

# TRENDS IN ANAL CANCER INCIDENCE IN QUEBEC

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## Background

Anal cancer, a part of the spectrum of disease linked to the human papillomavirus, has been shown to be increasing in several countries. The increase seems higher among people living in metropolitan areas and among single men, suggesting a possible link with HIV infection.

## Objectives

- To measure trends in anal cancer incidence in the Province of Quebec (Canada), over the last two decades;
- To analyse variations according to sex and residence (Montreal metropolitan versus other regions).

## Results

1045 cases of anal cancer were recorded in the period, comprising 632 squamous type carcinomas (60 %) and 219 adenocarcinomas (21 %);

When adenocarcinomas are included and all topographical sites are combined, rates in 1999-2001 exceeded 1.5 per 100,000 in men and women living in Montreal metropolitan areas (figure 1);

When all topography sites are combined, anal squamous cell carcinomas show an increase in all groups except for men from regions outside the Montreal metropolitan area (figure 2);

Squamous carcinomas of the anal canal (topography code 154.2) show the most important increase (figure 3). Between 1984-1986 and 1999-2001, rates for this type of cancer increased for both men and women (table 1), and the highest increase is observed for men living in Montreal metropolitan area (+ 353 %).

No significant increase is observed for anal adenocarcinomas (figure 4).

**Table 1**  
Variation in squamous cell anal canal cancer incidence, Quebec 1984-2001

	Men		Women	
	Montreal metropolitan	Other regions	Montreal metropolitan	Other regions
Rate per 100,000 1984-1986	0,19	0,15	0,38	0,16
Rate per 100,000 1999-2001	0,86	0,26	0,89	0,55
% variation	353%	73%	134%	244%

## Discussion

- Over the 15 year-period covered by the analyses, anal cancer incidence has increased for both men and women, particularly for men in the Montreal metropolitan area and for squamous cell carcinomas;
- An increase in life expectancy among HIV-positive people may explain this pattern;
- Although HPV infection has been associated in other studies with squamous type carcinomas, the relationship between HPV and anal adenocarcinomas remains to be clarified.

## Design

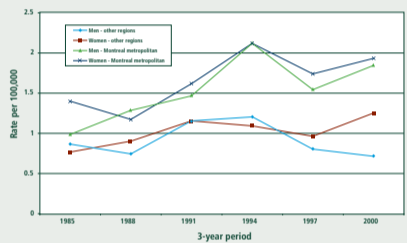
Descriptive epidemiologic study based on data from the Quebec Cancer Registry.

## Methods

- Data were obtained for the years 1984-2001, and for topographical sites 154.2, 154.3 and 154.8 according to ICD-9;
- Incidence rates, adjusted for the 1996 population, were calculated for 3-year periods, globally and separately for squamous cell carcinomas (morphology codes 8010 to 8124) and adenocarcinomas (morphology code 8140);
- Rarer forms of cancers were excluded for the trend analyses.

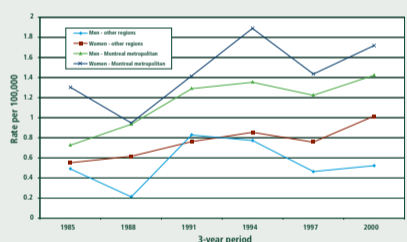
**Figure 1**

Trends in the incidence of anal carcinomas (all topography sites, squamous cell and adenocarcinomas), Quebec, 1984-2001



**Figure 2**

Trends in the incidence of anal squamous cell carcinomas (all topography sites) Quebec, 1984-2001



**Figure 3**

Trends in the incidence of squamous cell carcinomas of the anal canal (topography site 154.2), Quebec, 1984-2001



**Figure 4**

Trends in the incidence of anal adenocarcinomas (all topography sites) Quebec, 1984-2001

