDS.”

After this, Mr. Donahue examined a series of statistics regarding NEPs and their preventative effectiveness, found in the literature provided by the National Research Council and the Institute of Medicine. His response was rather surprising. “The problem is that you are dealing with a hot moral issue. Changing the laws could be seen as a way of accommodating drug users, which has the potential for deconstructing other laws and policies for drug use.”

Mr. Donahue did provide an important piece of advice. “The only real way that I could see a change in policy happen, whether to support needle exchange programs or new [syringe] devices for administration, would be an increase in public support. This is [an] issue that would require a lot of public support, more public support than there is now, to get the ball rolling. A lot of people really aren’t that familiar with any of this, and that ignorance is a large part of the problem.”

“It’s not so much arrogance as it is protection,” says Mr. Donahue, in reference to the government’s position on its drug laws regarding injection drugs. “In terms of any [governmental] support in a nationwide change in policy for the actual [design of] medical syringes, well, that would turn into a big fight between the government and the manufacturing companies . . . Really, though, in theory, it’s not a complete impossibility.” I asked Mr. Donahue what he thought that we, as the public, had the power to do to enact any of my suggested changes. “Do not underestimate the power of collective voices. Before you do anything else, you need a strong foundation of support. I don’t see any impossibility in what you’ve said so far. More than anything else, you need to boost awareness and more involvement.”

VII. An Inquiry into Public Awareness

Given that these three interviews were conducted with individuals who already grasped important knowledge of the related subjects, it seemed appropriate to obtain opinions and facts from the general populous. As a result, a related survey was designed and completed by 84 people, many in
HIV/AIDS Spread Through Shared Needles

the greater Pittsburgh area, and some via telephone between Ohio and Massachusetts. This was not intended to be a wholly scientific survey, but merely a way to grasp a better understanding of the real life understanding of the issue. The following are the survey and the results:

PUBLIC AWARENESS SURVEY

I am a student at Carnegie Mellon University gathering data for a research project. Please take just a few moments to complete the following questions to the best of your ability. Thank you very much for your time and input.

1) Have you ever heard of a needle exchange program? (check one) ___ yes ___ no

A needle exchange program is a localized program enabled to provide clean, unused medical syringes to intravenous drug users. Although they do not promote or condone drug use, needle exchange programs offer an alternative to sharing needles, which has shown to be a common means of transfusion for many blood-borne diseases, including HIV/AIDS. Many needle exchange programs also offer drug testing and counseling in addition to the exchanging of needles.

2) Do you feel that needle exchange programs may ultimately promote the use of intravenous drugs? (check one) ___ yes ___ no

3) Who do you feel should be responsible for the funding of needle exchange programs? (Please check one)
   ___ Federal Government
   ___ Local Government
   ___ Individual Citizens
   ___ Other

4) Would you be in support of an initiation to promote Governmental involvement in local needle exchange programs? (check one) ___ yes ___ no

5) Would you be in support of an initiation to encourage the Government to enact laws that would require syringes to be manufactured to fail after one use, preventing intravenous drug users from sharing possibly contaminated needles? (check one) ___ yes ___ no ___ not sure
1) yes—31 - 37%
   no—53 - 63%

2) yes—40 - 48%
   no—44 - 52%

3) [Diagram showing percentages and categories:
   - white = Federal Government
   - gray = Local Government
   - dark gray = Individual Citizens
   - black = Other
   - 38.1% white
   - 16.7% gray
   - 32.1% dark gray
   - 13.1% black]

4) yes—16 - 19%
   no—68 - 81%

5) yes—11 - 13%
   no—73 - 87%

VIII. Analysis and Conclusion

The information obtained through the process of this project helps to shed important light on many aspects of the issues of AIDS prevention within the IDU community. First, it has been shown that the presented preventative tactics, needle exchange programs or single use syringes, show realistic and mainstream promise for implementation. Discussion with medical personnel showed that a change in needle design would not hinder procedures within a health care setting. Later discussion with a government representative indicated that either idea, if properly supported and advocated, could be considered by the government.

It was also uncovered, however, that the most crucial problem is a lack of public understanding and action. Only 37% of individuals surveyed had ever heard of a needle exchange program. Although the majority proved to be in favor of Federal sponsorship of NEPs, a small minority of 19% expressed an interest in involvement in movements toward such measures. An even smaller minority of 17% expressed similar involvement in movements toward implementing policy governing the manufacturing of single use syringes. Any initial step toward changes in policy, therefore would have to begin with an increase in public awareness and involvement. To this end, much of the information compiled through the course of this project was sent to related organizations, including Broadway Cares, based in New York City, the American Foundation for AIDS Research (AMFAR) in New York, the
HIV/AIDS Spread Through Shared Needles

Elizabeth Glazer Pediatric AIDS foundation of California, and 12 nationally distributed NEPs, with contact information provided by the North American Syringe Exchange Network. Each organization received a letter detailing these ideas and relevant facts. Although this may not affect great change, the goal is to spread awareness of the issue, which may in turn promote action.

Targeting the IDU population shows great promise in the quest against the spread of AIDS. Effective action starts with the individual. It is therefore the responsibility of the public to work collectively toward beneficial change.

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