REGION OF OTTAWA CARLETON
RÉGION D'OTTAWA CARLETON

MEMORANDUM
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TO/DEST. Co-ordinator
Community Services Committee

FROM/EXP. Medical Officer of Health

SUBJECT/OBJET **EPIDEMIOLOGY OF HIV AND AIDS IN OTTAWA-CARLETON: STATISTICAL REPORT AND ANALYSIS**

Please find attached a copy of Epidemiology of HIV and AIDS in Ottawa-Carleton: Statistical Report and Analysis (Annex A). This report provides information on the epidemiology of HIV and AIDS in our region and highlights current trends in HIV infection. The report also provides a summary of HIV infection in injection drug users as well as an update on the HIV Anonymous Testing Program.

HIV remains an important public health issue and requires concerted prevention and education efforts. Awareness of the current epidemiology is an important part of these efforts. Community partners can use this report in the planning of HIV/AIDS prevention, education and advocacy services.

Approved by
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ANNEX A

THE EPIDEMIOLOGY OF HIV AND AIDS IN OTTAWA-CARLETON: STATISTICAL REPORT AND ANALYSIS

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INTRODUCTION

Since 1988, the Region of Ottawa-Carleton Health Department HIV program staff have been collecting, summarizing and distributing epidemiological information on HIV/AIDS in Ottawa-Carleton. In the past 10 years, information from as far back as 1983 has been presented in order to plan better services. Highlighting the trends and changes in the epidemiology of HIV/AIDS enables the Health Department as well as its partners in the community to advocate for services and to plan intervention and prevention programs to targeted populations.

HIV is a reportable disease under the Ontario Health Protection and Promotion Act. The Health Department HIV Prevention Program receives all positive HIV laboratory reports in Ottawa-Carleton including anonymous testing results. The information presented in this report was obtained through case follow-up by Public Health Nurses from the Health Department.

The majority of HIV infections are diagnosed through community physicians' offices. Subsequently, the policy is for a Public Health Nurse to contact the physician ordering the test to ascertain that proper counselling was done and that the physician is aware of available resources. The physician also receives an information package.

Necessary information for epidemiological analysis includes the following: initials, date of birth, gender, risk behaviour, place of residence and staging of HIV infection (e.g. AIDS). For anonymous testing, only gender, date of birth and risk factor are required. [1]

CUMULATIVE HIV INFECTION INCIDENCE AS OF JULY 1ST, 1998

The HIV epidemic in Ottawa-Carleton continues to be a major public health issue. From 1983 until July 1st, 1998, there were 1741 HIV infections reported. Presently, more than 1300 persons in the region live with HIV infection and close to 400 people have died of AIDS or HIV related diseases. The majority of HIV+ cases (52%) were among men who have sex with men. Injection drug use (IDU) and heterosexual contact with a person at risk represented 17% and 10% of the cases respectively. Heterosexual contact and born in a pattern II country (where heterosexual contact is the predominant means of transmission) represented 9% of the overall cases.

A total of 1470 males were diagnosed with HIV, the majority between the ages of 30 and 39. Sixteen percent (271) of all cases reported were females. The majority of females cases reported were diagnosed between the ages of 20-29.

[1] All information collected is done under the authority of the Ontario Health Protection and Promotion Act, Sections 5, 25, 26 and 27 and used to control communicable diseases.

TABLE 1 - HIV INFECTIONS PER RISK CATEGORY
CUMULATIVE FROM 1983 THROUGH JULY 1ST, 1998

Risk	Totals
Men having sex with men	914 (52%)
Injection drug use	292 (17%)
Heterosexual contact with a person at risk	173 (10%)
Heterosexual activity and born in a pattern II country	164 (9%)
Recipient of Blood/Clotting Factors	58 (3%)
Perinatal Exposure	31 (2%)
Occupational Exposure	2 (<1%)
Unavailable	107 (6%)
TOTAL	**1741**

TABLE 2 - NUMBERS OF HIV CASES REPORTED BY AGE AT DIAGNOSIS
CUMULATIVE FROM 1983 THROUGH JULY 1ST, 1998

Age	Male	Female	Totals
0-9	19	15	34
10-19	17	6	23
20-29	372	106	478
30-39	656	102	758
40-49	308	28	336
50 & over	98	14	112
TOTALS	1470	271	1741

1997 HIV INFECTION INCIDENCE

In 1997, 149 new cases of HIV infection were reported to the Health Department. This number is up from 109 cases reported in 1996[2] (Figure 1). This corresponds to an overall incidence rate of 20.7 per 100,000[3] compared to 15.1 per 100,000 in 1996, but is similar to rates for 1994-95. The incidence rate in males (33.3 per 100,000) was more than 4 times the rate in females (8.7 per 100,000). The majority of new diagnoses (46%) were identified in the 30 to 39 year age group, followed by the 40 to 49 age group (23%) and the 20 to 29 age group at 15%, (Figure 2). For the purpose of this report, the age reported is the age at time of diagnosis and not at infection.

[2] The 1996 report states 103 as 6 cases were reported later in 1997.
[3] Using Statistics Canada, 1996 census

Figure 1

HIV Incidence in Ottawa-Carleton

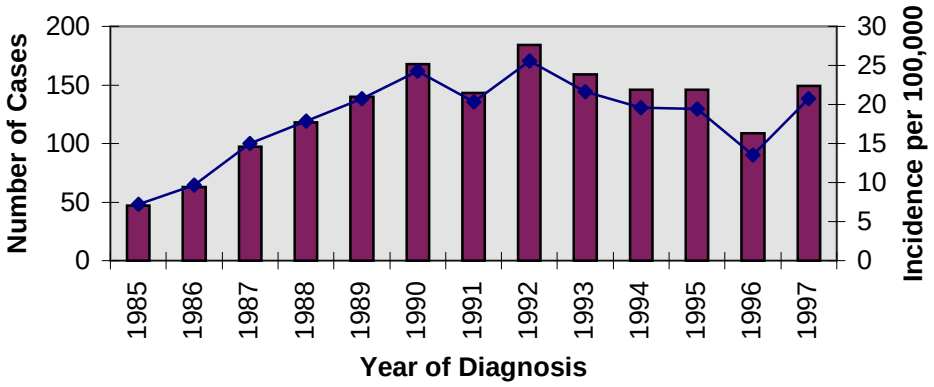
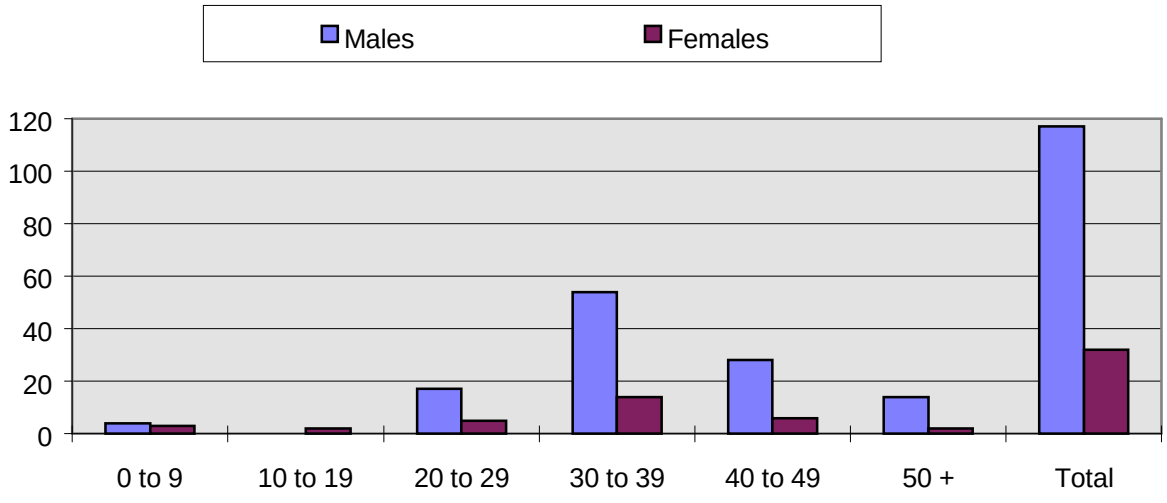


Figure 2

HIV Cases in Ottawa-Carleton by Age and Sex in 1997



The increase in the number of cases can be attributed to a number of factors including:

- an increase in the numbers of cases tested through anonymous testing;
- identification of new cases through partner notification;
- increased awareness of HIV testing among the general population and therefore more testing;
- improved treatment options leading to more benefits in testing and knowing one's status; and
- increased outreach services offering HIV testing.

MALES-1997

In 1997, 117 HIV seropositive males were reported to the Health Department. This represents a significant increase in the incidence rate from 21.6 in 1996 to 33.3 per 100,000 of population.[4] The risk behaviours associated with HIV infection in males were men who have sex with men (44%), injection drug use (26%), heterosexual activity and born in a pattern II country (11%), heterosexual contact with a person at risk (8%), and perinatal exposure (3%). Information was unavailable for 8% of these new cases. At times, it is not possible for the Public Health Nurse to establish the risk behaviour. For example, if the case denies any risk behaviour or the case has since died and no risk can be identified, the risk is labelled as unavailable. Figure 3 on the next page highlights the representation of these risks.

TABLE 3 - HIV INFECTIONS IN MALES
- COMPARISON OF 1994 THROUGH 1997

RISK BEHAVIORS	1994	1995	1996	1997
Men having sex with men	61	45	30	52
Injection drug use	29	28	25	31
Heterosexual activity and born in a pattern II country	7	8	4	13
Heterosexual contact with a person at risk	7	12	8	9
Perinatal exposure	0	5	2	4
Recipient of blood/blood product	1	1	3	0
Occupational exposure	0	0	0	0
Unavailable	6	10	4	8
TOTALS	111	109	76	117

In comparison to 1996, there has been a significant increase in the number of males diagnosed with HIV, especially under the categories of men having sex with men and of heterosexual activity and born in a pattern II country.

[4] A male rate of 19.4 for 1996 was previously reported using old census data.

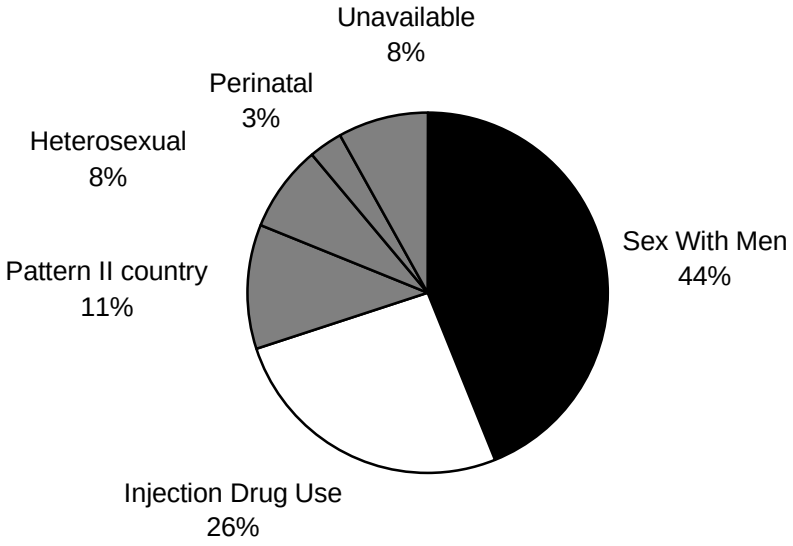
In the case of men having sex with men, possible reasons for the increase in the number of cases include the following:

- better outreach testing services;
- a new epidemic in younger gay men similar to what is being seen in bigger centres in the United States. [5]
- identification of new cases through partner notification; and
- improved treatment options leading to more benefits in testing and knowing one's status.

In multicultural communities, there has been an increased awareness of HIV issues due to health promotion activities and discussions taking place in these communities. Some communities also attribute increased awareness and dialogue to increased knowledge of HIV in their country of origin.

Figure 3

HIV Infection Risk Factors - 1997 Males



[5] UNAIDS Fact sheet, December 1997.

FEMALES- 1997

For females, a total of 32 cases was reported, one less than the previous year. The annual incidence rates in females has been fairly consistent over the last three years at 9 per 100,000. The main mode of transmission in 1997 was heterosexual contact with a person at risk at 47%. Other risks were heterosexual activity and born in a pattern II country at 22%, IDU at 19%, perinatal at 9% and one case (3%) with inadequate epidemiological information to characterize the risk. What is noteworthy is that for the first time, two women younger than 19 were diagnosed with HIV through heterosexual contact. Figure 4 on the following page highlights the distribution of risk behaviours for females in 1997.

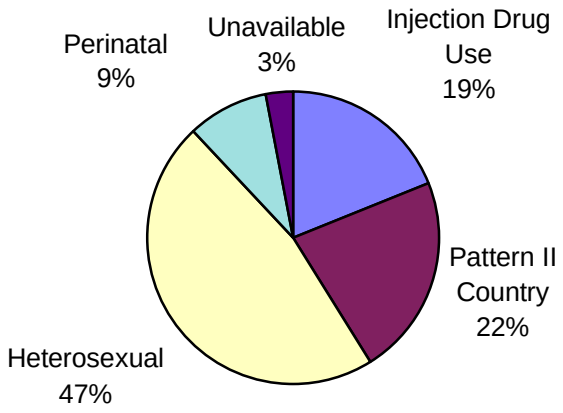
TABLE 4 - HIV INFECTIONS IN FEMALES
- COMPARISON OF 1994 THROUGH 1997

RISK BEHAVIORS	1994	1995	1996	1997
Heterosexual activity and sexual contact with a person at risk	10	13	7	15
Heterosexual contact and born in a pattern II country	6	10	11	7
Injection drug use	16	6	9	6
Perinatal exposure	2	7	5	3
Recipient of blood/blood product	0	0	1	0
Occupational exposure	1	0	0	0
Unavailable	0	1	0	1
TOTALS	35	37	33	32

For females, there has been a significant increase in heterosexual transmission as a risk factor. Increased awareness in women about their risk as well as increased concerns by physicians about the risk for women are possible reasons for this change. Most of these new cases have been diagnosed in young women in childbearing age. This can have an impact on perinatal transmission.

Figure 4

HIV Infection Risk Factors - Females 1997



AIDS IN OTTAWA-CARLETON

In 1997, 20 cases of AIDS were reported to the Health Department for a total of 385 since 1986. Twenty AIDS deaths were reported in 1997. However, it is likely that the number of reported AIDS cases is lower than the actual number of AIDS cases in Ottawa-Carleton. This is in part related to under-reporting of AIDS cases by physicians (who have already reported the HIV infection in its pre-AIDS form) combined with a lag period between the diagnosis and the reporting to the Health Department.

The decrease in reported AIDS cases and deaths also reflects what is going on elsewhere in the province and the country and is attributed to better treatment options as well as earlier testing and diagnosis.

TABLE 5 - AIDS IN OTTAWA-CARLETON

Year	New cases	Incidence per 100,000
1986	16	2.5
1987	41	6.4
1988	46	7.0
1989	64	9.5
1990	58	8.4
1991	34	4.8
1992	27	3.8
1993	15	2.0
1994	31	4.2
1995	19	2.5
1996	17	2.4[6]
1997	20	2.8
TOTAL	385	

RECENT HIV INFECTION RATES AMONG INJECTION DRUG USERS (IDUs) IN OTTAWA-CARLETON

There has been a general increase in the number and percentage of IDU-related HIV infections since 1985, (Table 6). Robert Remis and colleagues at the University of Toronto carried out an analysis of IDUs and HIV infection in Ontario as of mid-1997.[7] They developed an integrated model incorporating prevalence estimates of injection drug use, observed HIV incidence and prevalence in special studies, HIV serodiagnostic test results, AIDS surveillance data and AIDS-related and other mortality. During 1992-1996, 3% of IDUs tested in Ottawa-Carleton were HIV positive. This is probably a low estimate of the current HIV infection rate among IDUs.

In May, 1997, the first results from the Ottawa-Carleton component of the SurvIDU Network Study, (a multicentre study of IDUs attending needle exchange programs in various Quebec cites and Ottawa-Carleton), were published by Lynne Leonard and colleagues, University of Ottawa. Using HIV saliva testing, (with results as accurate as blood testing), they found 19.2% of surveyed SITE clients to have HIV infection. This is probably a high estimate of the actual HIV infection rate among all IDUs, since those tested were SITE attendees only, who are likely to be at particularly higher risk for HIV infection and to have a higher prevalence of infection than IDUs not using SITE services.

[6] A rate of 2.3 for 1996 was previously reported using old census data.

[7] Remis RS, Millson M, Major C. *The HIV epidemic among injection drug users in Ontario: The situation in 1997*. Toronto: Ontario Ministry of Health, AIDS Bureau, 1997

TABLE 6 - INJECTION DRUG USE AS A RISK FACTOR FOR HIV INFECTION

Year	No. HIV Infections	No. IDU-related infections (% of total)
1985	47	1 (2%)
1986	63	1 (2%)
1987	97	5 (6%)
1988	118	2 (2%)
1989	140	15 (11%)
1990	168	16 (10%)
1991	143	15 (10%)
1992	184	39 (21%)
1993	159	38 (24%)
1994	146	45 (31%)
1995	146	34 (23%)
1996	109	34 (31%)
1997	149	37 (25%)

Leonard *et al* also found infected IDUs were in the younger age group unlike in the previous report. There were also marked differences in sharing and injecting behaviours between men and women. Although only 13% reported still sharing their needles at the time of their interview (comparable to client histories provided to SITE staff), the study found that a history of sharing needles is related to the increased rate of infection. Other factors that may lead to an increased risk of exposure to HIV include sharing other drug paraphernalia, sharing the actual drug and/or unprotected sexual contacts. The SurvIDU Study continues in Ottawa-Carleton. Further research exploring the causal factors for HIV infection needs to be undertaken in order to tailor appropriate interventions and strategies.

Remis *et al* conservatively estimated that there are 3,000 IDUs in Ottawa-Carleton, using an estimated rate of 4 IDUs/1000 population. This number falls within the Addiction Research Foundation estimated range of 2,500 to 4,000 of IDUs living in Ottawa-Carleton given counselling on the spread of HIV and when possible. The rate is similar to that of Hamilton-Wentworth, Middlesex-London, Toronto and Windsor-Essex. Using all available HIV data, Remis *et al* estimated the 1997 HIV infection incidence and prevalence in Ottawa-Carleton to be 2.6 per 100 person-years and HIV prevalence to be 12.1%, compared to 1.4 per 100 person-years and 6.4% respectively for (the new City of) Toronto. For Ontario as a whole, the rates were 0.99 per 100 person-years and 4.7%. According to this same report, 72% of living HIV-infected IDUs in Ottawa-Carleton had been diagnosed by 1996, compared to 57% for Ontario as a whole. This suggests that while there is a rapid increase in HIV infection among IDUs, a high proportion are being diagnosed and given counselling on the spread of HIV and when possible treated.

An important reason for the outbreak of HIV among local injection drug users may be the profile of drug consumption patterns. Injection of cocaine can mean the need to use 20 or more needles a day when bingeing. Past quotas on the maximum number of needles that could be exchanged daily at the SITE Needle Exchange Program may have exacerbated the situation.

In view of these rates, the Region of Ottawa-Carleton Health Department HIV Prevention Program with extra funding from the Ministry of Health, expanded the SITE program. This allows the program to provide services seven nights a week, increase community partnership and expand the safe needle disposal system in the region. Eight community agencies now include needle exchange services within their existing services. Discussions are ongoing with pharmacists to examine their role within needle exchange services.

ANONYMOUS HIV TESTING PROGRAM UPDATE

In 1997, the Anonymous HIV Testing Program in Ottawa-Carleton completed six years of operation. Quite a few changes have occurred over that time period. Carlington Community and Health Services became an autonomous site in 1997. Anonymous testing in Ottawa is also being done at two bathhouses, 20 drop-in centres, recovery homes, shelters and soup kitchens. Testing was also available through street outreach and at health fairs. Testing is also done through the Health Department's SITE Needle Exchange Program. The success of the Anonymous Testing Program is in part due to innovative programming and strong partnerships between the program and community agencies. These community agencies, be they autonomous sites or part of the Network for HIV Counselling and Testing, are important players in making HIV testing more accessible to higher risk clients.

In 1997, 1,280 HIV tests were done through the Program. In 1996, 900 tests were performed. In 1997, the percentage of tests that were positive was 1.3% with 17 people diagnosed through anonymous testing. This percentage reflects the earlier rates in 1992 and 1993. In 1996, the percentage of positives was at a low of 0.3%. The percentage of positive HIV tests determined through anonymous HIV testing in relation to all positive tests reported in Ottawa-Carleton was 11%, an increase from 7% in 1996.

CONCLUSION

HIV remains a major public health concern in Ottawa-Carleton. This report provides important information about the trends and changes in the epidemiology of HIV and AIDS in this region. This information can be used by the Health Department and our community partners to evaluate current services and prevention programs and to plan future services and programs that best meet the needs of our community.

Approved by
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