



PAPERS

published in
peer-reviewed journals

Researchers involved with studies like the Vanguard Project face the same expectations as other academics: they must “publish or perish.”

In September 1998 our first paper based on the findings of the Vanguard Project was published. Since then, we have had three more papers published and a fifth one accepted for publication. We have also submitted a number of other papers to academic journals.

In the next few pages the findings of these papers have been condensed and summarised in plain language. If you'd like more details, the full text of each paper is available on our web site. We would also be happy to mail you a copy of any or all of our published papers.

WHO'S MOST AT RISK FOR HIV?

Determinants of sexual risk-taking
among young HIV-negative gay and bisexual men

"The results from this analysis suggest new avenues for identifying and targeting prevention for young gay and bisexual men who remain at high risk of HIV infection."

First author:
Steffanie Stratheedee



This is the first published paper based on the findings of the Vanguard Project. Since its publication in 1998, Steffanie Stratheedee has been the first author on two other Vanguard papers that have either been published or accepted for publication.

Co-authors:

Bob Hogg, Steve Martindale, Peter Cornelisse, Kevin Craib, Julio Montaner, Michael V. O'Shaughnessy and Martin Schechter.

This paper was published in the *Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology* in September 1998 (19:61-66).

What we looked at:

This paper is based on an analysis of baseline questionnaires done in October 1997. We wanted to find out what sort of Vanguard participants were most likely to be at high risk for HIV and to examine the relationship between social issues and HIV.

We wanted to know if young gay and bisexual men with social difficulties – such as unstable housing, depression, low social support or a history of sexual abuse – are less able to negotiate safer sex practices, thereby increasing their vulnerability to HIV infection.

The definitions we used:

For the purpose of this analysis, we defined "risk-takers" as participants who reported at least one episode of unprotected anal sex with a **casual** male partner in the previous year or who had unprotected anal sex with someone they **knew at the time** was HIV-positive.

We defined "non-risk-takers" as participants who reported **always** using condoms during anal sex with **all** male sex partners in the previous year or who reported not engaging in anal sex at all. (Many participants didn't fall into either of these two extreme categories and were left out of this analysis.)

The full text of this paper is available on the Vanguard web site at:
<http://cfeweb.hivnet.ubc.ca/Vanguard/PAPERS/JAIDS98.html>

What we found:

Of the **439** men included in the analysis, we categorised **40%** as risk-takers and **60%** as non-risk-takers.

There were no significant differences between risk-takers and non-risk-takers with respect to age, ethnicity or housing stability.

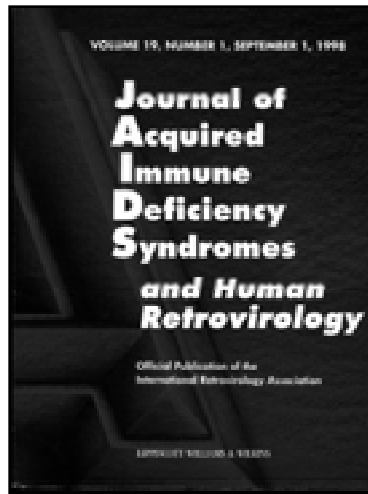
In our first analysis, we found that risk-takers were significantly more likely to have low education, low social support and high depression scores. They were also more likely to use recreational drugs, smoke cigarettes and have more than 10 drinks per week in the year before completing their baseline questionnaire.

We then ran a second analysis, called a multivariate analysis. This type of analysis identifies which of the above factors are more strongly – or “independently” – associated with being a risk-taker.

In this analysis, low social support and sexual abuse were still considered significant risk factors but as for drugs and alcohol, only the use of poppers (i.e. nitrite inhalants) was considered to be predictive of sexual risk-taking.

Sexual abuse:

One third of participants reported nonconsensual sex at some point in their lives, an experience which was more common among risk-takers. In particular, risk-takers were significantly more likely to have been sexually



abused as a youth or adult, as opposed to having been sexually abused as a child.

We then conducted a sub-analysis to compare participants who had ever been sexually abused to those who had not. Those who had been abused were significantly more likely to have been paid for sex in the previous year and to have been younger when they first had consensual sex with men. They also had higher depression scores, lower social support and were more likely to have used recreational drugs in the previous year.

We really don't have a baseline in terms of the infection rate for HIV in this population at all, so if we want to monitor prevention strategies in the future, we need to have a baseline by which we can effectively evaluate our public health prevention strategies.

What we concluded:

We concluded that despite a decade of HIV prevention efforts, young gay and bisexual men continue to be at high risk of infection. In this analysis, **40%** of participants had engaged in high-risk sexual behaviours in the previous year, which underscores the need for intensive prevention programs targeting young gay and bisexual men.

In particular, HIV prevention programs should target young gay and bisexual men with a history of sexual abuse. Our results also indicate that low social support is an independent predictor of sexual risk-taking among young gay and bisexual men. These may be facets of a complex dynamic which contribute to HIV vulnerability. The situational, social, political and economic factors which create a climate for such vulnerability pose the ultimate challenge in HIV prevention efforts. ■



Stefanie Strathdee
on UTV News, Dec. 23, 1994.
<http://cfeweb.hivnet.ubc.ca/vanguard/videos.html>

TWO-SPIRITED MEN HAVE A SPECIFIC RISK PROFILE

HIV-associated risk factors among young Aboriginal and non-Aboriginal men who have sex with men

“Aboriginal men who have sex with men are at an even greater risk of sexual abuse, poverty, mental health issues and involvement in the sex trade than non-Aboriginal gay and bisexual men.”

First author:
Katherine Heath



Research associate Katherine Heath worked closely with Aboriginal AIDS service organisations to interpret the findings of this analysis.

These data were originally presented by Katherine Heath as an oral presentation entitled “Risk Factors for HIV Infection among Young Aboriginal and non-Aboriginal MSM” at the 8th Annual Canadian Conference on HIV/AIDS Research in Victoria in May 1999. (Co-authors of talk: Mary Lou Miller, Steve Martindale, Peter Cornelisse, Martin Schechter, Michael V. O’Shaughnessy and Bob Hogg.)

Co-authors:
Peter Cornelisse, Steffanie Strathdee, Anita Palepu, Mary Lou Miller, Martin Schechter, Michael V. O’Shaughnessy and Bob Hogg.

This paper was published in the *International Journal of STD and AIDS* in September 1999 (10,9: 582-587).

The full texts of both this paper and the presentation are available on the Vanguard web site at:
<http://cfeweb.hivnet.ubc.ca/Vanguard/PAPERS/IJSTDAIDSKate.html>
<http://cfeweb.hivnet.ubc.ca/Vanguard/PAPERS/CAHR99kate.html>

What we wanted to know:

Aboriginal people are among the communities hardest hit by HIV/AIDS in Canada. Young Aboriginal men face social barriers similar in pattern to those experienced by non-Aboriginal gay and bisexual men. Aboriginal men who have sex with men (who often call themselves “two-spirited”) may therefore be particularly at risk for HIV infection.

Since nearly one in ten Vanguard participants is Aboriginal, we wanted to compare their risk factors and risk behaviour to non-Aboriginal participants, to see if they have a specific risk profile.

What we did:

In May 1998, we looked at the baseline questionnaires of **681** participants. Of these, **57 (8.4%)** self-identified as Aboriginal.

We defined Aboriginal participants as anyone who self-identified as First Nations, Inuit, Métis or any combination of these with other ethnocultural groups.

It’s worth noting that Aboriginal participants were more likely to be recruited into the study through walk-in medical clinics, while non-Aboriginals were more likely to be recruited through direct outreach at bars and gay community events.

Aboriginals had higher risk factors...

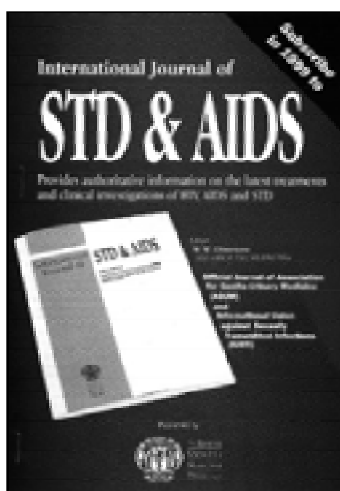
Aboriginal participants were significantly more likely to be unemployed, live in unstable housing, live below the poverty line, receive income assistance and suffer from depression.

There is growing evidence that such social factors may play a pivotal role in susceptibility to HIV infection. Several studies have linked depression and poverty to increased participation in high-risk sexual activities.

Despite these social disadvantages, Aboriginal participants appeared to have larger social support networks than non-Aboriginals, although this difference was not considered statistically significant.

Aboriginals were more likely to report non-consensual sex and sexual abuse during childhood. Almost half of the Aboriginal participants had experienced some form of non-consensual sex, while this is true for only a third of the non-Aboriginals.

Even more distressing is the striking difference in the history of sexual abuse between Aboriginal and non-Aboriginal participants: Aboriginals were more likely to have been sexually abused by a family member and at a younger age than non-Aboriginals.



There is clear evidence that sexual abuse in childhood and adolescence is associated with increased risk behaviours and HIV rates. Studies have also shown that the impact of sexual abuse is more devastating in cases in which the perpetrator is a close relative.

The link between prior sexual abuse and involvement in the sex trade is also well documented. In our study, Aboriginal participants were not only more likely to have been paid for sex but were also more likely to have been paid **more** money for having sex without a condom.

...but not higher risk behaviours:

Aboriginal participants were no more likely to have had sex with a male partner they knew at the time to be HIV positive, to have had more than 50 male partners or to have unprotected anal sex in the past year.

Aboriginal participants were more likely to test positive for HIV when they entered the study (4% vs. 1%) but were no more likely to seroconvert (i.e. test positive for HIV during the study), although small numbers make these findings somewhat unreliable.

What we concluded:

Our findings indicate that Aboriginal men who have sex with men have higher risk factors for HIV infection than non-Aboriginal gay and bisexual men, including sexual abuse, poverty, mental health issues and sex trade activity. These risk factors are sometimes called the “social determinants of health” and in every case except support network size, Aboriginal participants were socially and economically disadvantaged compared to non-Aboriginals.

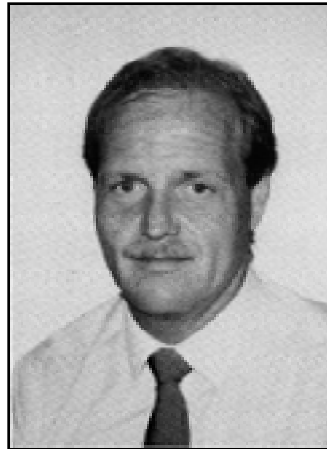
Nonetheless, these elevated risk factors haven't resulted in increased sexual risk behaviour for HIV or higher infection rates.

Given the known social determinants of HIV risk, however, it's clear that Aboriginal men who have sex with men require culturally-specific HIV prevention efforts, including sexual abuse counselling. ■

HIV: The Millennium Bug

“Just as the effects of HIV/AIDS are greater in the poorer nations, the same issues of poverty and lack of education emerge as risk factors in the study by Strathdee and colleagues.”

by Dr. Brian Willoughby



Brian Willoughby is one of the physicians with Spectrum Health Care and has been actively involved in the Vancouver Lymphadenopathy-AIDS Study (the VLAS) since the study began in 1982.

This article was published as an introduction to the paper “HIV infection and risk behaviours among young gay and bisexual men in Vancouver” (see page 42) in *The Canadian Medical Association Journal* in January 2000 (162,1: 52-3).

It is reprinted here with the permission of the author.

And the nominees are...

By the end of 1999 hundreds of “millennial” appellations were being sprouted. Should the field of microbiology have been included? Throughout the second millennium epidemics claimed vast numbers of lives – the bubonic plague killed 50 million people in the Middle Ages and the influenza epidemic took 20-40 million lives in the years immediately following World War I. But as modern medicine has produced ever-greater life expectancy in almost all areas of the world, few imagined a modern-day epidemic that would so significantly reverse this trend. Such has been the impact of HIV/AIDS around the world, particularly in sub-Saharan Africa.

In this issue, Steffanie A. Strathdee and colleagues present data on HIV infection and associated high-risk behaviours among young gay and bisexual men in Vancouver. Their data serve to remind us that the monumental task of combating this scourge is far from finished. Indeed, any complacency engendered by decreasing



rates of HIV seroconversion, new AIDS cases and AIDS-related deaths, must be challenged. Not only is the seroconversion rate unacceptably high in the authors' bailiwick of the relatively well-educated gay male community in a rich industrialised country but the greater tragedy has yet to unfold completely among the poor and uneducated people in Africa and South Asia. Just as the effects of HIV/AIDS are greater in the poorer nations, the same issues of poverty and lack of education emerge as risk factors in the study by Strathdee and colleagues.

Since its identification by Western scientists in 1981, AIDS has claimed over 13 million lives. At least twice as many people are currently HIV-positive, most of them in impoverished countries with little hope of sharing in the pharmacological advances that are so readily available in Europe and North America. These grim numbers warrant HIV's nomination as the "millennium bug."

Remarkable advances in both our knowledge of HIV infection and effective therapies have produced dramatic reductions in the rates of AIDS and AIDS-related deaths. Yet, as is speculated by Strathdee and colleagues, these same successes may serve to increase the spread of HIV in their cohort. In the wealthier nations, they may also lull society into viewing HIV

infection as a manageable chronic illness, with a reduced sense of urgency to continue funding research, patient support programs and education and preventive strategies. As noted by the authors, this would be an unwise philosophy to espouse when evidence



exists of increasing rates of seroconversion. In addition, therapies for HIV infection have high failure rates, whether because the drugs have failed or because individual patients have not adhered to the complex regimens.

In 1996 the world focused on Vancouver as the XI International Conference on AIDS reported some of

the best news heard yet, with the advent of highly active therapies and enthusiastic discussions of eradicating HIV. Later emerged horrendous reports of an epidemic rampant among injection drug users in this city. And now, Strathdee and colleagues warn that,

even in Vancouver's young gay and bisexual male population, a group actively targeted over the last dozen years for risk reduction, both high-risk behaviours and new cases of HIV infection are occurring at an alarming rate.

The spectre of hospitals overflowing with HIV-positive patients afflicted by life-threatening opportunistic infections and diseases is indeed real. As the epidemic matures in the community of injection drug users, these individuals will probably need hospital care. Yet, adherence to complex regimens is less likely among poor people and injection drug users than among the highly motivated subjects in clinical trials and the outcome will be less effective viral suppression. This may indeed overlap the resurgence of illness among other HIV-positive patients in whom therapies have failed.

So, as we begin the new year, let us not forget the nominees for millennium bug: bubonic plague, influenza, Y2K and HIV. One in particular seems destined to confront us well into the future. ■

RISK BEHAVIOUR INCREASING

HIV infection and risk behaviours
among young gay and bisexual men in Vancouver

"Given the high prevalence of risk behaviours at baseline in our study, the fact that our prospective data suggest a trend toward increasing levels of unprotected anal sex is worrisome."

First author:
Steffanie Strathee



Co-authors:

Steve Martindale, Peter Cornelisse, Mary Lou Miller, Kevin Craib, Martin Schechter, Michael O' Shaughnessy and Bob Hogg.

This paper was published in *The Canadian Medical Association Journal* in January 2000 (162,1: 21-5).

In this paper we looked at trends in HIV rates and risk behaviours among Vanguard participants.

There were **681** Vanguard participants included in this analysis, all of whom had completed at least a baseline questionnaire and a single HIV test. At the time of this analysis, **335** of them had returned about a year later to complete a follow-up questionnaire and have a second HIV test.

Risk Behaviour:

We were concerned that young gay and bisexual men may think that HIV is not as serious as it used to be since the introduction of the new anti-AIDS drug cocktails, as recent data from San Francisco clearly showed increases in high-risk behaviour among gay and bisexual men coinciding with the availability of more effective antiretroviral treatment.

In this analysis we looked at the number of participants who reported having unprotected anal sex with either regular partners or casual partners in the previous year.

Of the **503** participants who had one or more **regular** male partners, nearly half of them (**49%**) had unprotected anal sex at least once in the year before completing their baseline questionnaire. Of the **537** participants who had one or more **casual** male partners, just over one-quarter of them (**26%**) had unprotected anal sex at least once in the year before baseline.

Although the publication of this paper was delayed until January 2000, it is actually based on an analysis done in May 1998, which received considerable media attention in the fall of 1998 in reaction to presentations made at the annual BC AIDS Conference.

Unfortunately this delay meant that its publication date nearly coincided with our fourth paper, which had markedly different findings.



Increasing Risk Behaviour:

We particularly wanted to know how many of the participants who had **always** used condoms in the year before completing their baseline questionnaire reported having unprotected anal sex in the year **after** entering the study, as this would indicate that their risk for getting HIV was increasing rather than decreasing.

Of the participants who always used condoms with their **regular** male partners in the year prior to their baseline visit, between **27%** and **30%** of them had unprotected anal sex in the year after their baseline visit (depending on whether we looked at insertive or receptive anal sex).

Of the participants who always used condoms with their **casual** male partners in the year prior to their baseline visit, between **9%** and **16%** of them had unprotected anal sex in the year after baseline (again, depending on whether we looked at insertive or receptive anal sex).

HIV Prevalence and Incidence:

In studies such as the Vanguard Project, the percentage of participants who test HIV-positive on their first visit is called the **prevalence**. The HIV prevalence among the 681 participants in this analysis was **1.8%**. This means that for every 100 new participants entering the study, nearly two of them will already be HIV-positive without knowing it.

The percentage of participants who test positive – or seroconvert – during the course of the study is called the **incidence**. Only participants who return for a second HIV test can be included in the incidence calculation.

The HIV incidence among the 335 participants who had returned for a follow-up visit at the time this analysis was done was **1.7%** per year. This means that for every 100 participants in the study, nearly two of them will get

HIV each and every year. While this may appear to be a low rate of infection, it could mean that 20 years from now, if this infection rate were to remain stable, **25%** of the young gay and bisexual men who are currently HIV-negative will have HIV.

Certain sub-groups within our community have even higher infection rates. Among participants under the age of 26, the HIV incidence was **2.5%** per year. Among those who had been paid for sex in the previous year, the incidence was **9.5%** per year, which is similar to the infection rate among all gay men in Vancouver at the height of the epidemic in the mid-1980s.

What we concluded:

In this paper we concluded that the incidence of HIV infection is still unacceptably high among young gay and bisexual men in Vancouver, especially among younger men and those who are paid for sex.

Our preliminary results suggest a disturbing trend toward increasing levels of risk behaviour, which underscores the urgent need for targeted interventions among young gay and bisexual men who remain at high risk for HIV infection. ■

WHAT A DIFFERENCE A DECADE MAKES!

Comparison of sexual behaviours, unprotected sex and substance use between two independent cohorts of gay and bisexual men

“As an epidemiologist, any infections occurring in a population are cause for concern but the comparative analysis we’ve done shows that there’s been a vast reduction in rates of HIV infection within the Vancouver gay community from one decade to the next, which can largely be attributed to increased condom use.”

While this paper was in progress, we referred to it as our “good news” analysis, as the results represented quite a departure from the dire warnings of most of our previous publications. By documenting changes in the gay community from the 1980s to the ‘90s we were able to take a broader - and consequently more optimistic - perspective.

Interestingly, of all the press releases we’ve issued, the one announcing the publication of this paper generated the least amount of media attention.

First author:
Kevin Craib



Co-authors:

Amy Weber, Peter Cornelisse, Steve Martindale, Mary Lou Miller, Martin Schechter, Steffanie Strathdee, Arn Schilder and Bob Hogg.

This paper was published in *AIDS*, the official journal of the International AIDS Society, in February 2000 (14,3: 303-311).

The full text of this paper is available on the Vanguard web site at: <http://cfeweb.hivnet.ubc.ca/Vanguard/PAPERS/AIDS2000Kevin.html>

Background:

In 1985, **83%** of all reported AIDS cases in Canada were among men who have sex with men. By 1995, the percentage of all reported cases in this category had decreased to **74%**. Despite this reduction, gay and bisexual men have remained greatly affected by the HIV/AIDS epidemic. Sexual transmission among gay and bisexual men continues to be a major source of new HIV infections in Canada.

While prevention programs initially met with some success, studies reviewing the consistency of safer sexual practices at the individual level are less encouraging. This has led to concerns that HIV prevention programs have not addressed the issue of return to higher-risk sexual behaviours.

Moreover, 15 years since the beginning of the epidemic, young gay and bisexual men may be engaging in higher risk behaviours than older men, suggesting that young gay and bisexual men may be at increased risk of HIV infection in a time when risk-reduction strategies have been widely promoted.

What we looked at:

In this analysis, we compared HIV infection rates, demographic characteristics, sexual practices, condom use and substance use between Vanguard participants and participants in an earlier study, during two time periods approximately 10 years apart.

The VLAS

The analysis was restricted to HIV-negative participants between the ages of 18 and 30 years at the time each study was conducted.

Questionnaire data and HIV test results from **235** Vanguard participants who completed a baseline questionnaire between May 1995 and April 1996 were compared to **263** participants of the Vancouver Lymphadenopathy-AIDS Study who completed a follow-up visit between January and December 1985.

What we found:

The two cohorts differed in many ways. Vanguard participants were younger, more ethnoculturally diverse and less formally educated than participants in the VLAS. These differences may be a result of the recruitment strategies of the two studies: VLAS participants were recruited exclusively through physicians, while the majority of Vanguard participants were recruited through outreach efforts, promotional campaigns and street clinics.

We found that Vanguard participants had more sexual partners, were more likely to have anal sex and were more likely to use recreational drugs than their counterparts did 10 years earlier.

Vanguard participants were much **less** likely to become infected with HIV, however, which can be attributed to markedly higher condom use in the 1990s. Men in the mid-1980s were 10 to 20 times more likely to report



never using condoms during anal sex with casual partners and those in the '90s were more likely to report **always** using condoms.

After adjusting for differences between the two cohorts, VLAS participants were found to be **nine** times more likely than Vanguard participants to report high-risk sexual behaviour and **four** times more likely to become infected with HIV in the 42 months of follow-up.

I think we're really lucky in BC to have a study that's bringing such important information to the forefront. There are a lot of people who think that gay men have received enough education and that they're no longer at risk for HIV transmission and I think I see among my friends that there is still a problem and there are still people who are engaging in risky activities.

What we concluded:

Our results indicate that in recent years, higher rates of condom use have resulted in lower rates of HIV infection among young gay and bisexual men compared to their counterparts 10 years earlier. This clearly suggests that prevention activities – at least in this city – have been successful in dramatically reducing the rate of HIV transmission among young gay and bisexual men.

Nonetheless, further prevention efforts are still needed. Vanguard participants continue to report high-risk sexual behaviours and new cases of HIV infection are still being seen in this population. ■



Participant **Marc Mertens**
on UTV News, Dec. 23, 1994.
<http://cfeweb.hivnet.ubc.ca/vanguard/videos.html>

WHAT MAKES SOMEONE WILLING TO PARTICIPATE IN AN HIV VACCINE TRIAL?

Factors associated with willingness to participate in HIV vaccine trials among HIV-negative injection drug users and young gay and bisexual men

"This analysis indicated that Vancouver would be a good site to conduct an HIV vaccine trial and also suggested strategies for recruiting participants."

First author:
Steffanie Strathdee

Co-authors:

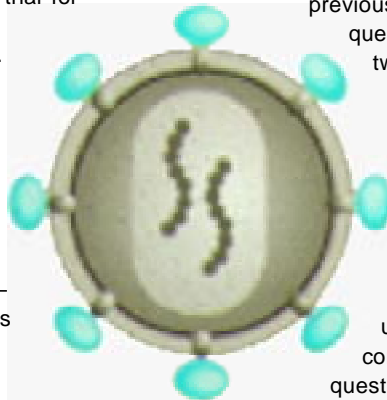
Bob Hogg, Peter Cornelisse, Steve Martindale, Sue Currie, Michael V. O'Shaughnessy and Martin Schechter

When papers have been accepted for publication but have not yet been published, they are referred to as being "in press" with a particular journal. During this time, changes may be made to papers to update the data and to respond to suggestions received from the researchers who reviewed the paper and recommended that it be published. This paper is in press with *AIDS and Behaviour*.

These data were originally presented by **Steffanie Strathdee** as an oral presentation entitled "Feasibility of HIV Vaccine Trials among High-Risk Cohorts in Vancouver" at the 7th Annual Canadian Conference on HIV/AIDS Research in Quebec City in May 1998; and were subsequently presented as a poster at the XII International Conference on AIDS in Geneva, Switzerland, in July 1998; and again as a poster at the 11th Annual BC AIDS Conference in Vancouver in November 1998.

Background:

Last year the BC Centre for Excellence in HIV/AIDS was chosen as one of over 60 North American test sites to participate in a clinical trial for an investigational HIV vaccine [see page 48]. This is the first time that an HIV vaccine candidate has been tested in a large-scale human population. Over 5000 participants – mostly gay and bisexual men – are now enrolled in this three-year clinical trial.



What we wanted to know:

Before the BC Centre for Excellence in HIV/AIDS agreed to act as a test site for an HIV vaccine trial, we wanted to see if gay and bisexual men and injection drug users – the two communities primarily at risk for HIV in Vancouver – would be willing to participate in an HIV vaccine trial and to

determine what factors are associated with people's willingness to participate.

What we did:

We analysed questionnaires from HIV-negative participants in two studies run by the Centre for Excellence: the Vanguard Project and the Vancouver Injection Drug Users Study (VIDUS) [see page 34]. Questions about the participants' willingness to participate in an HIV vaccine clinical trial had previously been included in the questionnaires used in these two studies.

At the time of this analysis in February 1998, **330** HIV-negative gay and bisexual men had completed the relevant Vanguard questionnaire and **435** HIV-negative injection drug users had completed the corresponding VIDUS questionnaire. (Only HIV-negative participants were included in this analysis as people with HIV wouldn't be eligible to help test the effectiveness of a preventative vaccine.)

Participants who said they were "definitely" or "probably" willing to participate in an HIV vaccine trial were compared with those who said they were unwilling to participate or unsure. For each of the two cohorts, we identified independent predictors of willingness to participate in HIV vaccine trials.

The full text of this presentation is available on the Vanguard web site at: <http://cfeweb.hivnet.ubc.ca/Vanguard/PAPERS/BCAIDS98vaccine.html>

What we found in the Vanguard Project:

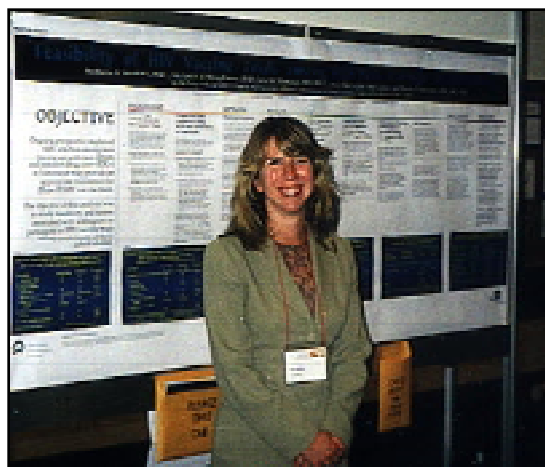
Of the Vanguard participants, **34%** said they would be “definitely willing” to participate in an HIV vaccine trial and another **29%** said they would be “probably willing,” for a combined total **63%**. Ten percent said they would be “probably unwilling” and only two percent said they would refuse to participate. Fully **25%** of the cohort, however, were unsure.

We found no significant demographic differences – including age, ethnicity or education levels – between Vanguard participants who were willing and those who were unwilling to participate in an HIV vaccine trial. We also found no differences with respect to any sexual behaviour or substance use patterns.

Willing Vanguard participants differed significantly in the following ways from unwilling participants:

- they were more likely to have had their first sexual experience with another male at a younger age;
- they were more likely to have high depression scores; and
- they were more likely to consider themselves to be at high risk of getting HIV.

The most important “independent predictors” of willingness to participate were high depression score and high perceived HIV threat. Even after controlling for other factors, Vanguard participants with a high depression score were nearly **twice** as likely to be willing to participate in an HIV vaccine



Steffanie presenting these data in poster format at the XII International AIDS Conference in Geneva in 1998.

trial and those who considered themselves to be at high risk of getting HIV were nearly **three times** more willing to participate.

What we found in VIDUS:

Of the VIDUS participants, a total of **83%** said that they would be willing to participate in an HIV vaccine trial. Only **6%** said they would refuse and **11%** were unsure.

We found no significant demographic differences – including gender, age and ethnicity – between VIDUS participants who were willing and those who were unwilling to participate in an HIV vaccine trial.

Willing VIDUS participants differed significantly in the following ways from unwilling participants:

- they were more likely to have started

- injecting drugs at a younger age;
- they were more likely to visit a needle exchange more than once a week; and
- they were more likely to consider themselves to be at high risk of getting HIV.

The most important independent predictor of willingness to participate was frequent attendance at needle exchange programs.

HIV rates in both studies:

In both studies, HIV infection rates had fallen in the months prior to this analysis, which suggests that ongoing recruitment of high-risk participants may be necessary if an HIV vaccine study is to be feasible in Vancouver, especially among gay and bisexual men.

What we concluded:

The majority of participants in the Vanguard Project and VIDUS expressed a willingness to participate in an HIV vaccine trial. In either study, there was no evidence that higher-risk individuals were more likely to refuse to participate.

HIV vaccine trials may be particularly promising among injection drug users in Vancouver, who have very high rates of HIV infection and who view vaccine trials with enthusiasm. In Vancouver, needle exchange programs would be a good place to recruit potential vaccine trial participants. ■



HIV Vaccine Trial Underway in Vancouver

by Nancy McLean
Research Nurse
Vancouver Vaccine Trial

Fourteen Vanguard participants

are taking part in the Vancouver Vaccine Trial, which began in July 1999 to test the effectiveness of the AIDSVAX investigational HIV vaccine. Produced by VaxGen, a California-based pharmaceutical company, AIDSVAX is the first HIV vaccine candidate to be tested in large-scale human populations (otherwise known as a "Phase III" clinical trial).

Over 5000 people in 61 test sites across North America are being vaccinated with synthetically reproduced proteins similar to those found on the surface of HIV. These proteins trigger the immune system to produce antibodies against the virus; having these antibodies in your bloodstream may then protect you against HIV if you are exposed to it. There is no risk of getting HIV from the vaccine itself.

Recruitment for the trial started in the summer of 1999. The response from the Vancouver gay community was overwhelming. Local organisers quickly recruited over 100 gay and bisexual men in just 10 weeks, with enrolment closing in October 1999. The other two Canadian sites are Toronto and Montreal.

Participation in the clinical trial involves 15 visits to a research nurse over the course of three years. All participants receive a series of seven injections but only two-thirds of them receive the actual vaccine; the other third receive a placebo. This is a "double-blind" clinical trial, which means neither the researchers nor the participants will know who is

receiving the vaccine or the placebo until the trial ends in October 2002.

Although no information regarding efficacy of the vaccine will be available until the end of the trial, Phase II safety studies have been positive, showing that antibodies against HIV are being produced in people who are vaccinated, with no serious side-effects.

Half of the Vancouver participants are seen at **Spectrum Health Care** by research nurse

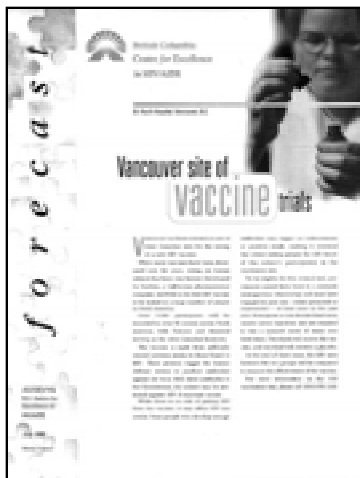
Lesley Gallagher and the other half are seen by nurses **Nancy McLean** and **Bubli Chakraborty** at the **Three Bridges Community Health Centre** (formerly the Downtown South Community Health Centre). The local trial is coordinated by **Marieke Steenstra** who is currently on maternity leave and has been temporarily replaced by **Magda Piaseczna**.

A Participant Advisory Board was established in September 1999, meeting once a month to oversee the trial and provide a forum for participant feedback and discussion. Two members of the local Advisory Board also sit on the North American Community Advisory Board, which oversees the entire North American trial.

Some preliminary data were presented at the 9th Annual Canadian Conference on HIV/AIDS Research in Montreal in April 2000. In comparing the participants in the three Canadian sites, we found that those in Toronto and Vancouver were more likely than their counterparts in Montreal to have had sex with men they knew to be HIV+ and were more likely to have had unprotected anal sex with HIV+ men.

Our data also indicate that the motivation of Canadian participants is primarily altruistic. This differs greatly from the American sites where participants are paid for each visit and where motivation for participation also includes access to free medical care and HIV testing (which is, of course, a non-issue in Canada).

Vancouver participants do not receive any money for participating in the vaccine trial, making their commitment to such a rigorous study schedule remarkable. They are volunteering their time and their bodies for purely altruistic reasons, in the hopes that in the future we will have an effective vaccine against HIV. ■



The Stork Report:

On March 24th, Lesley Gallagher had her fourth child, a girl named Olivia.

On May 23rd, Marieke Steenstra had her first child, a boy named Evan.

Congratulations, Lesley, Marieke and families!

