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**Title**

*Primary Care Provider diagnosed eczema within Electronic Medical Records from seven Canadian provinces*

**Priority 1 (Research Category)**

Allergy/Immunology

**Presenters**

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**Abstract**

Context: Most epidemiological research on eczema has largely relied on patient survey data. With the increasing use of electronic medical records (EMR) in primary care, there has been a shift in epidemiological research towards the use of validated case definitions to study disease.

Objective: Apply a validated case definition for eczema to EMR data from primary care providers participating in the Canadian Primary Care Sentinial Surveillance Network (CPCSSN) to determine the prevalence of diagnosed eczema in Canada and describe patient's characteristics including risk factors and comorbidities.

Study Design: Cross-sectional study.

Dataset: EMR data from 1,574 primary care providers in seven Canadian provinces.

Population Studied: Patient records were examined for those with at least one encounter with a family physician, nurse practitioner or community pediatrician participating in CPCSSN between January 1, 2017, and December 31, 2019 (N= 689,301 patients).

Outcome Measures: Primary outcome was lifetime prevalence of eczema. Secondary outcomes were demographics of eczema patients and the association between eczema and various comorbidities.

Results: Descriptive statistics revealed a lifetime prevalence of documented eczema of 11.6% overall, 15.1% in those <19 years, and 11.5% in those >19 years. Patients with eczema were more likely to be smokers. Using the Material and Social Deprivation Index we found eczema was more prevalent among the least materially and socially deprived quintiles. In logistic regression, female patients (OR, 1.29; 95% CI, 1.27-1.32) and patients <19 years (OR, 1.27; 95% CI, 1.19-1.35) had higher odds of eczema compared to male patients and patients aged >19 years. Patients with comorbidities such as rhinitis (OR, 2.11; 95%

CI, 2.06-2.17), asthma (OR, 1.4; 95% CI, 1.37-1.43), any allergy (OR, 1.09, 95% CI 1.06-1.11), COPD (OR, 1.1; 95% CI, 1.06-1.14) and anxiety (OR, 1.66; 95% CI, 1.63-1.69) had higher odds of eczema compared to patients without these comorbidities. Depression (OR, 0.96; 95% CI, 0.94-0.98) and obesity (OR, 0.96; 95% CI, 0.94-0.98) were negatively associated with a diagnosis of eczema.

Conclusion: This is the first study in Canada to determine the prevalence of primary care provider documented eczema using EMR data. This study can inform and improve disease surveillance as well as future studies exploring burden of illness, trends or interventions related to eczema care in Canada.