

# HIV/AIDS Risk Factors

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## HIGHLIGHTS

- In Peel Region, a greater proportion of HIV/AIDS cases were due to heterosexual transmission compared to Ontario. Between 2000 to 2004, heterosexual transmission accounted for 30% of all HIV/AIDS cases in Peel.
- In the decade from 1997 to 2006, heterosexual transmission and origin from an HIV-endemic country have become increasingly important risk factors for HIV/AIDS among males in Peel Region.
- Among females in Peel, the most notable change in risk has been the dramatic increase in women reporting origin from an HIV-endemic country. From 1985 to 1996, 9% of HIV-positive women reported origin from an HIV-endemic country whereas in the next decade, 34% of women reported this risk.
- The proportion of HIV/AIDS cases attributed to men having sex with other men (MSM) has decreased over time in Peel Region as well as in Ontario.
- Origin from an HIV-endemic country is one of the most rapidly increasing risk categories in Ontario and in Peel Region. During the last 20 years, the proportion of HIV/AIDS cases reporting origin from an HIV-endemic country has risen about 9-fold in Ontario and 14-fold in Peel. Given the demographic profile for the Region of Peel and the predicted immigration pattern, this trend is likely to continue into the foreseeable future.



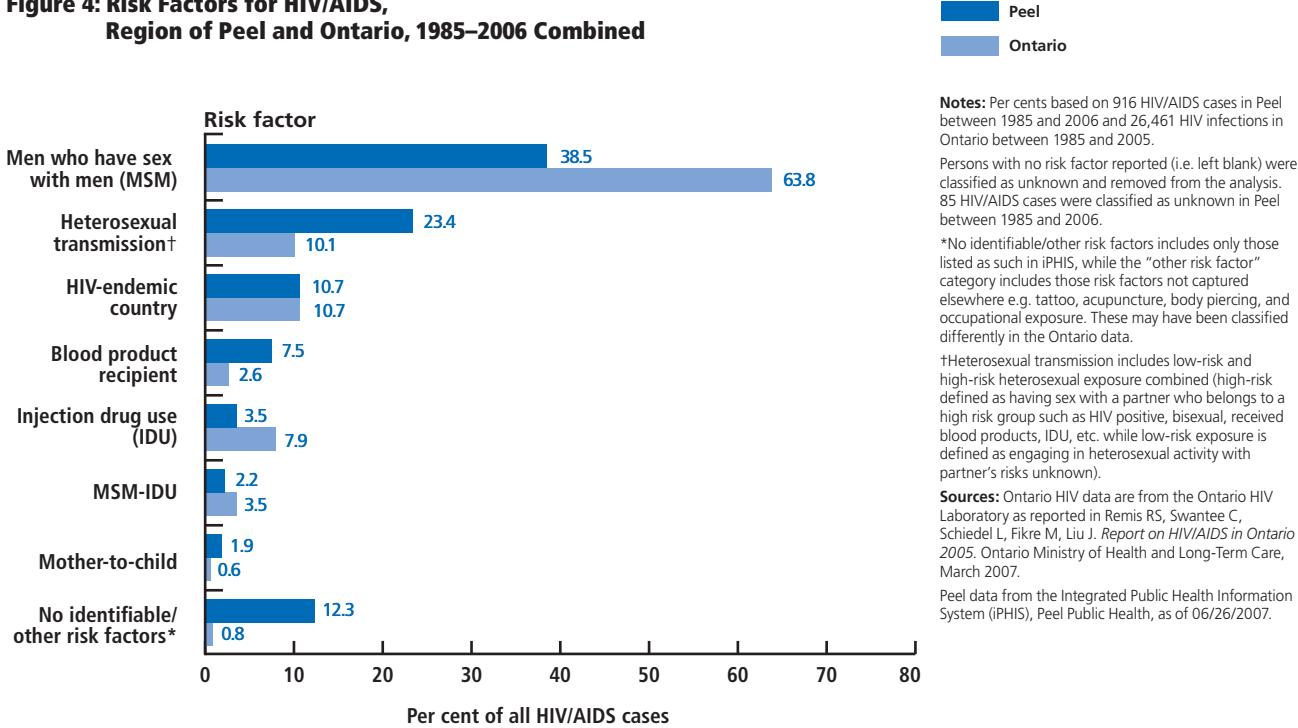
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A transmission risk factor or exposure category refers to the most likely way a person became infected with HIV. A person may report one, several or no risk factors for HIV. Although a person may report several HIV-related risk factors, the data presented in this section use a hierarchy to assign a person to the risk factor or exposure category considered to be the highest risk of HIV transmission. This “hierarchy” or ordering is similar to national HIV surveillance reporting. The ordering of this hierarchy and the definition of various risk factors is presented in the glossary of this report on page 42.

In Peel Region, 39% of HIV/AIDS cases were among men who have sex with men (MSM) while 23% of cases were among heterosexuals (*see Figure 4 on following page*). In contrast, 64% of cases in Ontario were among MSM and 10% of cases were among heterosexuals. Hence, heterosexual contact was a more significant risk factor in Peel Region compared to Ontario. There are a few reasons for the difference observed. First, there is a smaller known MSM community in Peel compared to larger cities like Toronto. Second, new immigrants are a significant percentage of the population in Peel. Often such individuals originate from HIV-endemic countries where heterosexual transmission plays a significant role.

In Peel Region and Ontario, origin from an HIV-endemic country was the next highest risk of exposure at 11%. Injection drug use was, however, a less significant risk factor in Peel Region than in the rest of Ontario.

**Figure 4: Risk Factors for HIV/AIDS, Region of Peel and Ontario, 1985–2006 Combined**



In the decade from 1997 to 2006, heterosexual transmission and origin from an HIV-endemic country have become increasingly important risk factors for HIV/AIDS among males in Peel Region. Unlike the time period from 1985 to 1996 when MSM was the predominant risk (55%), MSM risk declined to 44% between 1997 and 2006 while heterosexual transmission risk rose from 16% to 22%, and origin from an HIV-endemic country rose from 2% to 13% (see Figures 5 and 6 below).

Among male HIV/AIDS cases, HIV risk from blood transfusion has decreased with time. This was due to improved screening of blood and blood products.

**Figure 5: Risk Factors for HIV/AIDS Among Males, Region of Peel, 1985–1996 Combined**

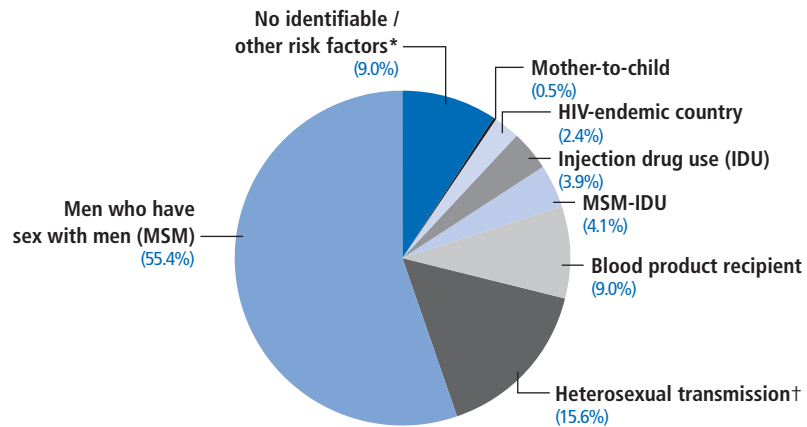
**Notes:** Per cent based on 410 male HIV/AIDS cases in Peel between 1985 and 1996.

\*No identifiable/other risk factors includes only those listed as such in iPHIS, while the "other risk factor" category includes those risk factors not captured elsewhere e.g. tattoo, acupuncture, body piercing, and occupational exposure. These may have been classified differently in the Ontario data.

† Heterosexual transmission includes low-risk and high-risk heterosexual exposure combined (high-risk defined as having sex with a partner who belongs to a high risk group such as HIV positive, bisexual, received blood products, IDU, etc. while low-risk exposure is defined as engaging in heterosexual activity with partner's risks unknown).

Persons with no risk factor reported (i.e. left blank) were classified as unknown and removed from the analysis.

**Source:** Peel data from the Integrated Public Health Information System (iPHIS), Peel Public Health, as of 06/26/2007.



**Figure 6: Risk Factors for HIV/AIDS Among Males, Region of Peel, 1997–2006 Combined**

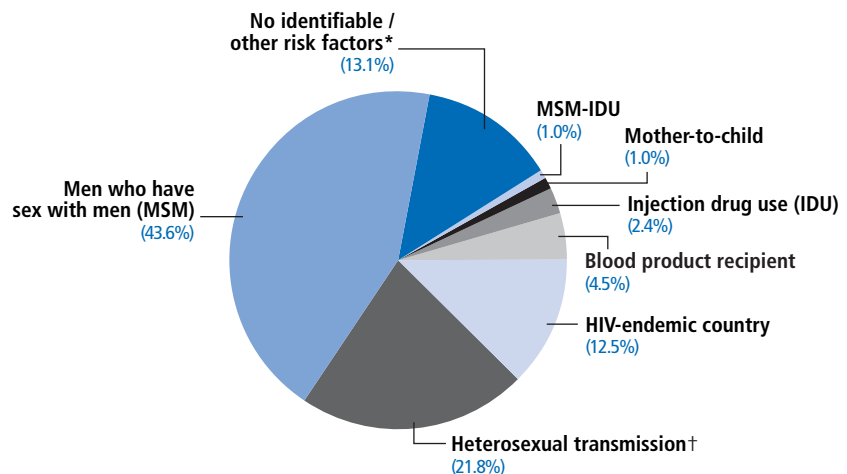
**Notes:** Per cent based on 289 male HIV/AIDS cases in Peel between 1997 and 2006.

\*No identifiable/other risk factors includes only those listed as such in iPHIS, while the "other risk factor" category includes those risk factors not captured elsewhere e.g. tattoo, acupuncture, body piercing, and occupational exposure. These may have been classified differently in the Ontario data.

† Heterosexual transmission includes low-risk and high-risk heterosexual exposure combined (high-risk defined as having sex with a partner who belongs to a high risk group such as HIV positive, bisexual, received blood products, IDU, etc. while low-risk exposure is defined as engaging in heterosexual activity with partner's risks unknown).

Persons with no risk factor reported (i.e. left blank) were classified as unknown and removed from the analysis.

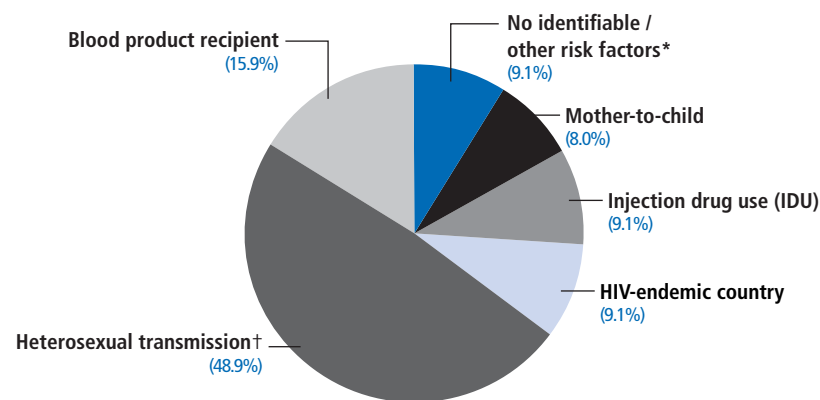
**Source:** Peel data from the Integrated Public Health Information System (iPHIS), Peel Public Health, as of 06/26/2007.



Among females in Peel, the most notable change in risk has been the dramatic increase in women reporting “origin from an HIV-endemic country”. From 1985 to 1996, 9% of HIV-positive women reported “origin from an HIV-endemic country” whereas in the next decade, 34% of women reported this risk factor (see Figures 7 and 8 below).

Among female HIV/AIDS cases, risk from blood transfusion has declined with time. This is due to improved screening of blood and blood products.

**Figure 7: Risk Factors for HIV/AIDS Among Females, Region of Peel, 1985–1996 Combined**



**Notes:** Per cent based on 88 female HIV/AIDS cases in Peel between 1985 and 1996.

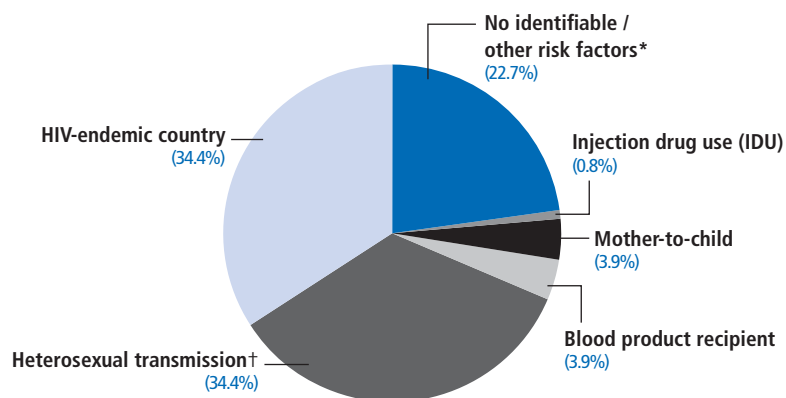
\*No identifiable/other risk factors includes only those listed as such in iPHIS, while the “other risk factor” category includes those risk factors not captured elsewhere e.g. tattoo, acupuncture, body piercing, and occupational exposure. These may have been classified differently in the Ontario data.

†Heterosexual transmission includes low-risk and high-risk heterosexual exposure combined (high-risk defined as having sex with a partner who belongs to a high risk group such as HIV positive, bisexual, received blood products, IDU, etc. while low-risk exposure is defined as engaging in heterosexual activity with partner’s risks unknown).

Persons with no risk factor reported (i.e. left blank) were classified as unknown and removed from the analysis.

**Source:** Peel data from the Integrated Public Health Information System (iPHIS), Peel Public Health, as of 06/26/2007.

**Figure 8: Risk Factors for HIV/AIDS Among Females, Region of Peel, 1997–2006 Combined**



**Notes:** Per cent based on 128 female HIV/AIDS cases in Peel between 1997 and 2006.

\*No identifiable/other risk factors includes only those listed as such in iPHIS, while the “other risk factor” category includes those risk factors not captured elsewhere e.g. tattoo, acupuncture, body piercing, and occupational exposure. These may have been classified differently in the Ontario data.

†Heterosexual transmission includes low-risk and high-risk heterosexual exposure combined (high-risk defined as having sex with a partner who belongs to a high risk group such as HIV positive, bisexual, received blood products, IDU, etc. while low-risk exposure is defined as engaging in heterosexual activity with partner’s risks unknown).

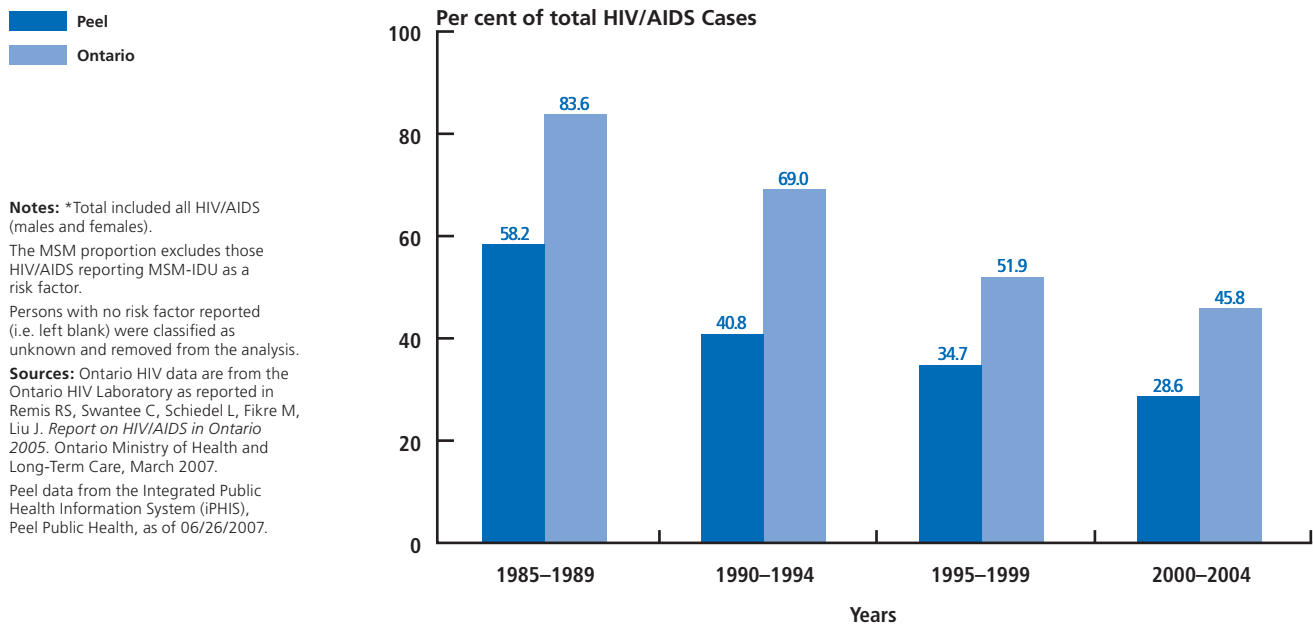
Persons with no risk factor reported (i.e. left blank) were classified as unknown and removed from the analysis.

**Source:** Peel data from the Integrated Public Health Information System (iPHIS), Peel Public Health, as of 06/26/2007

In Ontario, 39% of HIV-infected women between 1985 and 2005 reported that their source of exposure was through heterosexual contact in an HIV-endemic country; a further 34% reported heterosexual contact in a non-endemic country.<sup>3</sup> Worldwide, an estimated 17.7 million women were living with HIV in 2006.<sup>1</sup>

The proportion of HIV/AIDS cases attributed to MSM has decreased with time in Peel Region as well as in Ontario (see Figure 9 below).

**Figure 9: Proportion of Total\* HIV/AIDS cases with Risk Factor Men Having Sex with Men (MSM) by Time Period, Region of Peel and Ontario, 1985–1989 to 2000–2004 Combined**



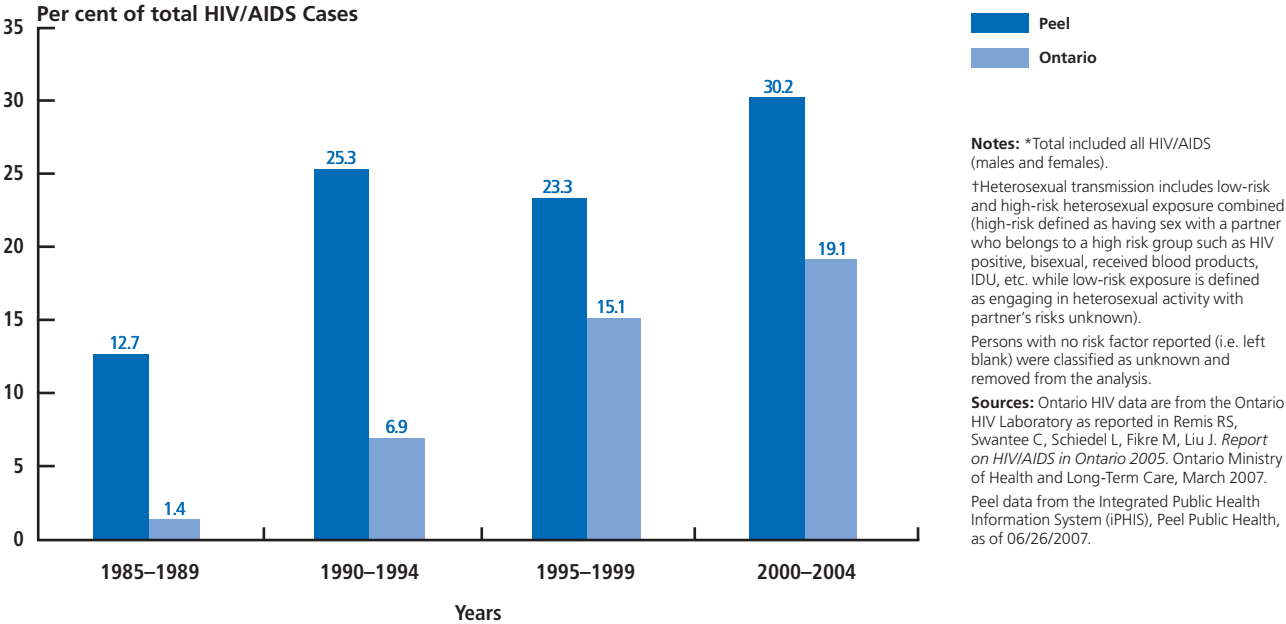
In 2005, it was estimated that 45% of HIV/AIDS cases in Canada were among MSM. Even though MSM cases among those with new infections steadily decreased between the early 1980s and 1996, the trend has now reversed and is on the increase again.<sup>2</sup>

In Peel Region, a greater proportion of HIV/AIDS cases were due to heterosexual transmission compared to Ontario. Between 2000 and 2004, heterosexual transmission accounted for 30% of all HIV/AIDS cases (see Figure 10 below).

In Ontario, heterosexual transmission has markedly increased as a risk factor for HIV/AIDS. From 1985 to 2004, this risk category increased from 1% to 19%.

The proportion of new HIV infections attributed to heterosexual transmission has increased steadily in Canada.<sup>2</sup>

**Figure 10: Proportion of Total\* HIV/AIDS cases with Risk Factor Heterosexual Transmission† by Time Period, Region of Peel and Ontario, 1985–1989 to 2000–2004 Combined**



Origin from an HIV-endemic country is one of the most rapidly increasing risk factor categories in Ontario and in Peel Region. During the last 20 years, the proportion of HIV/AIDS cases reporting origin from an HIV-endemic country has risen about 9-fold in Ontario and 14-fold in Peel (see Figure 11 below). Given the demographic profile for the Region of Peel and the predicted immigration pattern, this trend is likely to continue into the foreseeable future.

Persons from HIV-endemic countries continue to be over-represented in Canada’s HIV data. In 2005, about 16% of new infections were attributed to heterosexual transmission in people who originated from HIV-endemic countries.<sup>2</sup>

**Figure 11: Proportion of Total\* HIV/AIDS cases with Risk Factor from an HIV-Endemic Country by Time Period, Region of Peel and Ontario, 1985–1989 to 2000–2004 Combined**

