



### 13. Rheumatoid Arthritis Prevalence in Quebec.

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**Objective:** There is growing interest in using administrative health databases for surveillance of chronic rheumatic diseases in Canada. Our objective was to assess the prevalence of rheumatoid arthritis (RA) in Quebec based on administrative health data, and to determine if any differences could be detected within two regions, Les Iles de la Madeleine (in the Gulf of Saint Lawrence), and the Saguenay/Lac-St-Jean census metropolitan area, in the northern-east of Quebec. For historical and geographical reasons, these two regions have been relatively isolated. In both regions, the vast majority of residents originate from a relatively small number of French settlers. The reduced genetic variation of these populations, compared to the rest of Quebec, might potentially put them at risk for diseases like RA, an autoimmune rheumatic condition that is driven at least in part by genetic risk profiles.

**Methods:** Cases of RA were ascertained from provincial physician billing and hospitalization data from 1992 to 2008. The databases contain International Classification of Diseases (ICD) billing and hospitalization diagnostic codes for all reimbursed medical encounters in Quebec. We considered a case as any Quebec resident who fulfilled one or more of three case definitions: 1) Two or more billing code diagnoses, submitted by any physician, at least 2 months apart, but within 2 years; or 2) At least one billing diagnosis, by a rheumatologist; or 3) One hospitalization diagnosis (all based on ICD-9 code 714, and ICD-10 code M05).

**Results:** In Les Iles de la Madeleine, we defined 139 RA cases in 13,110 individuals, (10.6/1000). In Saguenay/Lac-St-Jean, there were 1,094 RA cases in 138,671 residents (7.9/1000). In the rest of Quebec, there were 74,527 cases, within a population of 7,464,237 (10.0/1000).

**Conclusions:** With our case definition based on administrative health data, we did not find an excess of RA cases in either Les Iles de la Madeleine or Saguenay/Lac-St-Jean. Limitations include the fact that the cases were not clinically validated, and that the data reflect only persons seeking medical care, who are given an RA diagnosis on billing or hospitalization data.