

The Burden of Gout in the Canadian Primary Care Population

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INTRODUCTION

Gout, a common arthritis, causes impairment to a patient's quality of life and is a significant burden to the health-care system.¹ To further understand the burden of gout in a Canadian primary health care setting, gout patients were compared to gout-free patient profiles.

Objectives:

- Compare the patient profiles (comorbidities, lab test results) of gout patients compared to gout-free patients
- Compare the primary health care resource utilization (total # of lab tests utilized, # of specialist referrals, # of sick notes) of gout patients compared to gout-free patients

METHODS

Study Design

This retrospective study used data extracted from IMS Evidence 360 EMR Canada, a primary care electronic medical records database in Ontario, Canada

Study Population

Inclusion Criteria:

1. Male and Female > 18 years at index date
2. Active in the EMR for the entire study period
3. Gout patients were selected if they had ≥1 gout diagnoses (ICD-9 274.x) OR ≥1 gout medication* claim between July 1, 2008 – June 30, 2012
4. Gout-free patients were selected if they had no record of gout diagnosis or gout medication claim within all available EMR history

Selected Exclusion Criteria:

1. ≥1 oncology diagnosis or ≥1 oncology medication**

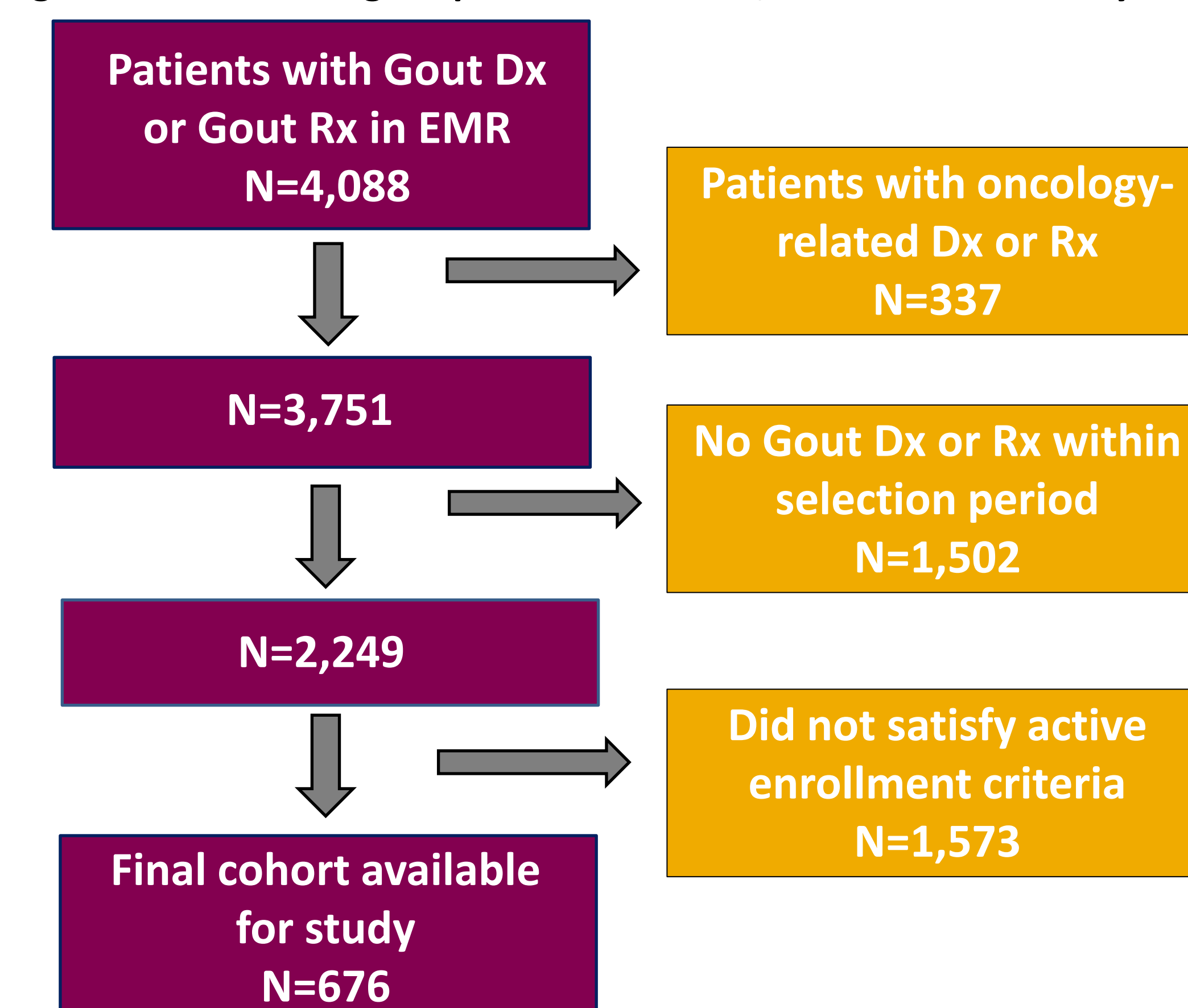
Gout patients were matched 1:5 to gout-free patients based on demographics and comorbidities using an adapted version of the Charlson Comorbidity Index (CCI).² All patients were followed for two years post-index date. Costs were limited to primary care physician visits.

*Allopurinol, colchicine, febuxostat, probenecid, sulfapyrazone
**Oncology Dx = ICD-9 140.x - 208.x, Oncology Medication= Antineoplastics (L01) & Cytostatic Hormone Therapy (L02);

METHODS (Continued)

A cohort of 676 gout patients (Figure 1) and 3,380 gout-free patients were identified in the EMR database.

Figure 1. Number of gout patients included/excluded from study



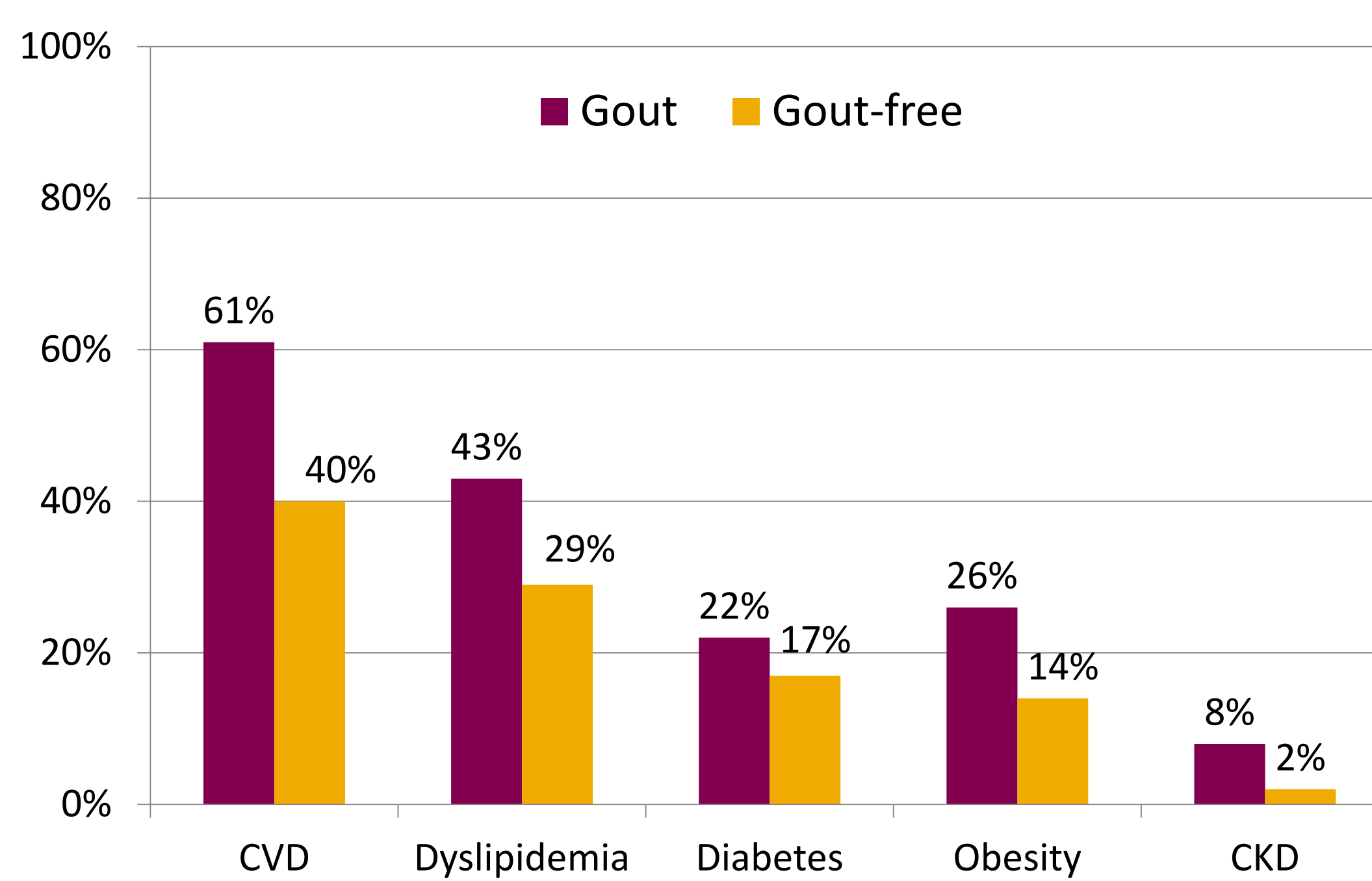
Dx = Diagnosis; Rx = Medication Prescription

RESULTS

The gout population was well matched for age, sex and CCI to gout-free patients. In both groups, a high proportion of patients were male (77%) and the mean age was the same (58 ± 15 years). The mean CCI score at baseline was 1.08 ± 1.2 in both groups.

Over the two-year follow-up, gout patients were statistically more likely (p<0.01) to have a record of cardiovascular disease (61% vs. 40%), dyslipidemia (43% vs. 29%), diabetes (22% vs. 17%), obesity (26% vs. 14%), and chronic kidney disease (8% vs. 2%) than the gout-free cohort (Figure 2).

Figure 2. Co-morbidities recorded within 2 year follow-up period for gout vs. gout-free patients: Ontario



Data source: Data obtained from IMS Evidence 360 EMR Canada, extracted 2014

RESULTS (Continued)

Over the two year follow-up period, there were no clinically relevant differences between the two groups in blood pressure, fasting glucose, HbA1c, serum creatinine, HDL cholesterol, LDL cholesterol and triglycerides. However, having gout was associated with a statistically higher mean serum uric acid level (441 ± 107 umol/L) compared to those without gout (361 ± 84 umol/L). A history of smoking was similar between the gout and gout free patients (31% and 34% respectively).

The utilization of healthcare resources during the two year period was significantly different between gout and gout-free patients for a number of variables studied (Table 1).

Table 1. Two-year follow-up healthcare resource utilization for gout patients vs. gout-free controls: Ontario

Healthcare Utilization Characteristics	Gout (N=676)	Gout-Free (N=3,380)	p-value
No. Lab tests, median (Q1-Q3)	48 (1-101)	9 (0-63)	<.0001 ^a
Patients with ≥1 urate test, n (%)	416 (62%)	935 (28%)	<.0001 ^b
Physician visits, median (Q1-Q3)	10 (5-16)	5 (2-11)	<.0001 ^a
Patients with ≥1 specialist referral, n (%)	392 (58%)	1,541 (46%)	<.0001 ^b
Patients with ≥1 rheumatologist referral, n (%)	32 (4.7%)	48 (1.4%)	<.0001 ^b
Patients with ≥1 sick note, n (%)	101 (14.9%)	262 (7.8%)	<.0001 ^b

^aWilcoxon rank sum test, ^b Chi-square test

Data source: Data obtained from IMS Evidence 360 EMR Canada, extracted 2014

Gout patients incurred five times as many lab tests and two times as many physician visits as gout-free patients. In addition, patients were more likely to have costly specialist referrals (58% of gout patients vs. 46% of gout free patients). This remained statistically significant when examining only the proportion of patients referred to a rheumatologist between the two groups (4.7% of gout vs. 1.4% of gout free patients)

CONCLUSIONS

Gout is associated with increased primary healthcare resource utilization. Furthermore, gout patients are also more likely to have significant comorbidities compared with gout-free patients, which is consistent with previous publications (3-10).

More studies are needed to further investigate the economic burden of gout in the Canadian primary care setting.

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