

X. Summary of Research Proposal for the AIDS Research Program

UNIVERSITYWIDE TASK FORCE ON AIDS: 1985-1986 GRANT AWARDS

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Name and Title of Principal Investigator

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Department and Campus

Point Prevalence Study of Antibody to AIDS Retrovirus (ARV) in Sexually Active Heterosexual Women Not in Known Risk Groups; A Study of Risk of Acquisition of ARV as a Result of Sexual Activity in San Francisco

Title or Project

Use this space to summarize concisely your proposed research. Outline objectives and methods. Underscore the KEY words (not to exceed 10) in your abstract.

Heterosexuals are at risk for acquiring AIDS as a result of IV drug use, factor VIII use, transfusions and sexual activity with partners in high-risk groups. Women pose particular concerns because: more women than men have developed AIDS as a consequence of heterosexual activity; there is increasing concern about donor insemination; the risk of an infected woman infecting her infant is considerable; and little is known about the means by which women transmit AIDS to men. Evidence from Africa strongly suggests transmission from either females or males to members of the opposite sex. Although the AIDS virus has been identified in semen, the sexual practices associated with heterosexual transmission and the infectivity of vaginal secretions are not known. Studies exist documenting the antibody status of very high risk AIDS contacts such as spouses or lovers and antibody prevalence of control populations not at uniquely high risk such as blood bank donors. However, the prevalence of antibody in very sexually active populations has not been studied, even though heterosexual sexual frequency, including sex with prostitutes, is being implicated increasingly as a potential risk factor for AIDS. This study proposes to look at prevalence of antibody to the AIDS virus solely as a consequence of heterosexual sexual activity in sexually active women with multiple anonymous sexual partners or known exposure to high-risk men. Subjects will include sexual contacts of IV drug users, bisexual males and hemophiliacs, and women with a minimum of 5 sexual partners in the last 3 years, including women who accept pay for sex (prostitutes), women whose professions involve sex (e.g., sex therapists) and women who do not accept pay for sex. Specific arrangements have been made with a number of organizations with access to these women; for example, officials in Coyote (National Task Force on Prostitution) are active collaborators in the project. Five sites throughout San Francisco have been designated as study centers at which women will undergo ARV antibody testing and an interview evaluating medical history, specific sexual practices, high risk exposure, and general health by means of a questionnaire developed by the investigators specifically for women. Interviewers have been recruited from existing personnel at the study sites. From the first wave of 500 women screened, subgroups of sexually active women will be identified for prospective follow-up for acquisition of antibody and life style modifications. ARV antibody positive women and matched ARV negative controls will be followed every 6 months evaluating medical outcome, immunologic status, CMV serology and life style modifications.

If the AIDS Task Force awards you a research grant, copies of this page may be distributed to UC Contracts and Grants Offices and to other interested individuals and groups.

XI. EXPLANATION OF PROJECT

I. BACKGROUND

A. Development of the Association for Women's AIDS Research and Education (A.W.A.R.E.):

Anticipating the likelihood of cases of AIDS in women, and the need for education for women at risk, an organization called the Women's AIDS Network (W.A.N.) was established in the Spring of 1983 cofounded by Laurie Hauer, R.N., an active participant in the current proposal. A pamphlet for risk reduction guidelines for women was developed by this group in May 1984 and has been distributed throughout the Bay Area. On November 16, 1984, W.A.N. presented a day-long forum which brought together many organizations which have access to women at potential risk for AIDS including Coyote (National Task Force on Prostitution), other prostitute groups, jails, bisexual groups, youth programs, women's agencies, donor insemination centers, VD clinics, and many others. Forum participants expressed much support for research about the prevalence of the AIDS antibody and means of transmission. Women in these risk groups strongly expressed the need for women working with women in this type of investigation, particularly in those groups, such as prostitutes, where there has historically been a great deal of stigma and prejudice.

As an outcome of the Women's AIDS Network Forum and the reality of AIDS in heterosexuals in San Francisco, a group of women medical professionals with extensive experience in clinical research, epidemiology and women's health issues, grouped together to form the Association for Women's AIDS Research and Education (A.W.A.R.E.) for the purpose of conducting research related to women in AIDS risk groups and coordinating with other research efforts in which women are involved, and to provide a well publicized, supportive, cooperative organization with which women at risk will feel comfortable and be willing to enroll as research subjects for this study and future studies. The organization is an integral part of the AIDS Activity Center at San Francisco General Hospital.

This proposal requests funding to complete the initial stages of that research, using a study design developed by the group which specifically addresses the issues related to AIDS transmission in women, especially with regard to female sexual behavior. The interview and blood screening design developed will be used in other related studies in which women will be evaluated, including the San Francisco City Clinic bisexual cohort in the study of Nancy Padian and Warren Winkelstein of U.C. Berkeley.

B. AIDS in Females

Of the 8032 cases of AIDS reported to the CDC as of March 4, 1985, 561 have been in females, predominantly as a result of drug abuse via sharing of needles (55%) and from transfusions (8%). However, 61 women or 11% of women with AIDS have had heterosexual contact with a male in a high risk group as their only possible source of acquisition of the syndrome (1). Epidemiological studies in San Francisco have found that approximately 10% to 15% of homosexual males are bisexual (2). The proportion of heterosexual men in the other high risk groups (IV drug users, hemophiliacs, etc.) is much higher, so it is safe to state that there is good cause for suspicion that a large number of Bay Area women are at risk for AIDS because of heterosexual activity with males whose risk activities may or may not be known to them.

Sufficient evidence has now accumulated to indicate that AIDS can be contracted solely via sexual transmission between heterosexual partners (3,4,5); further, this transmission appears to be specific to intimate relationships, and does not occur among family members sharing household quarters only (5). However, the specifics of transmission are not known. The AIDS virus has been found in male ejaculate (6,7), but whether certain sexual activities increase cross-sex transmission risk has not been systematically studied. Among homosexual males, for example, receptive anal sex increases risk (8), but no comparable evidence on this practice among women with AIDS is available. Evidence of female to male transmission is minimal so far in the U.S., but in Africa nearly 50% of the reported cases of AIDS are in women, and risk there is reported to be associated with multiple partners for both males and females, including prostitutes (9,10). The CDC has suggested that prostitution may be implicated in transmission, noting that 17 of 65

noncharacteristic male AIDS patients reported sexual contact with a female prostitute (11). It has been estimated, however, that more than 25% of men use prostitutes (12) and it is unclear whether prostitution per se or the high association between IV drug use and prostitution poses the real risk. Only 15% of prostitutes work the streets and 60% of street prostitutes are thought to use IV drugs (12).

As of February 28, 1985, there have been eight cases of AIDS in women in San Francisco, only one of whom has sexual transmission as a presumed risk factor. By contrast, in New York as of June 27, 1984, there were 178 cases of AIDS in women, 14.6% of whom had as their only risk exposure a sexual partner in a high risk group (13). In other aspects of the AIDS epidemic, New York is 1-2 years ahead of San Francisco, suggesting that an increased incidence of AIDS in females in San Francisco may parallel that of New York over the next few years. In the better studied homosexual population the frequency of AIDS antibody far exceeds the actual incidence of AIDS and the prevalence of antibody in healthy homosexuals has increased progressively over the last four years (14). We do not know if there is now an early pool of heterosexuals in San Francisco who are antibody positive: nor can we predict the slope of the curves of acquisition of antibody and expression of the disease in heterosexuals. It has been speculated that the emergence of the full-blown AIDS disease may be facilitated by co-factors such as CMV (15). This speculation could be most easily studied in women since the average incidence of CMV is about 55% (16,17) in contrast to nearly 100% incidence in homosexual men (18). However, incidence of prior CMV infection in subgroups of sexually active women in San Francisco has not been defined.

Since multiple partner heterosexual activity and prostitution are now being implicated as potential risk factors, it is of great importance to quickly ascertain the relative prevalence of ARV seropositivity in sexually active women who are not otherwise at risk for AIDS and to develop cohorts for more specific prospective studies of rate of acquisition and life style response to the AIDS risk.

II. PURPOSE

1. To evaluate which groups of females are at highest risk for exposure to the AIDS retrovirus identified by the presence of antibody to AIDS retrovirus (ARV), as a result of heterosexual sexual contact. Women sampled will include female sexual contacts of: bisexual men, IV drug users, hemophiliacs, Haitians or known AIDS patients, and women who acknowledge multiple sexual partners, including groups of women who accept money for sex and sexually active women who are not paid for sex acts.
2. To determine by standardized interviews using a questionnaire developed by A.W.A.R.E. specifically for women, which sexual activities and other life style or occupational factors are associated with antibody seropositivity.
3. To establish ongoing studies of women in specific high risk populations, and to delineate cohorts for prospective studies of incidence, transmission, role of cofactors (e.g., CMV), and natural history of the syndrome in women.

III. STUDY DESIGN

This is a point prevalence study using a volunteer sample of women self-identified to be at risk for AIDS. The study permits nested case control studies as sufficient numbers of seropositive women are identified.

The study population includes females aged 18 or older who have had any sexual contact with (or donor insemination from) males in high risk groups as defined below. It also includes women who have had at least five heterosexual or bisexual male partners, not necessarily in high risk groups, during the last three years, though women with more partners will be specifically sought. Participants must live in San Francisco or have the required number of sexual contacts in San Francisco. Excluded are women who are parenteral substance abusers who are not also in sexual contact risk groups. Such women will be referred to Dr. Robin Onishi's drug user study. In turn, Dr. Onishi will refer to us the sexual partners of his male IV drug users. Also excluded are monogamous women with a monogamous partner for the last three years, and women with exclusively lesbian sexual contacts.

The projected sample size is 500 women, to be recruited during the initial five month period preceding this proposal funding period and during year 01 of the present proposal. Any sampling scheme must recognize the possibility that the prevalence of antibody may be low in these populations, and therefore must allow as large a sample size as possible through multiple source recruitment. Efforts are therefore being made to recruit equal proportions of women from each of the three subgroups listed below. In order to estimate the required sample size for detection of differences between ARV seropositive and seronegative women, various levels of seropositive prevalence were assumed and then sample sizes were calculated for each prevalence rate such that 95% confidence intervals around the point prevalence estimate would not contain the value zero. Current estimates of the range of positivity among bisexual males in San Francisco range from 18% to 30% (2). Since it is unlikely that transmission efficiency from males to females approximates 100%, we calculated per-group sample size required for prevalence rates ranging from one (0.01) to 15 (0.15) percent. Subgroup sample sizes range from 25 if the prevalence is 15% to 385 if the prevalence is 1% per group. We will be monitoring the prevalence rate in each subgroup and be prepared to change recruitment criteria accordingly.

B. Recruitment

Women are being recruited from the following three high risk subgroups:

1. Women who have had heterosexual sexual contact with known bisexual males, IV drug users, hemophiliacs, persons from Haiti or high risk African areas, or persons known to have AIDS.
2. Women with multiple sexual partners where payment is expected. These include various practitioners of professional sex, including sex therapists, surrogates, escort and massage providers, and casual or street prostitutes.
3. Women with multiple sexual partners where payment is not expected.

Sexually active women at risk for exposure to AIDS have been identified from various sources throughout the city, through contact individuals, organizations, clinics, and women's centers. Many informational meetings have been held to provide background information on AIDS and to publicize the study goals and objectives. For these presentations, materials have been prepared that briefly discuss the purpose of the study, the importance of confidentiality, the availability of test results, and counseling and referral services available. At these meetings, enthusiasm for the study has been considerable, and over 100 commitments have been made to participate and/or recruit participants. Organizations committed to refer women who meet the study criteria include Coyote, bisexual centers and organizations, San Francisco Sex Information Switchboard, Lyon Martin and Women's Needs Clinics, San Francisco city clinics, jails, and others.

For each source, specific contact persons have been identified, thoroughly informed of study design and goals, and provided with recruitment information sheets (Appendix D-1). Five specific sites for interviewing and blood drawing have been identified (see section XIII and Map, Appendix C). Study personnel are available at these sites. Prospective enrollees not present at a specific site, such as prostitutes, are being recruited with the help of organization leaders and contacts with whom collaboration has been established.

Prospective enrollees are given a specific name and telephone number to call at the AIDS clinic at SFGH, and calls are returned using a pseudonym if the subject so wishes, insuring confidentiality. When a potential participant calls initially, study staff answer information requests about the study, and then complete the telephone screening form (Appendix D-2) to determine eligibility. Women who are eligible are then given a choice of five locations and times to make an appointment for the initial interview and blood drawing. Scheduling for all sites is done from the central office for the study at SFGH.

C. Confidentiality

Names or other identifying information are not obtained. Participants are identified by first name or a pseudonym only in appointment scheduling. In study records, participants are identified by a code number and certain demographic identifiers (see page one of the questionnaire in Appendix E and F) so that each will be able to gain access to her laboratory results, if she wishes, in the event that she loses her code

number. The identifiers used comprise an easily remembered pseudonym, preferably the mother's first name, father's first name, state of birth, and month/day of birth.

Of particular concern is the issue of confidentiality around results of the test for ARV antibody. The informed consent procedure indicates the pros and cons of obtaining test results and the expectations of further studies if initial test results are positive. If test results are desired, participants are given a specific number to call to arrange a discussion of test results and their meaning, as well as to provide further referrals if necessary. An assessment of willingness to give names and to obtain test results will be evaluated and analyzed for each subgroup in anticipation of prospective cohort studies.

D. Questionnaire

Because of the exploratory nature of this study, we have begun with a relatively short screening instrument in order to ascertain the risk status of as many women as possible during the first part of the study. A long and a short version of the women's interview have been developed, addressing the same areas of risk but at differing levels of detail (Appendix E and F). For the first 100 women enrolled, a randomly selected 10% will complete the longer interview, and 90% will complete the shorter version. Seropositive women and their controls are being asked to complete the more detailed interview, along with a continuing subsample of every nth interview, as scheduling permits. As differences in risk become apparent, it will be possible to change the criteria for proportions of long vs. short interviews scheduled.

Questionnaires are administered by trained interviewers who are familiar with AIDS, aspects of human sexuality, and the risk groups involved. The shorter interview takes about 25 minutes, and the longer version takes about one hour. Each interview focuses on the following issues:

1. Medical history, including current and past medical conditions, AIDS or ARC symptoms, sexually transmitted diseases, OB-Gyn history including donor insemination and age of children, blood transfusions and other invasive procedures.
2. Sexual history and behavior, including sexual preference, number and sex of partners, proportion of anonymous partners, contraceptive and condom use, relation of specific sexual practices to partners and during menses, and bleeding associated with sexual activity.
3. Other AIDS exposure including travel, drug use, high risk partners, and other medical or occupational exposure.
4. Demographic information including adjunct identifiers. Women who wish to provide complete identifying information for use in contacting them about further studies are encouraged to do so.

In addition, time is allowed after interview completion for initial counseling and referral arrangements, if the participant wishes. Anyone with symptoms suggestive of AIDS or ARC will be referred to the AIDS clinic at SFGH or other resources engaged in AIDS screening. Medical records for these individuals will be maintained with the usual confidentiality but must utilize patient names and other standard identification. If a name or other identifying information becomes known to study staff, it will not be recorded as part of the study data.

IV. LABORATORY

Twenty-five cc of blood is drawn in clot vacutainer tubes as part of the initial interview process. All sera are returned to SFGH and processed as follows:

1. Sera for testing for antibody to ARV is sent to the laboratory of Dr. Jay Levy at UCSF. Initial testing is by immunofluorescent assay; positive results from initial testing will be repeated, and further assayed by other techniques when available for corroboration.
2. Sera for CMV analyses will be sent to the laboratory of Dr. L. Drew at Mt. Zion Hospital.
3. The remaining serum will be frozen for future serologic studies including EBV, hepatitis, and syphilis.

4. Routine CBC, ESR, chemistry panels, hepatitis serology, VDRL, immunologic phenotype studies, and CMV serology will be done on prospective cohorts of ARV seropositive women and their matched controls and repeated every six months. Immunological studies will be conducted in the laboratory of Drs. Styles and Cassavant at UCSF.
5. Cervical cultures for CMV and ARV as well as blood for AIDS retrovirus will be obtained from individuals who are positive on antibody testing, if participant consent. ARV cultures will be done by Dr. Levy, and CMV cultures will be done at SFGH.

Because of our study design, we are limited to potential follow-up of women who choose to obtain the results of their antibody testing. In cooperating antibody-positive women, face-to-face discussion of the implications of the results include a request to obtain further informed consent for blood samples for further virus screening, as well as for nonmenstrual cervical secretions to culture for AIDS retrovirus and to access sexual partners for testing and counseling.

V. SIGNIFICANCE OF THE STUDY

A. Anticipated Findings

At the completion of the study we will have an excellent idea of prevalence of antibody in subsets of sexually active women in conjunction with well documented life style information with associated frequency of presence of virus in blood and cervix. Incidence of CMV infection in ARV seropositive and seronegative women will be known and a citywide investigative and educational base established allowing ready recruitment for subsequent studies and education about AIDS risk and public health issues.

B. Anticipated Studies to be Initiated During the Later Part of Year 01 of the Point Prevalence Study and Extending into Year 02

1. Prospective evaluation of natural history of ARV seropositivity in ARV Ab positive women matched by age and sexual activity with ARV Ab negative controls derived from the initial study group: It is estimated that 3-10% or 15-50 women will be antibody positive. Additional seropositive women will be available for collaborative study in conjunction with the contact tracing study of Nancy Padian and Warren Winkelstein. After informed consent and willingness to allow confidential access to name and phone number, seropositive subjects and controls will undergo physical examination, immunologic studies, serologic studies for hepatitis B and syphilis, and routine CBC ESR and chemistries. Every 6 months, these studies will be repeated along with a medical exam, medical history, change in life style questionnaire, and viral studies (ARV Ab for those initially ARV negative and CMV Ab for those initially CMV negative).
2. Cofactor Studies: The ARV seropositive and matched ARV seronegative controls will be further broken down into CMV seropositive and seronegative, allowing four groups to be generated as part of the above prospective review.

ARV Ab +	CMV Ab +
ARV Ab +	CMV Ab -
ARV Ab -	CMV Ab +
ARV Ab -	CMV Ab -
3. Prospective study of subgroups of ARV seronegative subjects in (a) the high risk exposure group, (b) sex for pay, and (c) sex without pay groups will be recruited for follow-up at 6 month intervals with ARV Ab testing, CMV Ab testing in those initially negative, and life style change information.

XII. RELATIONSHIP OF THE PROJECT TO THE AIDS PROBLEM

The recent identification of several cases of AIDS in San Francisco heterosexuals who were not in high-risk groups, the increasing documentation of heterosexual spread of AIDS throughout the U.S., the increasing implication of the role of prostitution in the heterosexual spread of AIDS, and increased media attention have created an atmosphere of grave concern among residents of the San Francisco area, medical investigators and Public Health officials regarding who is at risk, how the infection is transmitted among heterosexuals, and the current and anticipated prevalence of infection among heterosexuals.

AIDS in heterosexuals is not a new problem. Throughout the epidemic, the number of heterosexuals has been relatively constant at 22-23%, but most cases have been directly related to well identified high risk behavior or circumstances such as IV drug use or transfusion. As the total number of cases increases, the number of individuals with sexual activity as their sole risk factor has also increased. In the United States, heterosexually acquired AIDS as a result of sex alone has been seen to date primarily in the female population: 11% of all female AIDS vs. >0% of males with AIDS. Women pose certain unique concerns surrounding the AIDS issue. All women with AIDS are heterosexual. In the United States, more women have gotten AIDS through heterosexual transmission than men; anonymous donor insemination poses unique risks to women; and AIDS is readily transmitted to the offspring of female AIDS carriers. These issues and the specter of secondary cases and tertiary cases in which high risk behaviors are less well identified, have virtually mandated that we evaluate these groups carefully using established research methods while numbers can still be expected to be relatively small. Likewise, heterosexuals now aware of the potential risk are demanding answers to questions of risk, transmission and protection in their sexual practices. The organization, Association for Women's AIDS Research and Education (A.W.A.R.E.), and this specific proposal were developed sequentially to begin to address the two mandates of the medical community and the public. The past experiences of the investigators involved have covered virtually all aspects of the medical problem, epidemiology, and women's issues. This proposal is a first look at point prevalence in San Francisco in a broad range of potential risk groups. It is expected to be the first of a closely coordinated series of investigations on women in relationship to the AIDS question. Proposed future projects are outlined in the future considerations section of the proposal.

XIII Progress Report

A. Approval for this project was given on February 1, 1985. Funds became available on March 10, 1985. During the seven weeks since approval was granted, the following progress can be documented:

1. Community liaison activities led to the identification and negotiation of collaborative arrangements with five screening sites located throughout San Francisco. The staff at each site have been thoroughly oriented to AIDS issues generally and in the specifics of the study design. Operating hours and arrangements have been established. Site locations are indicated in Appendix A, collaborators and letters of commitment from each are included among the letters of collaboration.
2. Eight staff have been recruited and hired, including a full-time Project Assistant and seven part-time interviewers. The latter include nurses and other staff already experienced in the operation at each site. Additionally, each are experienced in working with the high-risk populations being recruited. All interviewers have completed training in study procedures, and four have begun interviewing participants.
3. Study procedures and the screening and interview forms have been field tested and revised as part of the training process.
4. As of March 21, 1985, 20 women have participated in the first phase of screening, enrolled participants have included sexual partners of high risk men, prostitutes, other sex professionals, and very sexually active women not in the previous categories. An additional group of 35 women have been scheduled. With regard to the success of recruitment efforts, it should be noted that these early participants called us prior to any official announcement of the opening of the study on April 1.

B. Justification for Grant Extension

No other AIDS research presently underway has the potential for prompt documentation of the prevalence of antibody in the female high risk population. Because of our extensive and well-established links to the community, an enormous amount of enthusiasm has been generated in the participating centers and organizations, even before specific recruitment efforts have begun. We are certain that this represents a unique opportunity to study prostitutes and other high risk subgroups that can contribute to the study of AIDS transmission.

The mechanisms are now in place to generate information that is of unique and essential value in responding to unresolved issues about the heterosexual transmission and natural history of AIDS.

Continuation of this study will generate information on a cohort of women representing a gradient of risk. Data from the entire cohort will be used to analyze prevalence and risk factors associated with antibody positivity. Over 70% of women interviewed to date have indicated willingness to be followed prospectively, assuring us that the proposed case-control studies are indeed feasible. Follow-up of subgroups in case-control designs will yield specific information on heterosexual transmission patterns including duration and timing of exposure to the virus. This information is essential to increased understanding of the natural history of the disease.

DRAFT

COMMUNITY PROGRAM/MEETING ON WOMEN AND AIDS

Target Audience: People (providers, contacts, friends, etc.) who have access to women in identified risk groups for women and AIDS study.

Purpose: To give info about the study, and get input on mechanics, incentives, locations, etc.

Format: Background/statistics on AIDS; focus on women; explain study; questions and comments from audience.

Times/days: 1 daytime, 1 evening (same program at two times); early to mid-January; maximum 2 hrs. each program.

Location: Possibilities:

SFGH
101 Grove
a district Health Center
Women's Building
Valencia Rose
Lyon Martin Clinic conference room
Iris Project

I suggest SFGH or 101 Grove for daytime, Lyon Martin for evening.

Who to invite:

Margo St. James)
Priscilla Alexander) Coyote
Elizabeth (Susan Allen)
Carol Leigh (Connie Wofsy)
Maggie Rubenstein)
Margo Rila) Bisexual Center
Christy Shepard- Iris Project
Debra Friedland and other staff Lyon Martin Clinic
Lyn Paleo)
Nancy Shaw) AIDS Foundation
Bev Shibetta-SFGH Women's Health Center
Robin Onishi SFGH Epi. I.V. study
Planned Parenthood
Haight Ashbury Clinic
Women's Needs Center
City Clinic
Head nurses from all jail units
ADD TO THIS LIST!

Look at women's AIDS Forum list

DRAFT

Choice of Letterhead/ Maybe
make our own???

Heading

Dear :

We are writing to tell you about a new direction we are taking in AIDS research, and to invite you to a very important meeting. As you are probably aware, San Francisco is a major center for AIDS research, with most of it coordinated through SF. General Hospital and U.C. Medical Center. Since 98% of the people with AIDS in San Francisco are gay men, this research has focused almost exclusively on outreach, prevention, and treatment of this high risk group. Recently there have been several local cases of AIDS among heterosexual men and women which have gained widespread media attention. While AIDS among heterosexuals may be new to the Bay Area, it is by no means a new phenomenon. Over one-quarter of the AIDS cases in the U.S. are in heterosexual men or in women. Internationally, approximately half of the cases in Zaire are in women, with none or almost none occurring in gay men.

Although there have been few cases of AIDS in women locally, there is an urgent need for education among women who might be at risk, and an equally strong need for some determination of what percentage of women, if any, may already be infected with the AIDS virus. Because of the long incubation period of AIDS (six months to five years), a sizeable number of people may have antibodies to the virus and may be able to transmit the virus, but may not show symptoms. Education directed toward women at risk has already begun: there have been several community meetings and forums, a brochure, and the recent addition of a Women's Project Coordinator to the S.F. AIDS Foundation staff.

To date there have been ^{west coast} no research studies focusing on women at risk for AIDS. What we are planning is a relatively small pilot study to evaluate what heterosexuals (particularly women) are at risk for AIDS as demonstrated by antibody to AIDS-Related Virus (ARV), to determine which sexual or lifestyle activities are associated with antibody positivity, and to act as a pilot to evaluate the feasibility of a long-term larger study in this population. The study will consist primarily of a questionnaire and a blood test for each participant, who will be given a code number at entry to the study. We do not intend to do follow-up, although test results will be available if participants wish to know them.

We have determined that women are at risk for acquisition of the AIDS virus if they have had sexual contact with persons who are bisexual, with persons who have used I.V. drugs, and with persons whose sexual practices are unknown. We are therefore looking for non-monogamous women (more than 5 sexual partners in the last three years), particularly those who do not know their partners, as well as women who ^{believe} know that their sexual partner(s) include bisexual men or I.V. drug users. We will be looking for these women through V.D., family planning, and other clinics; through Coyote and other prostitute organizations, massage parlors, and escort services; through singles' clubs and bars, and through other channels that are appropriate.

DRAFT

There are many details and aspects of the study that we would be happy to share with you, and we are sure that you will have questions. Rather than try to write a letter explaining the study in detail, we would like for you to come to a meeting at which we will cover the following items:

- 1) Background/statistics about AIDS
- 2) Information about women and AIDS
- 3) Explanation about the study
- 4) Questions and feedback from (audience)

We are asking for your input because in a study of this sort, it is crucial to have input from the beginning from those who are already in contact with the target groups for the study. You have been invited to this meeting because you are in a target group, or you are an advocate or provider for a group, or you have information and resources which will help this study. IF YOU KNOW OF OTHERS WHO SHOULD COME TO THE MEETING, BY ALL MEANS INVITE THEM, OR TELL US THEIR NAMES AND ADDRESSES AND WE WILL SEND THEM THIS LETTER.

To make it easier for you to attend the meeting, we have scheduled two identical meetings at two different times, so please plan to attend one of the following meetings:

Daytime, Jan. _____ at (SFGH or 101 Grove)

or Evening, Jan. _____ at (Lyon-Martin Clinic/Conf. Room)

Please call Laurie at 821-8695 by _____ to let us know which meeting you will be attending, and how many people you will be bringing. If you will be unable to attend the meeting but would like to discuss the study, you may also call the above number.

Thank you very much for your interest and concern.

Sincerely,

C. Wofsy

L. Hauer

J. Cohen

N. Padian

K. Rausch

UNIVERSITY OF CALIFORNIA
UNIVERSITYWIDE TASK FORCE ON AIDS
APPLICATION FOR AIDS RESEARCH PROGRAM

Aware: A Prospective Study of AIDS Retrovirus
Infection Among San Francisco Women at
Risk via Sexual Activity

I. Title of Project:

☐ New Project ☐ Renewal; if renewal, year of first award 1985

II. Principal Investigator:
CONSTANCE WOFSY, M.D.

Name (first, last, degree) Constance Wofsy, M.D. Signature [Signature]
Associate Clinical Professor of Medicine

Official Title

Mailing Address (include zip code and do not use abbreviations):

San Francisco General Hospital

Phone numbers:

995 Potrero Avenue

Office: (415) 821-5531

Bldg 80, Ward 84

Laboratory: (415) 476-4091

San Francisco, CA 94110

Messages: (415) 821-5531

III. Co-investigators:

JUDITH COHEN, PH.D. Associate Research Epidemiologist II

IV. Review & Approval:

A) Human Subjects	B) Animal Subjects	C) Biohazards
☐ Does not apply	☒ Does not apply	☒ Does not apply
☐ Approval attached	☐ Approval attached	☐ Approval attached
☐ Review pending	☐ Review pending	☐ Review pending

X (Renewal)

V. Responsible Administrator:

I verify that the information given by the applicant concerning his/her appointment and current grant status is correct and complete.

	Merle A. Sande, M.D. Professor, Vice-Chmm, Medicine
Signature	Name Title Dept.

VI. Contracts & Grants Officer:

I verify that the administrative information provided in this application is correct and complete and that all other requirements specified on the attached check list have been met.

Signature	Name	Title	Date
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X. Abstract of Research Proposal

UNIVERSITYWIDE TASK FORCE ON AIDS: 1986-87 AWARDS

Constance B. Wofsy, M.D., Associate Clinical Professor of Medicine

Name and Title of Principal Investigator

Department of Medicine, University of California San Francisco,
San Francisco General Hospital

Department and Institution

AWARE: A Prospective Study of AIDS Retrovirus Infection Among San Francisco Women at Risk Via Sexual Activity

Title of Project

This is a prospective study of 500 sexually active women who are at high risk for AIDS retrovirus infection or who already have antibody to the virus. Participants include women with multiple sexual partners (including women in the sex industry and those not paid for sex), as well as female sexual partners of high risk men: bisexuals, IV drug users, and hemophiliacs. Phase I has been a prevalence study of AIDS retrovirus infection in these subgroups, and analysis of sexual practices, other lifestyle activities, and other infections associated with seropositivity and viral infection. The present seropositive rate of 4% is strongly associated with IV drug use or prolonged sexual exposure to a man with AIDS or known to be in an AIDS risk group. Viral studies confirm ARV in lymphocytes of 7/8 (87%) of seropositives and cervical/vaginal samples of 4/8 (50%) of seropositives studied to date.

Phase II is a prospective study of risk characteristics associated with seroconversion. Specific prospective studies of subgroups in the cohort will focus on changes in antibody status; viral carriage, immune status, and progression to ARC or AIDS, as well as bidirectional transmission of ARV. Specific subgroups include:

- a) Thirty seropositive and -matched high and low risk seronegative controls, focusing on the natural history of the disease
- b) Seropositive women who provide cervical/vaginal cultures in non-aroused and aroused states (secretions obtained on routine vaginal exam and those obtained post-orgasm).
- c) Women in the sex industry and matched non-sex industry controls who have multiple partners, with additional focus on sexual behavior changes and use of safe sex practices.
- d) Pregnant or recently post-partum women with high risk sexual exposure or donor insemination (in collaboration with parallel studies of their infants by the UCSF Pediatric Immunology Research Program)
- e) Female and selected male partners of seropositive women to assess both lesbian (female to female) and heterosexual (female to male) viral transmission.

If a research grant is awarded, copies of this page may be distributed to Contracts and Grants Offices and to other interested individuals and groups.

XI. AWARE UC TASK FORCE GRANT

BACKGROUND:

Of the 16,759 cases of AIDS reported by the CDC as of February 10, 1986, 1,127 have been in women. Over half of the female cases have been associated with drug abuse and sharing of needles (53%). The next largest group is composed of women with AIDS as a result of sexual contact with males who have AIDS or are at high risk for AIDS; 171 women (15%) are so classified (1).

Considerable evidence exists to indicate that AIDS can be contracted solely through sexual contact between heterosexual partners (2,3), and this transmission appears to occur only in intimate relationships, not among persons sharing living quarters without intimate contact (4). Although women who have multiple partners are often cited as a potential risk group for AIDS; are asked to voluntarily exclude themselves from blood donation (5); and are targeted for voluntary prenatal screening (6); the actual prevalence of AIDS antibody in sexually active women with multiple partners is unknown. Heterosexual cases documented to date in the United States are primarily among spouses or long term partners, and transmission studies have focused on partners of IV drug users (7), hemophiliacs (3), and bisexual men (8), with transmission rates of 10 to 50% reported (9). The relative likelihood of transmission of the AIDS virus via casual sexual contact with multiple sexual partners (including prostitution) has been largely conjectural (10). Of the male AIDS cases classified by the CDC as "no identifiable risk", 26 of 76 men gave histories of sexual contact with many partners including prostitutes, but no comparable information is available on multiple partners or use of prostitutes among men without AIDS (11). Prostitutes have been suggested as possible reservoirs of infection for heterosexual transmission (12), yet no case of AIDS in a male has been directly and causally linked to prostitution. Reported rates of seropositivity among prostitutes vary widely from less than 5% among prostitutes arrested in Seattle to 40% (10 of 25) among prostitutes attending an AIDS screening clinic in Miami (9). Eight of the 10 seropositive women in Miami had histories of IV drug use.

The mechanism and efficiency of heterosexual transmission remains to be established. In the United States heterosexually transmitted cases are seen predominantly in females, 171 females compared to 27 males (1). However, reports from Rwanda and Zaire have indicated that the ratio of male to female cases is nearly equal, and multiple partners including use of prostitutes is strongly correlated with the presence of disease, suggesting bidirectional transmission. The AIDS virus has been found in the male ejaculate (13,14), and as a result of this study, in female vaginal and cervical secretions (15). Whether certain sexual activities increase the transmission risk in either direction has not been established in studies to date. Among homosexual males, for example, receptive anal sex increases the risk of seroconversion (16); however, studies of transmission from male to female spouses have reported little or no rectal sex (17,18). The relative frequency of this and other sexual practices among females outside of long-term partner relationships is not determined. Prostitutes may not experience the arousal necessary for production of lymphocyte-containing vaginal secretions. A self-stimulated, post orgasmic sample of vaginal fluids was positive for ARV in a seropositive nonprostitute subject whose unstimulated sample was negative (15). Further studies are underway. Similarly, there are no published reports of lesbian to lesbian transmission, but presence of virus in cervical secretions makes this route possible and merits further study. Other types of heterosexual sexual practices and the relative protectiveness of various barrier techniques require further study.

Finally, because of the risk of maternal transmission of AIDS to children, both the CDC and San Francisco perinatal task force have recommended prenatal screening for "high risk" women (6,19). What women are "high risk" remains to be determined. As of February 10, 1986, among 242 cases of AIDS in infants and young children, the source of transmission was an infected mother in 183 or 76% of cases (1). One study of infant AIDS found that among mothers who had previously delivered a child later diagnosed with AIDS, the likelihood of having a subsequent child with evidence of AIDS virus

infection was greater than 50% (20). The risk of having a child with AIDS among mothers who are seropositive for antibody to AIDS virus has not been established. However, it is clear that identifying high risk mothers is essential.

PURPOSE:

The purpose of this study is the ongoing identification of the risk of exposure to the AIDS retrovirus via heterosexual contact with multiple male partners and of the associated behaviors which place women at increased risk. Specific research goals are:

- 1) To continue to enroll females who are presumed to be at high risk of infection with the AIDS retrovirus via heterosexual exposure. Subgroups being followed among the 400 women enrolled to date (February 1986) include women with multiple sexual partners including women in the sex industry and sexually active women who are not paid for sex, as well as female sexual contacts of high risk men (bisexual males, IV drug users, hemophiliacs), and men known to have AIDS.
- 2) To analyze which sexual practices and other lifestyle and occupational activities are associated with prevalence of antibody seropositivity and with seroconversion over two years of prospective follow-up.
- 3) To develop a cohort of seropositive women matched with high risk and low risk seronegatives to conduct prospective studies of seroconversion, natural history of disease, progression to AIDS, and changes in blood and cervical viral carriage, immune status, and risk behavior.
- 4) To prospectively follow women in the sex industry with matched sexually active controls for seroconversion and sex habit changes.
- 5) To prospectively follow women who are pregnant after high risk heterosexual exposure or donor insemination to incorporate into the collaborative maternal/infant transmission studies being conducted with the UCSF Pediatric AIDS Collaborative Research Group.
- 6) To prospectively follow male heterosexual and female lesbian sexual partners of seropositive women and matched low risk and high risk control partnerships in order to determine the direction and likelihood of female to male and female to female virus transmission.
- 7) To help to provide a focus within the University for public and hospital based education on issues of AIDS in women.

STUDY DESIGN:

This is the second year of a continuing study of 500 high risk women who have been recruited from throughout San Francisco during the 1985-1986 funding period. Four hundred women have been recruited to date from the widest possible network of resources in the community, including medical, social, and political groups whose members include women in the risk groups, by word of mouth, general community presentations by AWARE staff, and extensive media coverage of the research. Of necessity, these are volunteer participants; there is no way to know how representative they are of any population. They represent women who have sufficient reason to be concerned that they may have been exposed to the AIDS virus, and are sufficiently trusting of our guarantees of confidentiality to share with us personal detailed information about behaviors that are illegal and/or could be considered immoral, including prostitution, drug abuse, and promiscuity. Participants are not required to provide any identifying information at entry into the study. They are encouraged to participate in the prospective phase, however, and to do so they provide enough identifying information to permit us to contact them. This information is kept locked separately from all other study records.

At the time of enrollment each woman was:

1. At least 18 years of age, and a resident of San Francisco, and
2. A sexual partner or former partner of one or more men with AIDS or at high risk for AIDS as defined above, and/or had a minimum of five male sexual partners in the last three years, whether money was expected for sex or not.

At entry, each woman completed a detailed questionnaire administered by an interviewer familiar with AIDS, aspects of human sexuality, and the risk groups involved. The majority completed the "Short Form" of 26 pages, covering the following areas, but in less detail than the "Long Form" of 38 pages (which was administered to 20% of them).

1. Medical history, including current and past medical conditions, AIDS or ARC symptoms, sexually transmitted diseases, OB-GYN history including donor insemination, and health of children, blood transfusions, and other invasive procedures.
2. Sexual history, including number of partners, sexual preferences, and duration of partner relationships, proportion of anonymous partners, specific sexual practices and contraceptive and condom use, relations of specific sexual practices to partners and during menses, and bleeding associated with sexual activity.
3. Prostitution (duration, extent, and type); drug use and any other possible AIDS exposure including travel and other occupational exposure.
4. Limited nonidentifying demographic information, plus, from the 78% of women who chose to continue for follow-up studies, sufficient identifying information for use in contacting them.

Also at entry 25 cc of blood was drawn in clot vacutainer tubes. Sera were tested for antibody to ARV by immunofluorescent assay in the laboratory of Dr. Jay Levy at UCSF. Positive or ambiguous results were retested and also sent for testing to the laboratory of Dr. J. Wilbur at the San Francisco Department of Public Health where sera were tested by IFA and ELISA. Seropositive women had cervical cultures for ARV (Appendix 2). Sera have also been sent via Dr. John Greenspan to the laboratory of Dr. J. Carlson at the University of California, Davis; extra sera have been stored in the Tissue Bank. For several of the detailed substudies described below, sera will also be analyzed for CMV, HSV, EBV, hepatitis B, and syphilis, and data on immune function will be provided by Dr. Michael McGrath (see Appendix 1).

ANALYSIS:

The primary objectives of initial data analysis are to describe the prevalence of antibody to ARV in a population of women at high risk, to address the issue of multiple partners as a risk factor, and to identify behavioral and clinical variables that are associated with seropositivity. Case-control comparisons; chi square, and multiple logistic regression procedures will be used as appropriate. Within the limitations of low prevalence of antibody positivity, analysis of risk factors for seropositivity will be done by strata of risk, to look into possible differential associations between the groups. Examples of strata are duration of exposure, use of barrier methods of protection, or history of other infections. For example, particular sexual practices may be associated with seropositivity for women with multiple casual sexual contacts, but not be associated with increased relative risk among women with a prolonged relationship with a man infected with the virus or diagnosed with AIDS.

A second objective of data analysis for the 1986-87 year will be to describe the prevalence, character, and course of ARV infection for women in the study who have been found to be seropositive to date, or have a high probability of seroconversion during the follow-up period. Analysis procedures for this objective will necessarily be exploratory and descriptive, and will be more concerned with clinical issues related to diagnostic and prognostic concerns in a population of women of reproductive age. The opportunity to follow prospectively a cohort of seropositive, very high risk, and matched-control women has great potential for documenting the role of cofactors in the natural history of AIDS as a heterosexually transmitted infection. Examples of questions related to the progression of ARV infection include:

1. What is the role of pregnancy (and related changes in immune function) on the diagnosis and progression of ARV infection.
2. Do women who are ARV Ab positive, but have no "cofactor" infections (e.g., EBV, CMV, HepB), have different patterns of immune function and/or AIDS progression than women whose history includes exposure to them.

3. Do signs and symptoms highly prognostic of progression from Ab seropositivity to the full disease syndrome AIDS, such as oral candidiasis, have the same prevalence or prognostic significance in a group of "healthier" but Ab positive women.
4. What is the likelihood of female to male or female to female transmission of the virus, among women who are Ab positive whose current partner(s) is(are) presently Ab negative.

PROSPECTIVE STUDIES

A. Case Control:

Every six months seropositive women and their high risk negative and low risk negative controls (matched by age, race, and month of entry into the study) return to SFGH for the following procedures (see Appendix 2 for definitions and detailed flow chart). The target is 30 women in each group.

1. A brief screening history and physical examination focused on early signs and symptoms of AIDS retrovirus infection.
2. Completion of an "update" interview covering any changes in health and behavior since the previous assessment (see Appendix 4.).
3. Repeat laboratory procedures as specified in detail in Appendix 2, including CBC, chem157, antibody studies, other viral serologies, and immunologic studies. Women who are pregnant or have recently delivered children will also have additional blood drawn for viral culture studies by Dr. Levy.
4. In seropositives, unstimulated vaginal/cervical samples will be collected at the same time as blood for ARV cultures avoiding menses. All women who are willing and able will submit an additional vaginal sample for ARV culture after self-induced orgasm, to be collected within 72 hours of the unstimulated sample. This stimulated sample will more closely reflect the vaginal/cervical milieu during intercourse. Cultures will be processed as previously described (15). Participants will be instructed to refrain from intercourse for 3 days before cervical sampling, but samples will be inspected for spermatozoa and cellular content. A cervical wet prep for WBC's and cultures for other infections and pap smear will also be done to assess the role of concomitant inflammation or infection in ARV culture status.

B. Sex Industry:

Annual follow-up is planned for all women in the sex industry, and 200 non-sex industry women who are not part of the intensive follow-up procedures. This will include administration of the follow-up interview, and repeat blood testing for ARV antibody. Women found to be antibody positive at follow-up will be encouraged to join the intensive follow-up group at that time, and controls will be selected for each one.

Through our participation in a collaborative point prevalence study of prostitutes being conducted in several cities with support by the Centers for Disease Control, we will also have the ability to recruit any seropositive women found among the 150 being studied locally. Assuming our current prevalence findings, this recruitment should yield 5-10 additional seropositive women in the sex industry.

C. Women in the Perinatal Period:

At study entry, 78 women were pregnant and/or had children less than 2 years of age. Some have since elected to terminate pregnancy, and others have become pregnant. Because of the ambiguity of antibody test results in the perinatal period, repeat antibody testing and other immune function tests are scheduled. Women who are seropositive and controls are encouraged to join the case-control group procedures outlined above and in Appendix 2. To date, 7 antibody positive or virus positive women who have delivered in the past year and their infants, as well as 5 Ab positive women who are pregnant have been referred to Drs. Morton Cowan and Ken Culver of the UCSF Pediatric Immunology Research Program

within our collaborative arrangements. (see Appendix 1). Of particular interest in this group are two persistently seronegative but culture positive women and their infants.

D. Transmission from Women:

To evaluate the issue of lesbian transmission, as well as female to male transmission, antibody positive women, their matched high risk controls, and other high risk seronegative women participants, and their male or female partners who consent will participate in the following partner follow-up procedure. Partners will have blood drawn every six months for ARV antibody testing, and for other serologic markers associated with transmission. In addition, they will be asked to provide parallel risk behavior information to that already obtained from original participants, i.e., sexual preference and behavior, drug use, and other possible AIDS exposure. Seronegative male partners and all female partners will be followed intensively every six months as already indicated.

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XII. RELEVANCE OF THE PROPOSED RESEARCH TO THE AIDS PROBLEM

In the United States, heterosexual transmission of AIDS has occurred at a relatively low rate compared to homosexual transmission up to the present time. Prevention efforts can still be effective, but they should be based on as much knowledge as possible about groups at highest risk, and about specific circumstances that increase or reduce the likelihood of transmission. Prospective study of a large group of high risk women can provide both kinds of information. This study is unique in having the ability to follow women with multiple partners, both those in the sex industry and not in the sex industry, with a range of sexual contacts from a few to hundreds per year. Most studies reported or in progress focus on long term partners, family members, or health care workers.

Information from this cohort on specific behavioral, virological, and immunological factors associated with heterosexual transmission and disease progression is of value to a wide range of research, clinical, and prevention efforts. For example, some behavioral factors predictive of homosexual transmission do not appear on preliminary analysis to be associated with heterosexual transmission; we can assess whether this is so because these behaviors are used less often, or more likely to be used with contraceptive or protective methods, or have less potential for infection when the immunological defenses of the recipient are less compromised.

Concern has been widely expressed about the role of prostitution in heterosexual transmission of AIDS. This study can provide information about seroprevalence of ARV antibody among a wide range of women in the sex industry, from street prostitutes to those with relatively few clients by appointment only. Prostitutes who do not use IV drugs are a particular target of this research, in order to assess the true role of multiple partners separately from IV drug use. The sex industry group includes women who have never been arrested, and ones who specialize in specific sexual practices. Further, all have provided information on safe sex practices and condom use which will be of value in assessing issues of occupationally-linked female to male transmission risk. Our ongoing collaboration and established credibility with prostitute organizations has greatly enhanced health education of prostitutes in San Francisco. AWARE's research is viewed as helpful in providing this group of women with specific information on safe sex guidelines and prevention of infection (see Appendix 1).

Providers of care, counseling, and women at risk are also concerned about AIDS risk in the perinatal period. This research is providing needed information on transmission, diagnosis, and prognosis of AIDS retrovirus infection and viral carriage among women who are pregnant or have delivered children within a period of exposure to the virus.

XIII. PROGRESS REPORT

AWARE was originally funded for the 1985-86 fiscal period; this progress report covers that period through February 10, 1986. From February through June 1985, a pilot funding period allowed for recruitment and training of staff, design of documents, and field testing of procedures. Since then, 415 women have been enrolled in the study, completed initial interviews and had blood drawn and tested for antibody to ARV. In addition, women in the collaborative study of N. Padian and W. Winkelstein have had blood processed and in some cases, had screening physical examinations as well. Of the AWARE participants to date, the following progress has been made:

Participants enrolled to 2/15/86	415
(Initial interview and blood drawn)	
Initial interviews coded, verified	390
Data entry of initial interview data	220
Positive or ambiguous test results to	60
San Francisco DPH	
Viral lymphocyte cultures begun	20
Viral cervical/vaginal cultures begun	10
Six month follow-up procedures completed	5
(including physical exams, blood work)	

Since women call us to inquire about joining the study, no direct estimate of refusal experience exists. One estimate of loss is the "no show" rate of women who have scheduled appointments not kept. This rate has been decreasing steadily; at present less than 20% fail to keep appointments, and nearly half of these call back to reschedule. Another estimate of relevance is the proportion of women who choose to return to obtain their antibody test results. Again, time and experience have improved this proportion; approximately 64% of women in the first three months returned; the current rate is 82% of women who have scheduled and kept return appointments in December and January.

At initial interview, 78% of women expressed willingness to participate in the prospective phase of this research; we are just beginning to use the contact information they provided to solicit their continued participation. Only 30 women have been contacted about intensive follow-up. Of these, 27 have agreed to continue. The most important subgroup is women who have been found to be antibody positive; to date, all but one of these is continuing in the study.

Seroepidemiology: Preliminary findings are available on the first 220 women participants. They range in age from 20 to 64 years; the majority are in their thirties. Most women have reported more than one type of heterosexual risk exposure; most commonly including multiple partners, some of whom were also bisexual and/or had used IV drugs. The average number of sexual partners over the last three years was between 150 and 200 for women in the sex industry, and 10 to 20 for women not in the sex industry.

In regard to specific sexual practices, over half of women participants reported engaging in anal intercourse; 50% of women in the sex industry and 58% of women not in the sex industry. However,

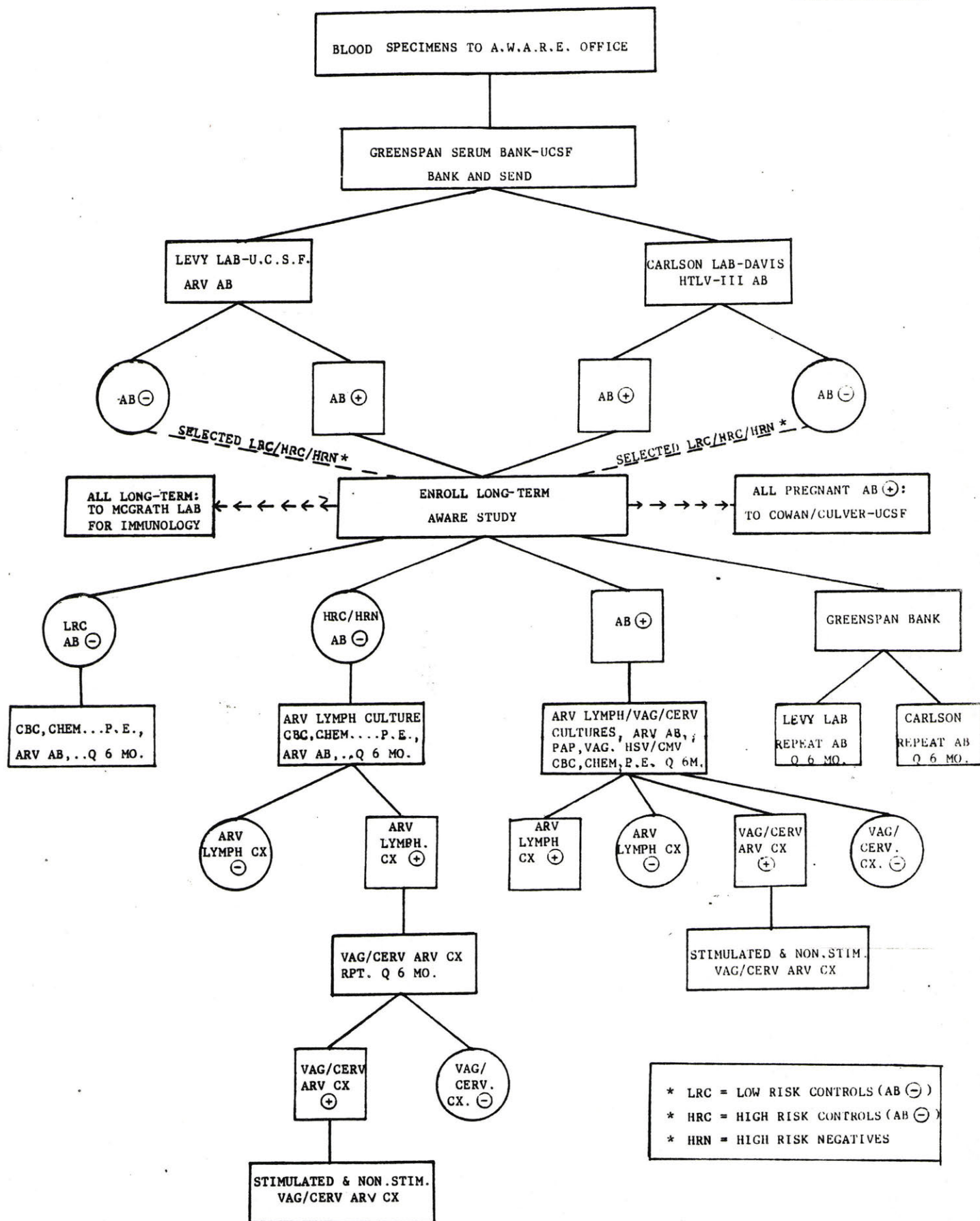
more than half of the sex industry women reported using protection, compared to 12% of women not in the sex industry. In general, women in the sex industry report more use of barrier protection (e.g., condoms) for all types of sexual behavior.

Study participants are also asked about the use of all types of non-prescription or "recreational" drugs. Use of drugs was very common among participants, any history of IV drug use was reported by 30% of women in the sex industry, and 13% of women not in the sex industry.

Finally, among the first 220 participants, 4% have been found to be seropositive on repeated tests for antibody to the AIDS virus. Although the number of seropositive women is still too small for detailed analysis, it is possible to state that in comparison to seronegative women, seropositive women are a) equally spread among sex industry and non-sex industry participants; b) more likely to have had IV drug using or bisexual partners or partners with AIDS, and c) much more likely to report ever using IV drugs themselves.

These preliminary results were reported at the Annual Meetings of the American Public Health Association in November 1985. (Manuscript is attached.)

Viroepidemiology: A major unanswered question in heterosexual transmission of AIDS retrovirus is the relative infectivity of vaginal and cervical secretions. We have been in collaboration with Dr. Jay Levy to investigate the presence of ARV in the vaginal canal. Our results indicate that small amounts of the infectious virus can be recovered from vaginal and cervical secretions. Of the first eight seropositive women, 7 had virus isolated from peripheral blood mononuclear cells and 4 had ARV in vaginal or cervical secretions. However, the quantity of virus recovered from the vaginal/cervical secretions was low, and the identification of ARV was accomplished only after passage of the isolate to cultured mitogen-stimulated normal human peripheral blood mononuclear cells. These results have been submitted in manuscript form and accepted by Lancet for publication; a copy of the manuscript is attached, Appendix 5.



APPENDIX 2B

Definitions

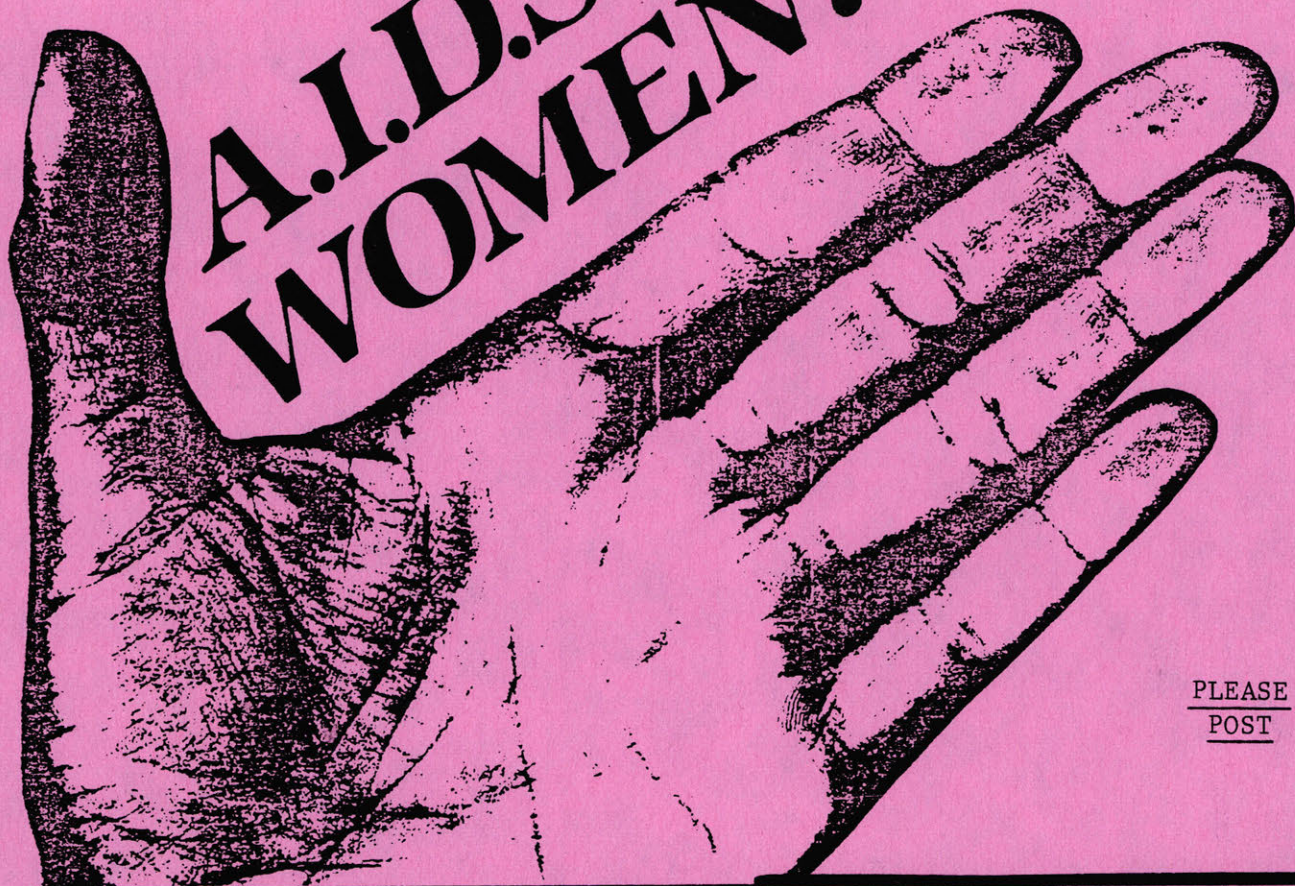
High Risk Control (HRC): Seronegative woman, matched by age, race, and date of entry to an index case, from one of the following categories:

- a) Had sexual exposure in the last 3 years to a male who had AIDS, ARC, or was seropositive.
- b) Had 3 or more symptoms suggestive of ARC (as defined by the list on pages 12 and 13 of long questionnaire, Appendix 4B) at entry into the study.

High Risk Negative (HRN): Seronegative woman who fulfills the above criteria for a HAC, who is not matched to an index case but merits further virologic study (e.g., a pregnant women with a specific high risk partner).

Low Risk Control (LRC): Seronegative woman, matched by age, race, and date of entry to an index case, who is at risk by study eligibility criteria but has not had sexual exposure to a man known to have AIDS, ARC, or seropositivity and did not have 3 or more symptoms of ARC at entry into the study.

A.I.D.S.? WOMEN?



PLEASE
POST

NEW STUDY

WE ARE TESTING FOR ANTIBODY TO THE A.I.D.S. VIRUS
IN WOMEN IN SAN FRANCISCO

TO JOIN THE STUDY, YOU MUST HAVE HAD:

1) SEXUAL CONTACT WITH (OR DONOR INSEMINATION FROM) A MAN IN AN
A.I.D.S. RISK GROUP (GAY OR BISEXUAL MAN, I.V. DRUG USER, HAITIAN,
HEMOPHILIAC, OR KNOWN A.I.D.S. PATIENT)

OR

2) FIVE OR MORE MALE SEXUAL PARTNERS IN THE LAST THREE YEARS.

WE NEED: FIVE TEASPOONS OF BLOOD AND LESS THAN AN HOUR OF YOUR TIME.

WE DON'T NEED: YOUR NAME, ADDRESS, SOCIAL SECURITY NUMBER, BIRTHDATE,
OR MONEY.

FOR MORE INFORMATION, CALL A.W.A.R.E. AT (415) 821-8695

A.W.A.R.E.: ASSOCIATION FOR WOMEN'S AIDS RESEARCH AND EDUCATION

A.I.D.S.? WOMEN?



PLEASE
POST

NEW STUDY

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OR

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WE DON'T NEED: YOUR NAME, ADDRESS, SOCIAL SECURITY NUMBER, BIRTHDATE,
OR MONEY.

FOR MORE INFORMATION, CALL A.W.A.R.E. AT (415) 666 - 4092

A.W.A.R.E.: ASSOCIATION FOR WOMEN'S AIDS RESEARCH AND EDUCATION

COYOTE

AWARE

National Task Force on Prostitution
P.O. Box 26354
San Francisco, CA 94126
415/552-1849

Association for Women's
AIDS Research and Education
San Francisco General/Ward 86
995 Potrero Avenue
San Francisco, CA 94110
415/476-4091, 821-8695

October 2, 1985

Dear Service Provider:

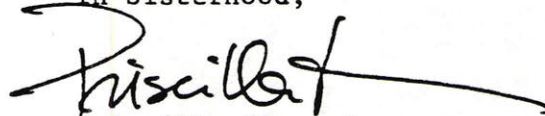
COYOTE and Project AWARE are putting on a forum for sex workers on AIDS and AIDS risk reduction. Entitled Sex in the Age of AIDS: A Forum for Women in the Sex Industry, it will be held on Friday, October 18th, from 7:00 to 9:00 p.m. at the First Congregational Church on Post & Mason Streets in San Francisco. I have enclosed a flyer that gives more information about the forum.

We would appreciate it if you could post the flyer where your clients who may be interested can see it (make as many copies as you need), and also if you could personally let any clients you think might be interested know about the forum. There is no charge for the forum.

Among other things, we will be discussing up-to-date medical information, and specific measures women engaged in sex work can take to protect themselves and their sex partners from the disease. We will also discuss the "results" of various studies of prostitutes and AIDS that are being done around the country, as well as the purposes of the study being conducted by Project AWARE.

If you or any of your clients have any questions, they can call Project AWARE at 476-4091, or they can call me in the evening at 552-1849.

In Sisterhood,



Priscilla Alexander
for COYOTE and Project AWARE

Enc.

**San Francisco General Hospital
Medical Center**

995 POTRERO AVE. WARD 86 SAN FRANCISCO, CA 94110

A.W.A.R.E. WOMEN AND A.I.D.S. STUDY INFORMATION SHEET

I. Statistics - Women and AIDS as of 5-27-85 (From CDC)

Total Adult AIDS cases:	10,144	Women by category	#	%
Total men:	9,368	I.V. Drug User	370	54
Total women:	682	Hemophiliac	3	0
Total pediatric		Hetero. contact	85	12
(under 13)	94	None or other	165	25
		Total	682	100%

II. STUDY PURPOSE AND DESIGN

The purpose of this study is threefold: 1.) to evaluate which groups of women are at risk for AIDS as a result of heterosexual contact, by testing for antibodies to AIDS associated retrovirus (ARV); 2.) To determine which sexual or lifestyle practices are associated with antibody positivity, using a questionnaire developed specifically for women; and 3.) to serve as a pilot to evaluate the feasibility of larger long-term studies of women and other high-risk populations, and to gather women willing to participate in long-term follow-up.

The study is designed so that for most women, two appointments of less than one hour each are all that are required. All women participating in this study will have blood drawn and be interviewed by a trained interviewer. Most women will be given a short form which will take about forty minutes to complete. Some women will be asked to complete a longer form which will take about an hour. Results are obtained at a second interview about two weeks later with an interviewer who is available to discuss special concerns.

We will not require the names of participants. Each woman will be given a code number and name, with instructions on how to contact us for results. Counseling and referrals will be provided. If a woman is antibody positive, we will ask her permission to obtain further blood and other samples, as well as to follow her progress over the next two years.

III. ENTRY CRITERIA

We are looking for 500 women, age 18 or older, who

1.) Have had sexual contact with (or donor insemination from) men who are bisexual, I.V. drug users, hemophiliacs, Haitians, or known AIDS patients,
OR WOMEN WHO

2.) Have had five or more male sexual partners in the last three years, either partners from whom payment was received or those from whom it was not.

All participants must live in San Francisco or have had the required number of sexual contacts in or from San Francisco.

Exclusions : 1.) I.V. drug users (anytime in the last five years) who are not also in groups 1 or 2 above. We will refer these women to another similar study. 2.) monogamous women with a monogamous partner for the past five years. 3.) Women with exclusively lesbian sexual contacts.

**San Francisco General Hospital
Medical Center**

995 POTRERO AVE. WARD 86 SAN FRANCISCO, CA 94110

A.W.A.R.E. WOMEN AND A.I.D.S. STUDY INFORMATION SHEET

I. Statistics - Women and AIDS as of 5-27-85 (From CDC)

Total Adult AIDS cases:	10,144	Women by category	#	%
Total men:	9,368	I.V. Drug User	370	54
Total women:	682	Hemophiliac	3	0 > 1%
Total pediatric		Hetero. contact	85	12
(under 13)	94	None or other	165	25
		Total	682	100%

II. STUDY PURPOSE AND DESIGN

The purpose of this study is threefold: 1.) to evaluate which groups of women are at risk for AIDS as a result of heterosexual contact, by testing for antibodies to AIDS associated retrovirus (ARV); 2.) To determine which sexual or lifestyle practices are associated with antibody positivity, using a questionnaire developed specifically for women; and 3.) to serve as a pilot to evaluate the feasibility of larger long-term studies of women and other high-risk populations, and to gather women willing to participate in long-term follow-up.

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OR WOMEN WHO

2.) Have had five or more male sexual partners in the last three years, either partners from whom payment was received or those from whom it was not.

All participants must live in San Francisco or have had the required number of sexual contacts in or from San Francisco.

Exclusions : 1.) I.V. drug users (anytime in the last five years) who are not also in groups 1 or 2 above. We will refer these women to another similar study. 2.) monogamous women with a monogamous partner for the past five years. 3.) Women with exclusively lesbian sexual contacts.

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SCHOOL OF MEDICINE
DEPARTMENT OF MEDICINE

SAN FRANCISCO, CALIFORNIA 94143

July 15, 1985

Ms. Nancy Shaw
Women's Program Development Coordinator
AIDS Foundation
333 Valencia Street
San Francisco, Ca. 94103

Dear Nancy:

Enclosed are a couple of our study design sheets that we circulate to interested individuals.

I relayed your message to Connie about the current grant proposal. She says that the section you referred to was a copy of our original proposal that was resubmitted for this grant. She thanks you for the updated information.

See you at the next W.A.N. meeting.

Sincerely,

A handwritten signature in dark ink, appearing to read "Bernadette Cracchiolo".

Bernadette Cracchiolo
Project Assistant
Project A.W.A.R.E.
Ward 86 Bldg. 80
SFGH
San Francisco, Ca. 94110

enclosures

BC:sw

UNIVERSITYWIDE TASK FORCE ON AIDS
UNIVERSITY OF CALIFORNIA

AIDS RESEARCH PROGRAM 1984-1985

I. Title of Project: POINT PREVALENCE STUDY OF ANTIBODY TO AIDS RETROVIRUS (ARV) IN SEXUALLY ACTIVE HETEROSEXUAL WOMEN NOT IN KNOWN RISK GROUPS: A Study of Risk of Acquisition of ARV as a Result of Sexual Activity in San Francisco

II. Principal Investigator:

Wofsy, Constance B.

Name (last, first, M.I.)

Signature

Mailing address (use only those lines necessary, no abbreviations please):

AIDS Activities Unit

Phone numbers:

Department/Division

Office:

415/821-8830

Bldg. 80, Ward 86

Bldg./Room #

Laboratory:

San Francisco General Hospital/UCSF

School

Dept.(messages):

415/821-8666

San Francisco, CA

94110

Campus

Zip

III. Eligibility of Responsible Investigator:

Associate Clinical Professor

Official UC title

IV. Co-investigators:

Judith B. Cohen, Ph.D., MPH, Associate Research Epidemiologist, Department of Medicine,
University of California, San Francisco

V. Responsible Administrator (please see instructions):

I verify that the information given by the applicant concerning his/her appointment and current grant status is correct and complete.

Signature	Merle A. Sande	Professor & Vice-Chairman, Dept. of Medicine	Dept.
	Name	Title (chair, etc.)	

VI. Review & Approval:

A. Human Subjects

- ☐ 1. Does not apply
☐ 2. Approval attached
☒ 3. Review pending

B. Biohazards

- ☒ 1. Does not apply
☐ 2. Memorandum of Understanding and Agreement attached
☐ 3. Review pending

C. Contracts & Grants: Information as required on the attached checklist is complete and detailed in the application.

Summary of Research Proposal for the AIDS Research Program

UNIVERSITYWIDE TASK FORCE ON AIDS: 1984-1985 Grant Awards

Constance B. Wofsy, M.D., Asst. Chief, Infectious Diseases, Co-Director, AIDS Clinic

Name and Title of Principal Investigator

AIDS Activities Unit, San Francisco General Hospital, Univ. of California, San Francisco
Department and Campus

Point Prevalence Study of Antibody to AIDS Retrovirus (ARV) in Sexually Active
Heterosexual Women Not in Known Risk Groups: A Study of Risk of Acquisition of ARV
as a Result of Sexual Activity in San Francisco

Title of Project

Use this space to summarize concisely your proposed research. Outline objectives and methods. Underscore the KEY words (not to exceed 10) in your abstract.

Heterosexuals are at risk for acquiring AIDS as a result of IV drug use, factor VIII use, transfusions and sexual activity with partners in high-risk groups. Women are at particular risk for AIDS as a result of sexual activity because the virus has been identified in semen and the former AIDS risk status of male sexual partners may be unknown to them. Evidence from Africa strongly suggests transmission from females to males, but the sexual practices associated with transmission and the infectivity of vaginal secretions are not known. This study proposes to look at prevalence of antibody to the AIDS virus solely as a consequence of heterosexual sexual activity in sexually active women with multiple anonymous sexual partners or known exposure to high-risk men. Subjects will include sexual contacts of IV drug users, bisexual males and hemophiliacs, and women with 5 or more sexual partners in the last year, both those who accept pay for sex and those who do not. Subjects will be recruited from a wide variety of sources with access to these women. They will undergo antibody testing and an interview evaluating medical history, specific sexual practices, high risk exposure, and general health by means of a questionnaire developed by the investigators specifically for women. Information from this study in conjunction with other planned or ongoing cohort studies will be used in planning prospective studies in women and in public health education.

If the AIDS Task Force awards you a research grant, copies of this page may be distributed to UC Contract and Grant Offices and to other interested individuals and groups.

XI. EXPLANATION OF PROJECT

I. BACKGROUND

A. Development of the Association for Women's AIDS Research and Education (A.W.A.R.E.):

Anticipating the likelihood of cases of AIDS in women, and the need for education for women at risk, an organization called the Women's AIDS Network was established in the Spring of 1983 cofounded by Laurie Hauer, R.N. A pamphlet for risk reduction guidelines for women was developed by this group in May 1984 and has been distributed throughout the Bay Area. On November 16, 1984, this organization presented a day-long forum which brought together many organizations which have access to women at potential risk for AIDS including Coyote (National Task Forces on Prostitution), other prostitute groups, jails, bisexual groups, youth programs, women's agencies, artificial insemination centers, VD clinics, and many others (Program—Appendix A). This forum evoked much support for research about the prevalence of the AIDS antibody and means of transmission. Women in these risk groups strongly expressed the need for women working with women in this type of investigation, particularly in those groups, such as prostitutes, where there has historically been a great deal of stigma and prejudice.

As an outcome of the Women's AIDS Network Forum and the reality of AIDS in heterosexuals in San Francisco, a group of women medical professionals with extensive experience in clinical research, epidemiology and women's health issues, grouped together to form the Association for Women's AIDS Research and Education (A.W.A.R.E.) for the purpose of conducting research related to women in AIDS risk groups and coordinating with other research efforts in which women are involved, and to provide a well publicized, supportive, cooperative organization with which women at risk will feel comfortable and be willing to enroll as research subjects for this study and future studies. The organization is an integral part of the AIDS Activity Center at San Francisco General Hospital.

An extensive questionnaire has been developed by the group which specifically addresses the issues related to AIDS transmission in women, especially with regard to female sexual behavior. This questionnaire will be used in other related studies in which women will be evaluated, including the San Francisco City Clinic bisexual cohort in the study of Nancy Padian and Warren Winkelstein.

B. AIDS in Females

Of the 7,064 cases of AIDS reported to the CDC as of December 3, 1984, 6.4% have been in females, predominantly as a result of intravenous drug abuse (58%) or transfusions (7.6%). An additional 11% of females with AIDS have had heterosexual contact with a male in a high-risk group as their only possible source of acquisition of AIDS (1). Since 98% of AIDS cases have occurred in males in San Francisco, and 10-15% of homosexuals studied in San Francisco are estimated to be bisexual (2) and 93% of AIDS cases nationwide are in males, 22% of whom are solely heterosexual (1), there is probably a large population of women at risk because of heterosexual activity with males whose risk activities may be unknown to them. Epidemiologic evidence accumulated over the last several years suggests that AIDS can be contracted solely via sexual transmission between heterosexuals (3,4), but the means by which this transmission occurs is not known. The AIDS virus has been found in the ejaculate (5,6), but whether certain sexual activities enhance transmission from male to female has not been widely studied. In homosexual males, for instance, rectal insemination enhances risk (6), but anal sex has not been a frequent practice in women with AIDS in Zaire (8). Evidence of female to male transmission in the U.S. is minimal, but in Africa nearly 50% of the reported cases of AIDS are in women, and disease prevalence in males and females is associated with multiple partners including prostitutes (9,10).

To date, there have been only three cases of AIDS in women in San Francisco, only one of whom has sexual transmission as a presumed risk factor. By contrast, in New York as of June 27, 1984, there were 178 cases of AIDS in women, 14.6% of whom had as their only risk exposure a sexual partner in a high risk group (11). In other aspects of the AIDS epidemic, New York is 1-2 years ahead of San Francisco, suggesting that an increased incidence of AIDS in females in San Francisco may parallel that of New York

over the next few years. In the better studied homosexual population the frequency of AIDS antibody far exceeds the actual incidence of AIDS and the prevalence of antibody in healthy homosexuals has increased progressively over the last four years (12). Is there now an early pool of heterosexuals who are antibody positive? What will be the slope of the curves of acquisition of antibody and expression of the disease in heterosexuals? It has also been speculated that the emergence of the full-blown AIDS disease may require co-factors such as CMV for expression (13). This speculation could be easily studied in women since the average incidence of CMV is about 55% (14) in contrast to nearly 100% incidence in homosexual men (15). However, incidence of prior CMV infection in subgroups of sexually active women in this area has not been defined.

It is, therefore, of great importance to quickly ascertain the relative prevalence of ARV seropositivity in sexually active women who are not otherwise at risk for AIDS and to develop cohorts for more specific studies in the future.

II. PURPOSE

1. To evaluate which groups of females are at highest risk for exposure to the AIDS retrovirus identified by the presence of antibody to AIDS retrovirus (ARV), as a result of heterosexual sexual contact. Women sampled will include female sexual contacts of: bisexual men, IV drug users, hemophiliacs, Haitians or known AIDS patients, and women who acknowledge multiple sexual partners including groups of women who accept money for sex and sexually active women who are not paid for sex acts.
2. To determine by standardized interviews using a questionnaire developed specifically for women, which sexual activities or lifestyle activities are associated with antibody seropositivity.
3. To serve as a pilot to evaluate the feasibility of ongoing studies in specific high-risk populations and to delineate cohorts in anticipation of larger prospective studies to be done in the future.

III. STUDY DESIGN

This is a point prevalence study using a volunteer sample of women self-identified to be at risk for AIDS. The study design will permit nested case control studies if insufficient numbers of seropositive women are identified.

Nonmonogamous women at risk for exposure to ARV will be identified from various sources throughout the City, through contact individuals, organizations, clinics, and women's centers. Individuals who agree to participate will be guaranteed anonymity and identified only by a self-chosen pseudonym and coded numbering system. After preliminary screening and informed consent, participants will complete a questionnaire, administered by a trained interviewer on Ward 86 (AIDS Clinic at San Francisco General Hospital) or other recruitment site, providing information on medical history, lifestyle, habits, and sexual activities. Time will be allowed for education and counseling if needed or desired. Blood will be drawn by a member of the study staff or phlebotomist for ARV antibody and other serologic studies. Blood samples will be processed on Ward 86 with aliquots transferred to the laboratory of Dr. Jay Levy at UCSF; and serum for other studies banked at SFGH. Information will be given to the participants about how to obtain blood test results since investigators will not know how to reach the study subjects, and referrals will be provided for health care follow-up and education.

If a laboratory result is positive and the individual chooses to obtain the result, every attempt will be made to provide a face-to-face discussion of the implications of the results, and at minimum there will be a lengthy telephone conversation by a skilled professional. In antibody positive subjects, vigorous attempts will be made to obtain further informed consent for blood samples and nonmenstrual cervical secretions to culture for AIDS retrovirus and to access sexual partners for testing and counseling. Antibody positive individuals will be matched with an age and subgroup matched control for more detailed analysis and they will be recruited to serve as a cohort for prospective studies.

IV. STUDY POPULATION

A. Inclusions

Females 18 or older who have had any sexual contact with (or donor insemination

from) males in high risk groups (see below) or who have had five or more different sexual partners (who are not necessarily in risk groups) in the last 3 years. Participants must live in San Francisco or have the required number of sexual contacts in San Francisco. Women will be recruited from the following three high risk subgroups:

1. Women who have had heterosexual sexual contact with or donor insemination from known bisexual males, IV drug users, hemophiliacs, Haitians or known AIDS patients.
2. Women with multiple sexual partners where payment is expected.
3. Women with multiple sexual partners where payment is not expected.

Women who fit the above categories and use IV drugs will be included but analyzed separately.

B. Exclusions

1. Intravenous drug users, defined as "use of intravenous drugs any time in the last 5 years," who are not in sexual risk groups. Such individuals will be referred directly to Dr. Onishi's I.V. drug user study. Dr. Onishi will refer to us sexual partners of I.V. drug users.
2. Monogamous individuals with a monogamous partner for the last 5 years.
3. Individuals with exclusively lesbian sexual contacts.

C. Projected Sample Size

Five hundred women in 12 months, with at least 200 enrolled by July 1, 1985.

Any proposed sampling scheme must recognize the possibility that the prevalence of antibody may be extremely low in these populations (less than 1%) and therefore must allow as large a sample size as possible through multiple source sampling. Efforts will be made to enroll equal proportions of women from each group. In order to access the required sample size for detection of differences between ARV seropositives and seronegatives, various levels of seropositivity prevalence were assumed and then sample sizes were calculated for each prevalence rate such that 95% confidence intervals around the point estimate would not contain the value zero. Current estimates of the range of seropositivity among bisexual males in San Francisco range from 18% to 30% (2). Since it is unlikely that transmission from males to females will approximate 100%, we calculated per-group sample size required for prevalence rates ranging from one (0.01) to 15 (0.15) percent. The per-group sample sizes required range from 25 if the prevalence is 15% to 385 if the prevalence is 1% in the population subgroup. We will therefore monitor the prevalence rate in each subgroup as the study progresses and be prepared to change recruitment criteria accordingly.

D. Recruitment

Organizations or individuals committed to refer women who meet the study criteria include Coyote, bisexual centers, Lyon Martin Women's Clinic, S.F. City V.D. Clinic, donor insemination centers, jails and others.

An information sheet will briefly discuss the purpose of the study, issues of confidentiality, the availability of test results, and counseling services available. For each source, specific contact persons will be identified, thoroughly informed of study design and goals, and provided with recruitment sheets. Study personnel will be available on site at locations where large numbers of prospective enrollees are identified. Prospective subjects not present at a specific site, such as prostitutes, will be recruited with the help of organization leaders and contacts with whom collaboration has been established. Prospective enrollees will be given a specific name to call at the AIDS Clinic at San Francisco General Hospital and calls will be returned using a pseudonym if the subject so wishes, insuring confidentiality.

At least two informational meetings will be held to provide background information on AIDS and publicize the study goals and objectives (Appendix B). The first such session was held on January 14, 1985. There were 80 attendees, many with access to large populations at potential risk. Enthusiasm for the study was considerable, and many commitments were made to participate or recruit subjects. The next meeting is scheduled for January 29, 1985.

D. Referral for Persons with Symptoms Suggestive of AIDS or AIDS-Related Complex (ARC)

Anyone with symptoms suggestive of AIDS or ARC on the preliminary questionnaire will be given referrals to the AIDS Clinic at San Francisco General Hospital or other resources engaged in AIDS screening (but not antibody testing). Medical records for these individuals will be maintained with the usual confidentiality but will utilize the patient's name and other standard identification. If a name or phone number becomes known to study personnel, it will not be computerized or recorded on any data sheet.

VI. LABORATORY

Twenty-five cc of blood will be drawn in clot tubes by the interviewer or a phlebotomist and serum will be processed at San Francisco General Hospital or other site to be determined.

1. Testing for antibody to AIDS retrovirus (ARV) will be done in the laboratory of Dr. Jay Levy at U.C. San Francisco by means of immunofluorescence assay. Samples will be sent within 3-5 days so results will be known quickly.
2. Serum will be frozen for future serologic studies including hepatitis, EBV, CMV and syphilis. Samples will be batched for convenience in transport.
3. Cervical culture for cytomegalovirus and AIDS retrovirus and blood for AIDS retrovirus will be obtained from individuals who demonstrate positive antibody tests, if the individual will so agree. ARV cultures will be done by Dr. Jay Levy. CMV cultures will be done at San Francisco General Hospital.
4. CBC and chemistry panel will not be obtained as tests will not be altered merely in association with antibody positivity. HS ratio and immunologic studies will likewise not be obtained for this point prevalence study, but would be anticipated for future prospective studies.

VII. QUESTIONNAIRE

Because of the exploratory nature of this study, we will begin with a relatively short screening instrument in order to ascertain the risk status of as many participants as possible during the initial period. A short and a long version of the women's interview have been developed, addressing the same areas of risk behavior but differing in detail (Appendix C). For the first 100 women enrolled, every tenth woman will complete the longer interview, and nine will be administered the shorter form. Seropositive women and their controls will subsequently be asked to complete the more detailed interview, along with a continuing subsample of every nth new enrollee, as scheduling permits. As differences in risk become apparent, it will be possible to change the criteria for or proportions of long vs. short interviews scheduled.

Each questionnaire will be administered by a trained interviewer who is familiar with AIDS, and aspects of human sexuality. The short interview will take <15 minutes and the long interview will take about 1 hour. The interview will focus on the following issues:

1. Medical history, including current and past medical conditions, AIDS or ARC-related symptoms, history of OB-GYN-related problems, UTI, artificial insemination, age of children, PAP smear history, injections of possible high-risk nature and tobacco use.
2. Sexual history, focusing on sexual preference, condom use, the number and sex of partners, the proportion of anonymous partners, contraceptive use, relation of sexual practices to menses, bleeding associated with sexual activity.
3. Direct exposure history including travel, drugs, high-risk partners and other high-risk medical or occupational exposure.
4. Demographic information including adjunct identifiers.

Additional time will be allowed after the interview for phlebotomy if done by the interviewer, and for initial counseling and referral arrangements.

VIII. CONFIDENTIALITY

Names will not be obtained. The participant will be identified by a code number and certain demographic identifiers (see page 1 of the questionnaire) so that she will be able to gain access to laboratory results, if so desired, in the event that she loses her code number. The identifiers used will be an easily remembered pseudonym, preferably

the mother's first name, father's first name, state of birth, and month and day of birth. The informed consent procedure will indicate the pros and cons of obtaining test results and the expectations of further studies if test results are positive. If test results are desired, they will be made available via a specific number to call and name to ask for. An assessment of willingness to give names will be evaluated and analyzed for each subgroup in anticipation of prospective cohort studies.

IX. SIGNIFICANCE OF THE STUDY

A. Immediate Outcome

At the completion of the five month funding period, we expect to have a good initial idea of the prevalence of ARV antibody. The anticipated enrollment of 200 or more women will allow us to begin to establish subsets and plan other studies. It is also expected that A.W.A.R.E. will be well established, and that confidence in the organization and our maintenance of confidentiality will allow us to recruit subjects by name.

Our ongoing association with various groups will significantly enhance educational efforts with them, encouraging use of condoms and safe sex, and adherence to public health measures.

B. Future Considerations

This study will allow the development of a cohort of ARV antibody positive women for the following long-term studies:

1. Serial AIDS virus cultures from blood, cervical samples and other bodily secretions.
2. Cohort analysis of the long-term outcome of cofactor (e.g., CMV) positive and cofactor negative women to assess long-term carriage, development of full blown AIDS and range of infectious diseases encountered. For such a study, full immunological testing would be anticipated.
3. Tracing of male and female contacts of antibody positive women focusing particularly on nonrisk group contacts and evaluating associated sexual activities by interview questionnaire in order to address the question of how readily the virus is transmitted from females to sexual partners and by what means.

A second consideration is cohort identification of subgroups of sexually active women to follow prospectively for acquisition of antibody. Only with a well constructed system of trust in investigators and their intentions will this be possible.

XII. RELATIONSHIP OF THE PROJECT TO THE AIDS PROBLEM

The recent identification of four cases of AIDS in San Francisco heterosexuals who were not in high-risk groups, and the disclosure of the existence of a working female prostitute who is a long-time sexual partner of a man with AIDS, have created a situation of grave concern among heterosexuals in the San Francisco area. These events have drawn great media attention, have raised local public awareness and created concern among widespread investigators and Public Health Department officials regarding just who is at risk, how the infection is transmitted among heterosexuals, and the current and anticipated prevalence of infection among heterosexuals.

AIDS in heterosexuals is not a new problem. Throughout the epidemic, the number of heterosexuals has been relatively constant at 22-23%, but most cases have been directly related to well identified high risk behavior or circumstances such as IV drug use or transfusion. As the total number of cases increases, the number of individuals with sexual activity as their sole risk factor has also increased. In the United States, AIDS as a result of sex alone has been seen to date primarily in the female population: 11% of all female AIDS vs. >0% of males with AIDS. The specter of secondary cases and tertiary cases in which high risk behaviors are less well identified, and the possibility of transmission from females to males, have virtually mandated that we evaluate these groups carefully using established research methods while numbers can still be expected to be relatively small. Likewise, heterosexuals now aware of the potential risk are demanding answers to questions of risk, transmission and protection in their sexual practices. The organization, Association for Women's AIDS Research and Education (A.W.A.R.E.), and this specific proposal were developed sequentially to begin to address the two mandates of the medical community and the public. The past experiences of the investigators involved have covered virtually all aspects of the medical problem, epidemiology, and women's issues. This proposal is a first look at point prevalence in San Francisco in a broad range of potential risk groups. It is expected to be the first of a closely coordinated series of investigations on women in relationship to the AIDS question. Proposed future projects are outlined in the future considerations section of the proposal.

APPENDIX I

COLLABORATORS

With the recent identification of AIDS in heterosexuals in San Francisco, it became clear to a number of investigators that research was needed in this area. Knowing of the nearly legendary lack of cooperation and infighting that has so seriously hampered research efforts in some cities with a number of AIDS cases, our group, A.W.A.R.E., has made cooperation and collaboration one of its chief goals. To this end, we have identified all the known groups doing investigations in heterosexuals in San Francisco and have identified how our studies could complement each other so that all risk groups are covered and, where overlap occurs, cross collaboration has been arranged. Specific collaborations include:

1. Jay Levy M.D. Dr. Levy has agreed to provide antibody testing for the AIDS virus for all subjects and AIDS virus cultures for selected individuals who are antibody positive. He will likewise refer women who are referred to him to our study for interview and inclusion in our data analysis.
2. Andrew Moss, Ph.D. and Robin Onishi, M.D. are conducting a study on male and female IV drug users, and have agreed to refer appropriate contacts of IV drug users to our study. We will likewise refer subjects to them and will arrange to cross administer our questionnaires in selected instances by jointly trained interviewers since persons who use IV drugs may be lost in some instances unless evaluation is done at the time of initial contact. The overall cohorts for the two studies are, however, very different.
3. Warren Winkelstein, M.D., MPH is principal investigator for Nancy Padian's contact tracing study assessing transmission to female contacts of a well defined cohort of bisexual men identified through the City Clinic. The basic study design is quite different but we will share the questionnaire and laboratory processing protocols.
4. Margo St. James and Priscilla Alexander, Director of Coyote, national prostitute network, and N.O.W. affiliate, respectively, have declared their concern for the risk of AIDS in prostitutes and the need for sensitively conducted studies. They have agreed to provide their very active support in recruitment and education.

APPENDIX II

REFERENCES

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Follow-up -

consult?

got budget

✓ NS - Laurie
- Res. letter

\$70,880

NS guidelines

✓ Gate { ① Laurie's project
① N. Padian }

Home 524-3456

Work 642-5512

642-3997

Admin. Asst. / Secy.

full-time + pt-time

60% Judith

40% Laurie

1 1/2 asst/derical

Interviewers -

and Sunday from 11 am to 5 pm (There
5).

n organizing and developing our
11 Chuck Frutchey for more information).

ld a Nutritional Library for our Social
ry Norsworthy for more information).

skim approximately 20 Northern California
rticles at U.C. Berkely Campus Library.

to work from ground-level ZERO to
er GALA.

support our CAIN (computerized AIDS
(Call Bobby Hilliard for more

f is meeting the 1st and 3rd Saturday
it takes a more tutorial thrust for

and support. And, again, I am really
&k-up may have caused you.

1/16/85

Feedback -

Study design -

85% ^{ARV} positive are excreting virus
MMWR

To plan sample size

A/ If $N \leq 100$ of ♀ w/ bisexual
i.e. likely, 30 contact w/ ARV ⊕ man. pessimistic
If 85% had contact w/ excreting
then ^{still} don't know if transfer occurs
then still 1-15 most likely to be infected
overall estimate 15 = the most
1 = maybe

B/ Multiple anonymous } if $N = 200$ women
 $\frac{1}{8} \quad \frac{1}{4} \quad \frac{1}{2} \quad \frac{1}{1}$ } if approx. of contacts = high risk
25 50 60 200
x. 3 ARV ⊕ IV drug use inst
7.5 15 30 60 = contact w/ virus = 20% ARV ⊕
bi/ Normal ↑ = 30%
= est # of pos. tests

↓
At 15% prevalence rate $30\% / 200 =$ posit test result.

If the transmission is only .01, then need
400 ♀♀ to get #s

	+	-	
risk factor	8	91	99
+	8	91	99
-	1	200	201
	9	291	300

39%

17.6%

(conf. interval)

(3.7 - 85)

eg risk factor = no condom

	+	-	
	6	91	97
	3	200	203
			300

→ 4.4 = odds ratio

(1.2, 16)

below that the conf. interval goes from 1 up.

Can
Alt. mode:

- ① simple screening for all; ARV antibody emphasis;
- ② Then get pole back + do long? more for
- ③ test ♀♀

Mtg - 3³⁰ Mon.

STATS -

12/24/84

	MALE		FEMALE	
	(N)	%	(N)	%
homo/bi	78	78	0	
IV drug	15	78	55	
Haitian	3		9	
Hemophilia	1		0	
Waters contact	(5)	0	(55)	11
trans fusion	(48)	1	(41)	8
None		3		17
Totals	(7012)		(492)	

1. Connie Wofsy -

stats discussion.

? Bisexuality -

- make language clear -

Def. of AIDS - for surveillance purposes

DOI or KS

Now "AIDS virus" ident.

Est. % 10% of people w/ virus will get the illness
only 8 mos. followup (antibody to)

Est. 30-50% of gay men in SF have virus; 1%
have the illness.

What is AIDS screening?

Antibody test - not generally available.

Why? ① may take 2-3 yrs to be sure whether
the pos = yes and the neg = no.
Eg false pos. or false neg.

2) What to do w/ the info?

life insurance, sexual counseling,
etc.

AIDS Screening Clinic - SFGH

1) no symptoms → info

2) " +/or high risk →
routine tests.

2. Intros

3. Connie describes study -

ggs who live or have maj. of sex. partners in
SF

ggs: 1) ~~know~~ exposed to men in high risk ggs
2) 5 or more ^{male sexual} partners in 3 years
3) paid for sex + not paid

Another study will be studying IV drug.

Not a case control study, but a sero positivity study.

2. Data to be collected.

Questions will be organized to develop a sense
of risk categories.

4. Confidentiality -

code - wallet card.

+ nontraceable identifiers for result questions

For antibody positive ♀♀:

length of study - hope for 1 yr. of data collection.

? Priscilla -

a lot of conventions

Connie - will try to address that

[Three years = backgd]

Laurie - will make up an info. sheet

→ Connie - need to write out the list of categories.

To Laurie Hauer, Connie Wofsy, Judith Cohen

From Nancy Shaw

Women and AIDS research project

My proposed role in the project:

Collaborator/consultant, with the following tasks:

1. Consultation on research design and analysis
 - questionnaire construction
 - selection of participants
 - sampling procedures
 - ethical issues
 - criminal justice issues
 - privacy rights of participants
 - qualitative analysis of data
2. Public awareness
3. Referral networks for participant identification and/or recruitment
4. Liason with S.F. AIDS Foundation

~~Financing: So long as I am paid adequately by the Foundation, no reimbursement is necessary. I.e., no problem.~~

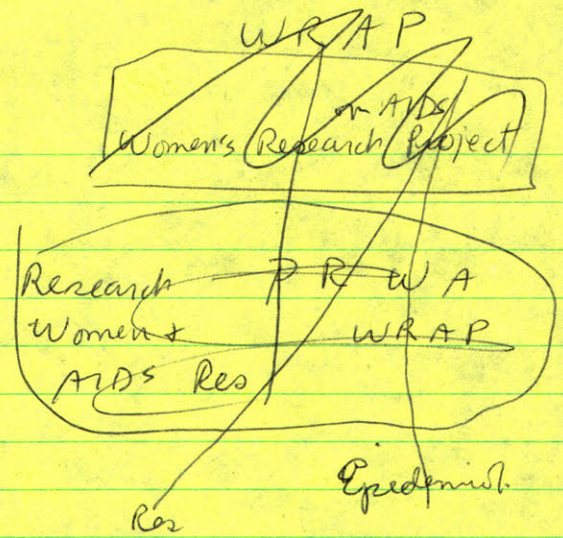
AIDS + Women's Research Enterprise

A. W. R. E. N.

~~Engineering~~

AIDS + Women Research Enterprise

A WREN



4. Paper production

To Do

- ① descrip - 2-3 pps
- ② proposal / protocol.
- ③ info for solic.
- ④ consent form
- ⑤ FRB pkg
- ⑥ forum booklet
- ⑦ ~~bro pamphlet~~ Brochure

5. Next mtg - Room 2, cafe conf.
9-10 Wed Jan. 9.

NS- CV + 1 para. on self
role + bkgd, qualifs.

6. Chnl 7- Ticket for Laurie - for Sat Jan 12

Report on Nancy P -

Is going to look at another(?) gp.

Jadith

- u/AIDS
- 1) ♀ who slept w/ guys (40s)
 - 2) partner of man sex active (40s)
est 1500 ptners 1000 men
500 women

Discussion during break - language changes -

Questionnaire

See Lyon - Martin

Nancy Stoller Shaw, Ph.D.

a medical sociologist and

Dr. Shaw, ~~a~~ visiting lecturer at Univ. of Calif, San Francisco, has 12 years experience ~~as a~~ research on ^{social aspects of} women's health and health care, with a focus on ^{impacts of} ~~poor women, the poor, ethnic~~ poverty ~~and women involved in the criminal~~ ^{and} ethnic variations, justice systems. She is particularly knowledgeable in the areas of ^{female} sexuality and reproductive cycles. Dr. Shaw ~~is~~ also serves as the

NS. provide secretarial
+ grant prep. assistance
- UCSF Sec. B.
② res. design

SF or H

Mtg:

Present. grace
Kathy R. Connie
Sandy
Nancy ~~miss~~ Padian
Laurie
Judith Cohen
Nancy S
Sandy

Agenda set by L.H. + C.W.

1. Protocol -
Connie -

Task force has a cohort. ∴ need to emphasize value of
this project.

Target grs

- 1) Bisexual cohort - many overlaps w/ Nancy P's study
- 2) Drug - [Robin - will work w/ us]
submitting
- 3) Prostitutes - can't say it.
- 4) Swinging Singles

Judith: This ^{could be} ~~is~~ the umbrella org. rel. to gg

Connie: For funding - will emphasize cooperation

Sugg. Susie Sachs - statistics

2. Funds "SNAP" - Laurie

Gary Titus - Positive
2-3 p. summary

Talked to - Anne Ruggieri - Mary Pittman Lindemann = boss
Thought it was appropriate + should be funded.

Suggestions ...

3. Meetings -

NS. get WAN forum list - attendees.
give to ?

→ Track down list + get it
on labels.

2nd mtg: 2. eve night - Tues. Jan 29
7-9 pm

→ to Laurie H.
821-8695

LH will send out
1st mtg: Mon Jan 14 3³⁰-5³⁰ - Carr Audit. SF qnl.

NS - Jail - mtg ppl who might be useful

Laurie

♀ Quex - Draft 2

28 Dec '84

A

FOR OFFICE USE ONLY:

WOMENS AIDS RISK STUDY
PREVALENCE QUESTIONNAIRE

DATE: _____

SEQ. # _____

We will not be asking you for specific identifying information, so the information that you give us cannot be traced to you. However, in order to share your results with you, and provide the opportunity to discuss them with you, we need to agree on a code that you can use when you contact us in the future. The information in this code will be provided by you, and should be easy for you to remember, but have no meaning to anyone else.

. Here is what we have been using; if you do not have all this information, we can use what is available:

A. Mother's first name: _____

B. Father's first name: _____

C. State of birth code: _____

D. Month/Day birthday: _____/____

SO YOUR PERSONAL CODE WILL BE:

GIVE COPY TO
PARTICIPANT

. Where did you hear about this study?

Personal source:

Organization: (specify)

Location: (specify)

- Let's start with a list of medical conditions. As I read each one, please tell me whether a doctor or other medical practitioner ever told you that you had it. Some of these conditions are quite rare, so you may not have heard of all of them. But if you've had any of them, you'll know it. How about (EACH)? (Did a doctor or other medical practitioner ever say you had that?)

	<u>NO</u>	<u>YES</u>
A. Kaposi's Sarcoma or AIDS	1	2
B. Some form of Cancer	1	2
<u>IF "YES" TO CANCER:</u>		
a. What kind of cancer did they say it was? Site: _____ Type: _____ b. And when was it first diagnosed? In 19____ OR ____ years ago		
C. Have you ever had an organ-transplant?	1	2
D. Have you ever taken steroids or other drugs that suppress the immune system -- not counting sex hormone steroids -- for longer than two weeks?	1	2
<u>IF "YES" TO D:</u> For what condition (are you taking/did you take) (it/them)? _____		
E. And during the last 20 years -- not counting diagnostic dental x-rays or diagnostic x-rays of your lungs, bones or other organs -- did you have any radiation therapy or treatment?	1	2
F. In the past 6 months have you been ill with Tuberculosis?	1	2
<u>IF "YES" TO TUBERCULOSIS:</u> Are you taking any kind of medication or therapy for it?		
No, neither	1	2
Yes (SPECIFY: _____).	1	2
G. Diabetes	1	2
<u>IF "YES" TO DIABETES:</u> How old were you when it first started? About ____ years old		
H. Hemophilia	1	2
I. Any type of abnormal hemoglobin	1	2
J. Chronic kidney disease -- not counting kidney stones	1	2
K. Glomerulonephritis	1	2
L. Systemic Lupus Erythematosus	1	2
M. Vasculitis	1	2
N. Rheumatoid arthritis	1	2
O. Ankylosing Spondylitis	1	2
P. Reiter's Syndrome	1	2
Q. Thyroiditis or Grave's Disease	1	2
R. Myasthenia Gravis	1	2
S. Some other autoimmune disease (SPECIFY: _____).	1	2

Have you ever had:

	NO, NEVER	YES, BUT NOT IN LAST 6 MOS.	YES, WITHIN LAST 6 MOS.
A. Hemorrhoids or piles (<i>IF YES</i> : Have you had them in the past 6 months?)	1	2	3
<i>IF EVER HAD HEMORRHOIDS</i> : Did they ever bleed? (<i>IF YES</i> : Have they bled in the last 6 months?)	1	2	3

Has a doctor or other medical practitioner ever told you that you had (EACH)? (*IF YES*: Have you had it in the past 6 months?)

B. Shingles (or Herpes Zoster)	1	2	3
C. Bullous Impetigo	1	2	3
D. Infectious Mononucleosis	1	2	3
E. Jaundice or some liver disease other than Hepatitis (<i>SPECIFY</i> : _____).	1	2	3
F. Has a doctor or other medical practitioner ever told you that you had Hepatitis or a blood test that was positive for Hepatitis?	1	2	3

IF EVER HAD HEPATITIS (CODE 2 OR 3):

(1) Can you tell me whether you had Hepatitis A, Infectious Hepatitis, Hepatitis B, Serum Hepatitis, Non A/Non B Hepatitis, or didn't they say which kind it was? *CIRCLE ONE CODE FOR EACH IN FIRST SECTION.*

(2) *FOR EACH "YES"*: How did you happen to find out that you had (*TYPE OF HEPATITIS*) (*IF DON'T KNOW WHICH KIND*: some kind of hepatitis) -- did you go to the doctor because you were feeling sick, or did they happen to find it when they were doing a blood test for some other reason?

	(1) HAD THIS TYPE?			(2) HOW LEARNED?		
	No, not this kind	Yes, this kind	Don't know	Had symptoms	Did blood test for other reason	Other (<i>SPECIFY</i>)
Hepatitis A	1	2	3	1	2	3()
Infectious Hepatitis	1	2	3	1	2	3()
Hepatitis B	1	2	3	1	2	3()
Serum Hepatitis	1	2	3	1	2	3()
Non A/Non B Hepatitis	1	2	3	1	2	3()
Other(<i>SPECIFY</i> : _____).	1	2	3	1	2	3()
Don't know which kind it was	1	2		1	2	3()

3. Have you ever received an injection of Hepatitis B vaccine?

No 1
Yes 2

Has a doctor or other medical practitioner ever told you that you had any of the following conditions? (IF NEEDED: Was it diagnosed by a doctor or other medical practitioner?)

	<u>NO</u>	<u>YES</u>
A. Asthma	1	2
B. Hayfever	1	2
C. Hives	1	2
D. Allergic Dermatitis	1	2
E. An immediate allergic reaction to a drug or insect sting that caused difficulty with breathing or blood pressure	1	2

- A. Have you ever had any of the following diseases or conditions?
How about (EACH)? ASK A FOR ALL, BEFORE ASKING B AND C FOR ANY.
- B. And how many times in your life have you had (DISEASE OR CONDITION)?
- C. And how many times have you had it during the last six months?

IF NEEDED, EXPLAIN: By a "time" we mean each period when you thought it was cured and then it started again (or finally went away for good).

	A. EVER		B. TOTAL TIMES EVER HAD	C. NUMBER TIMES DURING THE LAST 6 MONTHS
	No	Yes		
(1) Syphilis	1	2	_____times	_____times 0
(2) Any form of gonorrhea	1	2		
<u>IF NO TO (2), SKIP TO (6)</u>				
(3) gonorrhea (clap)	1	2	_____times	_____times 0
(4) Oral gonorrhea (of the mouth or throat).	1	2	_____times	_____times 0
(5) Rectal gonorrhea (of the rectum)	1	2	_____times	_____times 0
(6) Non-specific or nongonococcal (that is, not caused by gonorrhea).	1	2	_____times	_____times 0
(7) Shigella, Shigellosis or Salmonella	1	2	_____times	_____times 0
(8) Amoebic dysentery	1	2	_____times	_____times 0
(9) Giardia or Giardiasis	1	2	_____times	_____times 0
(10) Some other parasitic disease such as worms, not including childhood worms	1	2	_____times	_____times 0
(11) Genital warts or anal warts (condylomata acuminata)	1	2	_____times	_____times 0
(12) Crabs (or lice)	1	2	_____times	_____times 0
(13) Scabies	1	2	_____times	_____times 0

E

. A. Have you ever had any of the following forms of Herpes?

	<u>NO</u>	<u>YES</u>
1. Facial herpes, cold sores, or fever blisters?	1	2
2. Sores in the genital region?	1	2
3. Sores in the anal or rectal area?	1	2

IF "NO" TO ALL THREE, SKIP TO Q

B. Has there been a period during the last six months when your herpes sores seemed to come more often, get worse, or last longer?

No, not in the last 6 months	1
Yes, that has happened	2

. Within the past week have had (EACH)?

	<u>NO</u>	<u>YES</u>
A. A cold	1	2
B. A fever	1	2
C. Influenza or flu	1	2
D. Diarrhea	1	2
E. Some other illness that began in the last week SPECIFY: _____ .	1	2

In general, how would you describe the usual state of your health? *in last yr?*

Excellent	1
Good	2
Fair	3
Poor	4

Have you had any of the following problems or symptoms during the last six months that have lasted for at least two weeks?

A. How about (EACH)? (Did you have that at any time during the last six months?)
FOR EACH "YES," ASK B AND C:

B. In what month and year did it begin? [IF NEEDED: Even though you don't remember the exact month, it would help if you could tell me the season or approximate time of year when it started (this last time).]

C. And do you still have that?

PROBLEM OR SYMPTOM	A. HAD IN LAST 6 MOS.		B. WHEN BEGAN Month Year	C. HAVE NOW	
	No	Yes		No	Yes
(1) Persistent shortness of breath (for at least two weeks)	1	2	_____ 19__	1	2
(2) A new or unusual kind of dry cough (that lasted 2 weeks or longer)	1	2	_____ 19__	1	2
(3) A persistent sore mouth or throat (for at least two weeks).	1	2	_____ 19__	1	2
(4) Thrush, Candida or white patches in your mouth or throat (for at least two weeks)	1	2	_____ 19__	1	2
(5) A new skin rash that lasted for at least two weeks	1	2	_____ 19__	1	2
(6) An unusual bruise or bump or skin discoloration that lasted at least two weeks	1	2	_____ 19__	1	2
(7) Persistent fatigue (feeling tired all the time) for at least two weeks	1	2	_____ 19__	1	2
(8) An unintentional weight loss of at least 10 pounds (unrelated to dieting)	1	2	_____ 19__	1	2
(9) Diarrhea for at least two weeks	1	2	_____ 19__	1	2
(10) Persistent or recurring fever higher than 100° for at least two weeks	1	2	_____ 19__	1	2
(11) Tender or enlarged glands or lymph nodes (not counting your groin) for at least two weeks	1	2	_____ 19__	1	2
(12) Sweating at night for at least two weeks	1	2	_____ 19__	1	2
(13) Persistent, frequent, or unusual kind of headaches for at least two weeks	1	2	_____ 19__	1	2

CHECK A. IF "NO" TO ALL 13 ITEMS, SKIP TO Q . .

D. Then you had (RECAP ALL ITEMS CODED "YES" IN A) during the last six months. Did you see a doctor or other health professional about (that/any of them/ either of them) during the last six months? INCLUDE ONLY PERSONAL VISITS.

No, not during the last six months . . . 1

Yes, at least once during that time . . .

Menstruation

Donor insemination

6

Have you ever been pregnant?

No....Never

Yes...No. of times

If YES: a) Of these pregnancies, how many ended in spontaneous abortion, miscarriage, or stillbirth? induced abortion?

live births: 1) year _____ sex _____
2) year _____ sex _____
3) year _____ sex _____
4) year _____ sex _____

How many of these children are presently living in your household? (give #'s)

Are you presently using some form of birth control?

No

Yes (specify) _____

Have you used other forms of birth control in the past 3 years?

No

Yes (specify)

Type _____ when _____

Type _____ when _____

Did a doctor or other medical professional ever tell you that you had Pelvic Inflammatory Disease (PID)?

No

Yes:

During the last six months?

(No. of times)

During the last five years?

(No. of times)

When was this first diagnosed? (yr) _____

What type of B-control?

A. At any time during the last six months did you stay overnight as a patient in a hospital?

- No . . . (SKIP TO Q) 1
- Yes 2

IF YES: How many separate times did you stay overnight as a patient in a hospital during these last six months?

_____times

B. Tell me about (that hospitalization/each of those times). USE ONE COLUMN FOR EACH SEPARATE STAY DURING THE LAST 6 MONTHS.

	Most Recent Hospitali- zation	Second Most Recent Hospitalization
(1) On what date did you go into the hospital (the last time/the time before that)?	_____, 19____ month day year	_____, 19____ month day year
(2) How many nights did you spend in the hospital at that time?	_____nights	_____nights
(3) For what condition or problem were you hospitalized? RECORD FULLY IN R's OWN WORDS.		

[] IF MORE THAN 2 HOSPITALIZATIONS IN LAST 6 MONTHS, CHECK HERE AND USE CONTINUATION SHEET.

A. Have you had a biopsy of lymph nodes or lymph glands in the last 2 years? (By a biopsy, we mean removal of at least one lymph node or lymph gland to study under the microscope.)

- No (SKIP TO Q 11). 1
- Yes 2

B. How many times did you have one?

_____times

C. And what did they say the diagnosis or result of the biopsy was?

CODE ALL
THAT APPLY

- Tuberculosis 1
- Lymphoma or Cancer 2
- Toxoplasmosis 3
- Reactive Hyperplasia 4
- Other (SPECIFY: 5

3 years vs 5 years
I

- A. Have you received an injection or shot of gamma globulin in the last 3 years? (It's usually given in the buttocks to help protect you against hepatitis or to prevent other diseases -- especially before you travel.)

No (SKIP TO Q 1
Yes 2
Don't know . . (SKIP TO Q 3

- B. How many times in the last 3 years have you had one?

_____ times

- C. When was the last time?

_____, 19_____
month year

Add RHogam
here, or need
separate question?

- A. Have you received a transfusion of blood or blood components (platelets or plasma) in the last 3 years?

No (SKIP TO Q. 1
Yes 2
Don't know . . (SKIP TO Q 3

- B. And how many times have you had a transfusion in the last 3 years?

_____ times

- C. When was the last time?

_____, 19_____
month year

- A. Not counting things like skin tests or injections of drugs, have you had any part of your body pierced -- by acupuncture, by a tattoo, or having your ears, nose or nipples pierced, or something like that in the last 3 years?

No . . (SKIP TO Q 14). 1
Yes 2

- B. Was that done during the last 6 months?

No 1
Yes 2

J

Have you engaged in any sort of sexual activities, involving another person, in the last 3 years? Any sort at all?

No (SKIP TO 2nd INSTRUCTION IN BOX) 1

Yes 2

IF YES: Which of these terms best describes your sexual behavior or activities during the last 3 years? Please refer to page 3 in the booklet.

All these
may be
called
"Bisexual"-
specify

A. Exclusively homosexual 1

B. Almost exclusively homosexual, but a small degree of heterosexual activity 2

C. Primarily homosexual, but with a substantial degree of heterosexual activity 3

D. Equally homosexual and heterosexual 4

E. Primarily heterosexual, but with a substantial degree of homosexual activity 5

F. Almost exclusively heterosexual, but a small degree of homosexual activity 6

G. Exclusively heterosexual 7

[] IF EXCLUSIVELY HETEROSEXUAL (CODE) IN LAST 3 YEARS, READ THIS DEFINITION: For the purposes of this study, sexual intercourse is defined as follows: mouth, vagina or rectum. THEN SKIP TO Q

[] FOR ALL OTHERS, ASK BOTH Q AND AFTER READING THIS DEFINITION: For the purposes of this study, sexual intercourse is defined as follows:

A. How old were you the very first time you had sexual intercourse?

About _____ years old

B. And about how old were you when you first started having sexual intercourse with males on a regular basis? (By "regular basis," we mean at least once a month.)

About _____ years old [] Never on a regular basis

NOW SKIP TO Q 19

C. IF NEVER HAD INTERCOURSE WITH MALES: When did you last have some kind of sexual activity with a man -- was that during the last 6 months, during the last 2 years (but more than 6 months ago), more than 2 years ago, or never

During the last 6 months 1

During last 3 years (but more than 6 months ago) 2

More than 3 years ago 3

Never 4

K

relations
?

- A. How old were you the very first time you had sexual intercourse with a female (or was there never such a time -- not even once)?

About _____ years old

[] Never → SKIP TO C

- B. And about how old were you when you first started having (sexual intercourse) with females on a regular basis (or was there never such a time)? (By "regular basis", we mean at least once a month).

About _____ years old

[] Never on a regular basis

GO TO Q

- C. IF NEVER HAD INTERCOURSE WITH FEMALES: When did you last have some kind of sexual activity with a woman -- was that during the last 6 months, during the last _____ years (but more than 6 months ago), more than _____ years ago, or never?

During the last 6 months 1

During last 3 years (but more than 6 months ago) 2

More than 3 years ago 3

Never 4

- . Now let's talk about the numbers of different people you've had sexual intercourse with over the years.

relations - friends

	MEN	WOMEN
A. How many different (men/women) (if any) have you had sexual intercourse with during the last six months?	_____ men [] None	_____ women [] None
B. And how many different (men/women) (if any) have you had sexual intercourse with during the last 3 years?	_____ men [] None	_____ women [] None
C. And about how many different (men/women) (if any) have you had sexual intercourse with in your whole life?	_____ men [] None	_____ women [] None

IF NO INTERCOURSE IN LAST 3 YEARS (NEITHER MEN NOR WOMEN,) SKIP TO NEXT INSTRUCTION BOX, NEXT PAGE.

D.1 And about how many of the (men/women) you had sexual intercourse with in the last 3 years were known to you but you did not know about their sexual behavior when they were not with you, e.g. who they also had sexual intercourse with?

MEN WOMEN

All of them	1	1
More than half (but not all) . .	2	2
About half of them	3	3
Less than half of them	4	4
None of them	5	5

D.2 Of those (men/women) you had sexual intercourse with during the last SIX MONTHS, how many were people known to you but with unknown sexual behavior with others?

Men _____ AND Women _____

E.1 And about how many of the (men/women) you had sexual intercourse with in the last 3 years were more or less anonymous -- all, some, or none of them? By anonymous we mean that you did not know how to find them again. (IF SOME: would you say more than half, just about half, or less than half were anonymous?)

Men Women

All of them	1	1
More than half (but not all) . .	2	2
About half of them	3	3
Less than half	4	4
None of them	5	5

E.2 Of those (men/women) you had sexual intercourse with in the last six months how many of them were more or less anonymous (that is, you did not know how to find them again)?

_____ men AND _____ women

[] IF ANY SEX WITH MEN IN LAST 6 MONTHS --

[] AND MORE THAN 1 SEX PARTNER IN LAST 6 MONTHS, SKIP TO Q (ASKING BOTH COLUMNS)

[] AND ONLY 1 PARTNER IN LAST 6 MONTHS, ASK F.

[] IF SEX WITH MEN IN LAST 3 YEARS (BUT NOT IN LAST 6 MONTHS, SKIP TO Q

[] IF NO SEX WITH MEN IN LAST 3 YEARS BUT HAD SEX WITH WOMEN IN LAST 3 YEARS, SKIP TO Q

[] IF NO SEX IN LAST 3 YEARS (NEITHER MEN NOR WOMEN), SKIP TO Q .

F. You said you had (intercourse/sex) with only one partner in the last 6 months. Has this partner had sexual activity with anyone other than you during the last 6 months?

No, not to my knowledge	1
Yes	2
Don't know	3

M

The next questions are about different kinds of sexual behavior. I'll ask you to tell me, for each kind of sexual practice, what your experience has been during the last six months, and during the last 3 years.

Here is a list of the sexual practices you'll be asked about.

Beginning with the first one,

A. During the last 3 years, what proportion of your partners did you do that with? (read answers)

B. And during the last six months, how many men did you do that with?

(IF only one partner, ask "Is that something you did with your partner?")

HETEROSEXUAL OR BISEXUAL ACTIVITY	A. Last <u>3</u> years					B. Last 6 months
	All	Most	Some	One	None	Number of Partners
(1) Your partner masturbated you to the point of ejaculation (til <u>you</u> came)	5	4	3	2	1	With _____ partners 1 = Yes, only one partner 0 = No & only one partner
(2) He put his penis into your mouth IF NONE, SKIP TO (4) . .	5	4	3	2	1	With _____ partners 1 = Yes, only one partner 0 = No & only one partner
(3) He ejaculated in your mouth	5	4	3	2	1	With _____ partners 1 = Yes, only one partner 0 = No & only one partner
(4) He touched your clitoris with his tongue	5	4	3	2	1	With _____ partners 1 = Yes, only one partner 0 = No & only one partner
(5) He put his penis into your vagina IF NONE, SKIP TO (8) . .	5	4	3	2	1	With _____ partners 1 = Yes, only one partner 0 = No & only one partner
(6) He ejaculated in your vagina .	5	4	3	2	1	With _____ partners 1 = Yes, only one partner 0 = No & only one partner
(7) He put his penis into your rectum IF NONE, SKIP TO (9) . .	5	4	3	2	1	With _____ partners 1 = Yes, only one partner 0 = No & only one partner
(8) He ejaculated in your rectum .	5	4	3	2	1	With _____ partners 1 = Yes, only one partner 0 = No & only one partner
(9) Thinking of all the times you had intercourse, how many of your partners (male) used a condom?	5	4	3	2	1	With _____ partners 1 = Yes, only one partner 0 = No & only one partner
(10) You used your tongue to touch or lick his anus or rectum . .	5	4	3	2	1	With _____ partners 1 = Yes, only one partne 0 = No & only one partne
(11) You inserted your finger or fingers (but not your whole hand) into your partner's rectum	5	4	3	2	1	With _____ partners 1 = Yes, only one partne 0 = No & only one partne
(12) You put your whole hand or fist into his rectum	5	4	3	2	1	With _____ partners 1 = Yes, only one partne 0 = No & only one partne

N

Question (continued)

(HETEROSEXUAL OR BISEXUAL) Kind of Activity	A. Last 3 years					B. Last 6 months
	All	Most	Some	One	None	Number of Partners
(13) He used his tongue to touch or lick your anus or rectum ("rimming")	5	4	3	2	1	With _____ partners 1 = Yes, only one part 0 = No & only one part
(14) He put his finger or fingers into your rectum	5	4	3	2	1	With _____ partners 1 = Yes, only one part 0 = No & only one part
(15) He put his whole hand or fist into your rectum	5	4	3	2	1	With _____ partners 1 = Yes, only one part 0 = No & only one part
(16) He put a dildo or other device into your rectum	5	4	3	2	1	With _____ partners 1 = Yes, only one part 0 = No & only one part
(17) You engaged in water sports and were urinated on or drank your partner's urine	5	4	3	2	1	With _____ partners 1 = Yes, only one part 0 = No & only one part
(18) You engaged in scat	5	4	3	2	1	With _____ partners 1 = Yes, only one part 0 = No & only one part
(19) You engaged in what you consider to be S&M activities . . .	5	4	3	2	1	With _____ partners 1 = Yes, only one part 0 = No & only one part
(20) And with how many partners did you use a douche or have an enema before having sex? . . .	5	4	3	2	1	With _____ partners 1 = Yes, only one part 0 = No & only one part
(21) With how many partners did you use a douche or have an enema after having sex? . . .	5	4	3	2	1	With _____ partners 1 = Yes, only one part 0 = No & only one part

Both used?

How many times during the last six months have you noticed the following after sex?

A. You had bleeding from your vagina? Never

No. of times _____

B. You had bleeding from your rectum or anus?

Never

No. of times _____

C. Your partner had bleeding from his/her rectum or anus?

Never

No. of times _____

We need an equivalent list
of sexual activities for
women/women activities.

ALSO

- . A. Did you share a razor with a sexual partner
How about a toothbrush?

	<u>Yes</u>	<u>No</u>
Razor (safety)	1	2
Razor (electric)	1	2
Toothbrush	1	2

- B. IF YES: How many partners? _____ no. partners razor (safety)
 _____ no. partners razor (electric)
 _____ no. partners toothbrush

- . A. So far as you know, did anyone that you ever had any sexual activity with get
AIDS (either before or after your contact)?

No, not to my knowledge . (SKIP TO Q 31). 1
 Possibly, not certain 2
 Yes, definitely 3

- B. How many got AIDS?

_____ of them got AIDS

How many times during the last six months have you noticed the following after sex WITH WOMEN?

A. You had bleeding from your vagina? Never

No. of times _____

B. You had bleeding from your rectum or anus?

Never

No. of times _____

C. Your partner had bleeding from her rectum or anus?

Never

No. of times _____

D. Your partner had bleeding from her vagina?

Never

No. of times _____

Is your usual range of sexual activity the same or different during the times you are menstruating?

It is the same in both range of activities
and in partners

It is the same in range of activities but
with fewer/different partners
SPECIFY:

Partner(s) are the same, but range of
activities is different
SPECIFY:

Both partners and activities are different
SPECIFY:

I have no sexual activity when menstruating

Finally, please estimate what proportion of your sexual activities are in a group situation (swinging, more than one partner at a time)?

Partners	A. Last 3 years				B. Last six months			
	All	Most	Some	None	All	Most	Some	None
With men partners only	4	3	2	1	4	3	2	1
With women partners only	4	3	2	1	4	3	2	1
With both men and women	4	3	2	1	4	3	2	1

K

The illnesses which we are studying might be related to drug use. Therefore I would like to ask you about your use of certain drugs, although again, Some of the questions may not be applicable to you. I'll begin with alcohol and tobacco and then I'll read you a list of recreational drugs.

Do you smoke cigarettes at present? No _____ (THEN ASK, "DID YOU QUIT IN THE LAST THREE YEARS?")

IF "NO", SKIP TO Q.
IF "YES" ASK (a)

(a) How many packs per day?

- One-half pack or less..... 1
- Less than one pack..... 2
- One pack per day..... 3
- About 1 1/2 packs per day..... 4
- Two packs per day..... 5
- About 2 1/2 packs per day..... 6
- Three or more packs..... 7
- Don't know how many packs..... 9

A. If you use alcohol, how often do you usually have a drink, if we define a drink as a glass of wine, a bottle of beer or a shot of liquor? READ CODES.

<u>Never</u>	<u>Less Than Once a Week</u>	<u>Once or Twice a Week</u>	<u>More Than Twice a Week</u>
1	2	3	4

B. IF NEVER DRANK LIQUOR IN LAST 3 YEARS , SKIP TO Q.
When you did drink wine, beer or liquor, how many drinks did you usually have at one sitting? Count as one drink a glass of wine, a bottle of beer or a shot of liquor. READ CODES.

	<u>Less than one</u>	<u>One or Two</u>	<u>Three or Four</u>	<u>Five or More</u>
No. of Drinks at a sitting	1	2	3	4

Now let's talk about other drugs you may have used. As I read each one, please tell me whether you used it even once during the last 3 years

	Marijuana or Hashish	"Poppers" like nitrite inhalants (amyl, butyl or isopropyl nitrites)	Cocaine	MDA
A. How about (EACH)? [Have you (taken/used) any during the last years?]				
<u>ASK A FOR ALL BEFORE ASKING B - F FOR ANY</u>	No 1 Yes 2	No 1 Yes 2	No 1 Yes 2	No Yes
<u>FOR EACH "YES" IN A, ASK B - F AS NEEDED:</u>				
B. How often did you (use/take) (DRUG) during the last years?	Daily . . 1 Weekly . . 2 Monthly . 3 Less often 4	Daily . . 1 Weekly . . 2 Monthly . 3 Less often 4	Daily . . 1 Weekly . . 2 Monthly . 3 Less often 4	Daily . . . Weekly . . . Monthly . . Less often .
C. And how often did you (use/take) (DRUG) during the last 6 months?	Daily . . 1 Weekly . . 2 Monthly . 3 Less often 4 Not at all 5	Daily . . 1 Weekly . . 2 Monthly . 3 Less often 4 Not at all 5	Daily . . 1 Weekly . . 2 Monthly . 3 Less often 4 Not at all 5	Daily . . . Weekly . . . Monthly . . Less often . Not at all .
D. Have you (used it/taken any) within the last 7 days?	No (NEXT COL) 1 Yes 2	No (NEXT COL) 1 Yes 2	No (GO TO F) 1 Yes 2	No (GO TO F) . Yes
E. <u>IF IN LAST 7 DAYS:</u> How many days ago did you last use it, or was it today?	Today . . 8 ____ days ago	Today . . 8 ____ days ago	Today . . 8 ____ days ago	Today . . . ____ days ago
F. Have you ever (taken/used) (DRUG) with a needle? [<u>IF YES:</u> Was that intravenous (or IV), intradermal or skin popping, or intramuscular?] <u>CODE ALL THAT APPLY.</u>			No, not by needle . . 1 Intravenous 2 Intradermal 3 Intramuscular . . . 4	No, not by needle . . Intravenous Intradermal Intramuscular . . .

7

IF MORE THAN ONE "OTHER STREET DRUG", CHECK HERE [] AND USE CONTINUATION SHEET

PCP, angeldust, psychedelics or hallucinogens like LSD, DMT or mescaline	"Downers", including barbiturates such as yellow jackets or reds, tranquilizers like Valium or Librium or other sedatives or hypnotics like Quaaludes	Ethyl chloride used as an inhalant	Heroin, Methadone or other opiates like Demerol	Amphetamines, speed, crystal, or other "uppers"	Other kind of street drug (SPECIFY: _____) Use continuation sheet if necessary
No 1	No 1	No 1	No 1	No 1	No
Yes 2	Yes 2	Yes 2	Yes 2	Yes 2	Yes
=====					
Daily . . . 1	Daily . . . 1	Daily . . . 1	Daily . . . 1	Daily . . . 1	Daily . . .
Weekly . . . 2	Weekly . . . 2	Weekly . . . 2	Weekly . . . 2	Weekly . . . 2	Weekly . . .
Monthly . . . 3	Monthly . . . 3	Monthly . . . 3	Monthly . . . 3	Monthly . . . 3	Monthly . . .
Less often . . 4	Less often . . 4	Less often . . 4	Less often . . 4	Less often . . 4	Less often . .
Daily . . . 1	Daily . . . 1	Daily . . . 1	Daily . . . 1	Daily . . . 1	Daily . . .
Weekly . . . 2	Weekly . . . 2	Weekly . . . 2	Weekly . . . 2	Weekly . . . 2	Weekly . . .
Monthly . . . 3	Monthly . . . 3	Monthly . . . 3	Monthly . . . 3	Monthly . . . 3	Monthly . . .
Less often . . 4	Less often . . 4	Less often . . 4	Less often . . 4	Less often . . 4	Less often . .
Not at all . . 5	Not at all . . 5	Not at all . . 5	Not at all . . 5	Not at all . . 5	Not at all . .
No (GO TO F) 1	No (GO TO F) 1	No (NEXT COL) 1	No (GO TO F) 1	No (GO TO F) 1	No (GO TO F) 1
Yes 2	Yes 2	Yes 2	Yes 2	Yes 2	Yes
Today . . . 8	Today . . . 8	Today . . . 8	Today . . . 8	Today . . . 8	Today . . .
____ days ago	____ days ago	____ days ago	____ days ago	____ days ago	____ days
No, not by needle . . 1	No, not by needle . . 1		No, not by needle 1	No, not by needle . . . 1	No, not by needle . .
Intravenous . . 2	Intravenous . . 2		Intravenous 2	Intravenous . . . 2	Intravenous . . .
Intradermal . . 3	Intradermal . . 3		Intradermal 3	Intradermal . . . 3	Intradermal . . .
Intramuscular 4	Intramuscular 4		Intramuscular 4	Intramuscular 4	Intramuscular . . .

A. Have you shared a needle with anyone in the last five years?

No . . . (SKIP TO Q 26). 1
Yes 2

B. How many times have you shared a needle in the last six months?

_____ times

Did you ever share a needle with someone who had or later developed AIDS?

No, not to my knowledge 1
Yes 2

A. Have you taken any drugs rectally during the last six months?

No . . . (SKIP TO C, BELOW). 1
Yes 2

B. Which ones? (CHECK BOOKMARK, THEN ASK FOR EACH DRUG TAKEN DURING LAST SIX MONTHS.)

How about (DRUG)? [Did you take (it/any of those) rectally during the last six months?]

Used in 6 mos.	No	Yes	DNA (Not used)
[] Cocaine	1	2	3
[] MDA	1	2	3
[] PCP, angel dust, psychedelics or hallucinogens (like LSD, DNT or mescaline)	1	2	3
[] Heroin, methadone or other opiates . .	1	2	3
[] Any downers	1	2	3
[] Amphetamines, speed or other uppers . .	1	2	3
[] Other drugs (SPECIFY: _____) .	1	2	3

C. And have you taken any alcohol rectally during the last six months?

No 1
Yes 2

V

- A. Thinking back over the last 3 years, was there a time, even once, when you used any drugs while having sex, or had sex while under the influence of drugs?

No . . . (SKIP TO Q) 1

Yes 2

CHECK BOOKMARK, USING BOXES ON LEFT TO REMIND YOU WHICH DRUGS R USED DURING THE LAST YEARS. ASK B ONLY ABOUT THOSE DRUGS R USED. THEN ASK C ABOUT THOSE USED WITH SEX IN LAST YEARS.

- B. Now tell me with how many partners you used each of the following drugs during the last 3 years. How about (EACH)?

- C. FOR EACH USED IN LAST 3 YEARS: And during the last 6 months, with how many partners did you use (DRUG) when you had sex? (Instead of using the booklet page, please give me the approximate number.)

USED		B. Proportion of sex partners in last 3 years					C. Number of sex partners in last 6 months
		All	Most	Some	One	None	
[]	(1) Marijuana or Hashish (with sex)	1	2	3	4	5	_____partners
		ASK C					
[]	(2) "Poppers" or nitrites (with sex)	1	2	3	4	5	_____partners
		ASK C					
[]	(3) Cocaine (with sex)	1	2	3	4	5	_____partners
		ASK C					
[]	(4) MDA (with sex)	1	2	3	4	5	_____partners
		ASK C					
[]	(5) Other hallucinogens (like LSD or mescaline) (with sex).	1	2	3	4	5	_____partners
		ASK C					
[]	(6) Uppers (like speed or crystal) (with sex)	1	2	3	4	5	_____partners
		ASK C					
[]	(7) Downers (like Quaaludes, Valium, tranquilizers) (with sex) SPECIFY: _____	1	2	3	4	5	_____partners
		ASK C					
	_____	1	2	3	4	5	_____partners
		ASK C					
[]	(8) Any other drugs with sex SPECIFY: _____	1	2	3	4	5	_____partners
		ASK C					
	_____	1	2	3	4	5	_____partners
		ASK C					

W

ASK EVERYONE:

- My next questions are about travel. We are focusing on the last three years, so the questions pertain to the period from 1982 to the present time. During those years did you travel to any of the following areas?

FOR EACH YES ASK: Which countries were you in? When were you there? While you were there did you have sex with a resident of the country?

	<u>Yes</u>	<u>No</u>	<u>Country</u>	<u>Dates</u>		<u>Sexual Conta</u>	
				<u>From</u>	<u>To</u>	<u>Yes</u>	<u>No</u>
A. Caribbean?	1	2	_____	/	/	1	2
				mo	yr	mo	yr
			_____	/	/	1	2
			_____	/	/	1	2
B. Africa?	1	2	_____	/	/	1	2
				mo	yr	mo	yr
			_____	/	/	1	2
			_____	/	/	1	2
C. Europe?	1	2	_____	/	/	1	2
				mo	yr	mo	yr
			_____	/	/	1	2
			_____	/	/	1	2
D. Elsewhere out of U.S.?	1	2	_____	/	/	1	2
				mo	yr	mo	yr
			_____	/	/	1	2
			_____	/	/	1	2

X

Also from 1982-85, I'd like you to think now about travel within the United States.

During those years did you travel to any of the following cities?

FOR EACH YES ASK: How many times in the last 3 years? While you were there did you have sex with a resident of the city?

	<u>Yes</u>	<u>No</u>	<u>Number Trips in last 3 years</u>	<u>Sexual Contact</u> <u>Yes</u>	<u>No</u>
A. New York or Fire Island?	1	2	<u> </u> Trips	1	2
B. Los Angeles, Laguna Beach, or Palm Springs	1	2	<u> </u> Trips	1	2
C. Miami or Key West?	1	2	<u> </u> Trips	1	2

69. ASK ALL THOSE NOT LIVING IN SAN FRANCISCO. S.F. RESIDENTS SKIP TO Q

In a typical month about how often would you travel to San Francisco?
And how many of those trips would include sexual contact?

☐ Check if commutes daily

 no. trips

 no. sexual contacts

We are nearly finished with the interview. First, I need to get some descriptive information about you.

. What is your birthdate?

_____ mo _____ day _____ yr

. How many years of school have you completed?

_____ no. yrs.

Where were you born?

City _____ State/Country _____

What year did you move to the San Francisco Bay Area?

(IF BORN IN BAY AREA, ASK: Have you always lived here? IF NO:
when did you move back?)

Year _____ or ☐ Always lived here

In what cities have you lived during the past five years? Let's begin
with your current residence and work back five years. RECORD YEARS FOR EACH.

<u>City</u>	<u>State/Country</u>	<u>from</u>	<u>Years</u> <u>to</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

. Do you live with another adult or adults? IF YES: How many adults live in
your household? COUNT R IN TOTAL.

1 - Yes _____

no. adults

2 - No

Do any children live with you? IF YES: Please tell me how old each one is:

(1) _____ (2) _____ (3) _____ (4) _____ (5) _____

. Now I'd like to know about the kinds of jobs you have had recently.

A. Are you currently employed? IF YES: Full or part time?

1 - Yes, full time

2 - Yes, part time

3 - No

B. Starting with your most recent job and working backward through the last three years, tell me what type of work you were doing and who you were working for. Include any military service and time spent unemployed or time spent as a student. What (is) (was) your (current) (most recent) job? BEGINNING WITH MOST RECENT, ASK OF EACH JOB:

What was your job title? Exactly what did you do there? What type of business or industry was it?

<u>Job title & typical duties</u>	<u>Industry</u>	<u>Years employed</u> from to	

C. ASK IF ANY MEDICAL JOB IN HOSPITAL, CLINIC OR OFFICE. ALL OTHERS SKIP TO Q. Were you in contact with, or did you work around, AIDS patients?

1 - Yes

2 - No (SKIP TO Q 13)

D. IF YES: What was the nature of your work with AIDS patients?
RECORD DESCRIPTION, PROBING FOR DETAILS

Where do you usually go for your basic medical care?
CIRCLE ALL THAT APPLY.

- 1 - Private physician(s)
- 2 - City health clinic (IF "YES", ASK B. BELOW)
- 3 - Kaiser
- 4 - Other HMO (SPECIFY: _____)
- 5 - Other (SPECIFY: _____)

B. IF YES: Which ones?

- 1. Fourth St. (now Seventh St.)
- 2. Seventeenth St.
- 3. Haight Ashbury Free Clinic
- 4. SFGH
- 5. Other SPECIFY:

INTERVIEWER OBSERVATIONS:

COMMENTS: _____

Obs. 1. Did the interviewee have any difficulty with the questionnaire?

1 - Yes

2 - No

IF YES, DESCRIBE:

Obs. 2. How confident are you of the validity of the answers?

1 - Have serious doubts about
validity

2 - Confident of validity

IF DOUBTS, DESCRIBE:

Obs. 3. Was anyone else present during interview?

1 - Yes

2 - No

IF YES, DESCRIBE AND ASSESS EFFECT ON INTERVIEW

I certify this is an authentic interview with the person designated.

Interviewer's Signature _____

Date and time _____

Na
Podis
LH

SEROEPIDEMIOLOGIC STUDY OF THE FEMALE SEXUAL PARTNERS OF MALE BISEXUAL PARTICIPANTS FROM THE CITY CLINIC AIDS COHORT: EVIDENCE OF HETEROSEXUAL TRANSMISSION OF ACQUIRED IMMUNODEFICIENCY SYNDROME.

We are proposing a female partner tracing study of the bisexual participants of the city clinic Acquired Immune Deficiency Syndrome (AIDS) cohort. We will contact, interview, and collect serological evidence of the AIDS associated retrovirus (ARV) from these female sexual partners. Women who have had relations with seropositive men or AIDS cases will be defined as "exposed". Women who have had relations with seronegative men will be considered "unexposed". Comparisons between these groups should yield reliable information regarding the heterosexual transmission of Acquired Immune Deficiency Syndrome (AIDS). Comparisons within these groups, between seropositive and seronegative women, should yield information regarding specific sexual practices or other putative co-factors that may contribute to infection by the AIDS virus.

Background

1) City Clinic AIDS cohort:

Established in 1983, the city clinic AIDS cohort was derived from the 1973 city clinic hepatitis B study cohort. The original ^{hep B} cohort consisted of 6785 men who were interviewed and screened for serologic evidence of hepatitis B infection, as well as information regarding

various life-style factors that might facilitate spread of infection. These men were recruited from the city venereal disease clinic and were mostly white, middle-class, and between the ages of 18-45 (1). Data collected from this cohort were used to calculate the prevalence of hepatitis B infection; and in addition, some seronegative men were followed for incidence data and to be enrolled in a hepatitis B vaccine trial. In 1982, when AIDS gained substantial public health significance in San Francisco, it became obvious that the men enrolled in the hepatitis B cohort were those at risk for AIDS: primarily homosexual men of same age as reported AIDS cases. Thus, in 1983, in a collaborative arrangement between the CDC and the DPH, 785 men were selected from the original sample for an AIDS study. Approximately half of these men were chosen because detailed interview data existed. (The hepatitis B protocol changed after enrolling 300 participants; extensive interviews were then exchanged for a briefer screen). 400 of these 800 men were chosen for the AIDS study; the rest of the ^{AIDS} sample was randomly drawn from the remaining original participants. The AIDS cohort ^{thus} consisted of a total of 785 participants. 477 or 60.7% of this sample have been interviewed regarding sexual behavior and other variables, and have had serological tests done for presence of antibody to the AIDS virus. (Note that blood samples were taken for all of these men upon enrollment into the original hepatitis B cohort; thus, current AIDS serology may be compared with serology on blood samples taken 5-6 years ago.) In addition to this AIDS cohort, all AIDS cases that have developed among the original 6785 men have also been tested and interviewed. 75 cases have occurred outside of the AIDS cohort. Information regarding bisexuality is available for both that AIDS cohort and the additional AIDS cases. 108 men in the cohort report sexual relations with a woman

within the last 6 years, as do 10 of the 75 additional cases. Thus there are currently 115 bisexual men available for female partner tracing.

2) Evidence of AIDS in women; heterosexual transmission:

As of June, 1984, CDC reported that 7% of all United States AIDS cases have been women (2). Thus, the male:female ratio is approximately 13:1. This is in contrast with the epidemiology of AIDS in Rawanda where the male:female ratio was reported as 2:1 (3) and in Zaire where the ratio was 1.1:1 (4). Similarly, in Brussels, the ratio is 3:2 (5) although many of these cases are of African origin.

In San Francisco, there have been ? documented cases among women, most of which have been traced to intravenous drug use or to blood transfusions. However, recently, there have been 3 widely publicized cases among supposedly heterosexual men whose only risk factor appears to have been sexual contact with a female drug abuser, or prostitute, or both. While the data on these cases have not yet been published in the scientific literature, their publicity seems to herald the onset of AIDS in the heterosexual community, both to and from women.

In spite of these cases, it remains widely accepted that the mode of transmission of AIDS occurs via intimate homosexual contact. Some speculate that since the vagina is protected by a thick layer of stratified squamous epithelium, infection cannot occur via heterosexual relations (6-9). The columnar epithelium, which lines the rectum and which can be more easily ulcerated, does not provide comparable protection during anal intercourse, which frequently characterizes homosexual encounters. However, in support of the evidence presented

from the above mentioned 3 San Francisco cases, CDC (2) does suggest that as many as 1% of all AIDS cases have occurred via heterosexual contact. Still, this predominantly homosexual method of transmission again contrasts with the mode of transmission in other countries, especially Africa, where Piot et. al. (4) conclude that "the essentially equal proportion of male and female (cases) would require that transmission occurs from both male to female, and female to male..."(p.68).

Such differences in distributions and transmission remain to be explained. Systematic study of a group of female partners of bisexual men (both infected and uninfected) seems fertile ground to explore these issues. Due to their known sexual contact with a high risk group (bisexual and predominantly homosexual men), this group of women, more than any other, would likely be at risk for infection and be part of a chain of heterosexual transmission.

Methods

1)Hypotheses:

Generally, we will determine whether women who engage in sexual relations with bisexual men who are either infected by the AIDS virus or who have clinical AIDS (exposed women) develop serologic evidence of AIDS infection. Comparisons between this group and the unexposed women who had sexual contact with an uninfected bisexual man, as well as between women who are and are not infected, will help control for confounding factors, such as sexual activity or medical history, which might also influence the course of infection. Other specific hypotheses come to

mind that may be tested using interview data and results from lab tests:

→ ^g 9) Only women who engage in anal intercourse or other particular sexual behaviors are susceptible. Olsen and Shields (7) point out that women in Haiti, which also has a greater proportion of female cases than in the U.S., practice anal intercourse as a method of contraception. Yet, this could not explain female to male transmission. Particular sexual behaviors could be controlled for in the analyses.

→ ^h 8) Only women with repeated exposures become infected. Interview data will reveal numbers of sexual contacts with particular bisexual men.

→ ^c 3) Contagion occurs only for a limited time subsequent to infection. Only women who have had relations with bisexual men during this interval become infected.

→ ^d 4) It is only a matter of time before we will see AIDS cases among women and in the heterosexual population.

→ ^e 5) For reasons yet to be revealed, few women become infected.

The city clinic AIDS cohort is uniquely suited to test the above hypotheses. Multiple blood samples on male participants make it possible to calculate a reasonable date for seroconversion. Matching this date with time of exposure to a woman will help to define the window of exposure when infection can occur. In addition, detailed information on the behavior of the men exists which can be used to corroborate practices elicited from interviews with the women. Finally, these men represent a clinic sample of volunteers, who have demonstrated a willingness to cooperate in the past. Their continued compliance seems more likely than that of a probability sample of men whose initial participation was not due to their own initiative.

→ 2) Sample:

As discussed in the background section, based on current interview data, there are approximately 108 bisexual men in the city clinic AIDS cohort, and an additional 10 bisexual men among the AIDS cases that occurred in the original hepatitis B cohort but not in the AIDS cohort. Although serological data have not been completely analyzed, based on preliminary investigations it is expected that $\frac{2}{3}$ of these men will be seropositive and $\frac{1}{3}$ of these men seronegative. 2 of the 108 are clinically defined AIDS cases. The average number of female partners of these participants is slightly less than 2, although the resulting estimate of $23\frac{6}{10}$ eligible women (110 bisexuals, 2 female partners each) is considered conservative because some of the male participants had greater than 4 partners (e.g., one claimed to have had 69). One may assume that $\frac{2}{3}$ of these women were exposed, and $\frac{1}{3}$ of these women were not exposed. It is difficult to predict compliance rates both on the part of the men and the women, since no comparable studies have been done. For example, contact tracing in other Sexually Transmitted Diseases has never been done using self-identified homosexual or bisexual men as the index cases, and though many of these men have already cooperated in divulging names of male partners, there is no precedent to predict whether this cooperation will extend to the identification of female partners. Likewise, there exists no comparable study by which to predict compliance on the part of the contacted women. Thus, this study may be viewed as a feasibility pilot in addition to a research study.

3) Procedure:

a) 2 trained disease control investigators will contact the bisexual men and in a brief interview will ask them identifying information regarding female sexual contacts. At this time, the participants will be assured that their names will never be mentioned as an index case to anyone, especially potential female participants. This interview will be conducted in the city clinic, at the DPH, or at the participant's home. A copy of this interview, similar to that used in the Male partner's study of the DPH, appears in the Appendix.

b) The same 2 investigators will use all means at their disposal (including reverse phone directories and) to contact the female partners and ask them to participate in the study. At this time the women will know only that they have had contact with a bisexual man; they will not know his antibody status, ^{nor his name.} The women will be assured that their names will never have to be used in the study. An identifying code, identical to the one developed by Dr. Wofsy's study group, ^(see appendix) will be given to a participant and used for the duration of the study. These investigators will then make an appointment with the participant to appear at one of the four clinic sites established by Dr. Wofsy's group for interviewing women at risk for AIDS.

c) At the time of the appointment, these investigators will conduct a short interview with the participant regarding sexual behaviors and other life-style factors that may affect the course of infection. The interview has been designed specifically for women, and has been prepared in collaboration with Dr. Wofsy's group. The investigators on this study will be trained in the same fashion as interviewers on Dr. Wofsy's group. In addition to the interview, 25 ml. of blood will be drawn from each participant by the same trained NP[?] as

This project also represents a collaborative arrangement between U.C.Berkeley and the San Francisco DPH. Participating investigators come from both resources, ensuring maximal use of academic and practical knowledge regarding communicable disease control, and conduct of an epidemiologic study.

Significance

1) Anticipated Findings:

Through this study we will be able to examine the possibility of heterosexual transmission of AIDS, and the development of AIDS infection and clinical symptoms in women. It is expected that exposed women will be significantly more likely to show evidence of infection than nonexposed women. We also may be able to pinpoint specific sexual behaviors that may involve greater risk and facilitate infection. Because bisexual men in the city clinic AIDS cohort have generally had fewer sexual relations with women than with men, exposure might ~~be~~ ^{be relatively} easier to document, so estimates of periods of infectivity and incubation might be easier to calculate. Available clinical data on the men will also help to elucidate information regarding the importance of passive carriers. In short, knowledge concerning the epidemiology of AIDS will be broadened, and we will be able to predict whether transmission varies according to locale, or whether, as in Africa, AIDS has entered the heterosexual population.

2) Future Considerations:

a) Retesting the women identified in this cohort 6 months later would provide valuable information regarding the clinical sequence and spectrum of events that occur during early infection among women. Another possible hypothesis that could account for small numbers of cases among U.S. women is that many become infected, but few develop disease. By following seropositive women we could begin to test this theory. A follow-up could also yield information about seroconversion among women; some of our seronegatives may have been exposed, but have not yet converted. This information would be useful in trying to define a generation time between exposure and infection.

b) Partner tracing of the male heterosexual partners of these female participants would be a logical ~~next~~^{related} study. Such a study would help to determine whether women can infect men, by defining clusters of related cases. This study would yield the most power in predicting spread of AIDS into the heterosexual community. In this ^{current} study, we will ask if our participants would be willing to participate in an additional study requiring partner tracing. Again, confidentiality of the index case would be assured. In this way we can lay the groundwork for the next phase when we hope to follow strings of partners.