

THE ECONOMIC BURDEN OF GOUT TO THE EMPLOYER

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ABSTRACT

STUDY PURPOSE: To determine the economic burden of gout associated with medical costs and work loss from an employer perspective.

METHODS: Medical, pharmacy, workers' compensation (WC), short- and long-term disability (STD, LTD), and sick leave (SL) costs in employees with gout, as identified by an ICD-9 of 274.xx were examined in a database consisting of 2001 through 2004 claims, payroll, and demographic data from 250,000 employees from multiple large US based employers. Regression modeling was used to measure the cost differences between employees with gout and employees without gout while controlling for age, job tenure, gender, salary, region, and other factors.

RESULTS: Data were available for 1,171 employees with gout and a control group of 247,867 employees without gout. The gout group's costs (per patient/per year) were almost twice as high (\$6871 compared with \$3705) summed across all direct medical and work loss measures ($p < 0.0001$). Work absence costs had differences of \$697 (WC, $p < 0.0001$), \$358 (STD, $p < 0.0001$), -\$25 (LTD, $p < 0.0001$), and \$307 (SL, $p < 0.0001$).

CONCLUSIONS: The economic impact of gout can be costly to employers, not only in terms of direct healthcare costs, but also from potential work loss due to absenteeism. Interventions focused on identifying and managing the underlying cause of gout have the potential to produce significant savings in medical and pharmaceutical costs.

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BACKGROUND

- Gout appears to be increasing in prevalence, and is currently thought to affect an estimated 5.1 million US adults¹.
- Gout is a chronic disease, with progression occurring in patients with untreated or poorly controlled serum urate levels.
- Gout is frequently associated with other serious comorbid conditions.
- The burden of illness of gout presents a substantial public health implication.²
- There is no literature quantifying the impact of the disease on the employer in terms of either direct costs or indirect costs such as sick leave, disability and workers' compensation.

DATA SOURCES

Data was obtained from the Human Capital Management Services Research Reference Database (HCMS RRDb) of approximately 250,000 employees using 2001-2004 adjudicated claims, payroll, and demographics.

The index date for employees with gout was that first associated with an ICD-9 code of 274.xx. For the control, non-diseased group, an average index date was derived from that found for the gout cohort.

DATA ANALYSIS

- Costs were calculated using a 2-stage regression technique.
- In both stages, the models controlled for age, gender, salary, tenure, exempt status, full-time/part-time status, race, marital status, region, and co-morbidities (using the Charlson Comorbidity Index).
- Costs were considered statistically significant when $p < 0.05$.

RESULTS:

- Data were available for 1,171 employees with gout and a control group of 247,867 employees without gout.
- The gout group's costs (per patient/per year) were almost twice as high (\$6,871 higher) summed across all direct medical and work loss measures ($p < 0.0001$).
- Work absence costs had differences of \$697 (WC, $p < 0.0001$), \$358 (STD, $p < 0.0001$), -\$25 (LTD, $p < 0.0001$), and \$307 (SL, $p < 0.0001$).

TABLE 1: Employee Demographics

EMPLOYEES	WITH GOUT	WITHOUT GOUT		
VARIABLE	N	MEAN	N	MEAN
Age (at index date)	1,171	45.91	247,849	40.41
Tenure (at index date)	1,171	12.79	247,867	9.73
Gender (% Male)	1,171	85.0%	247,867	54.3%
Married (%)	1,087	66.1%	225,037	56.6%
Ethnicity:	736		170,951	
% White		71.7%		65.4%
% Black		15.5%		19.6%
% Hispanic		5.8%		9.7%
Exempt (%)	1,171	36.0%	247,859	29.5%
Full Time (%)	1,171	94.4%	247,867	86.6%
Annual Salary (\$)	1,145	\$61,361	244,397	\$50,314

All differences significant $p < 0.05$

For employees with gout, the index date is the date of the first gout diagnosis (ICD9 274.xx) in the study period. For employees without gout, the index date is the average index date of the employees with gout.

REFERENCES

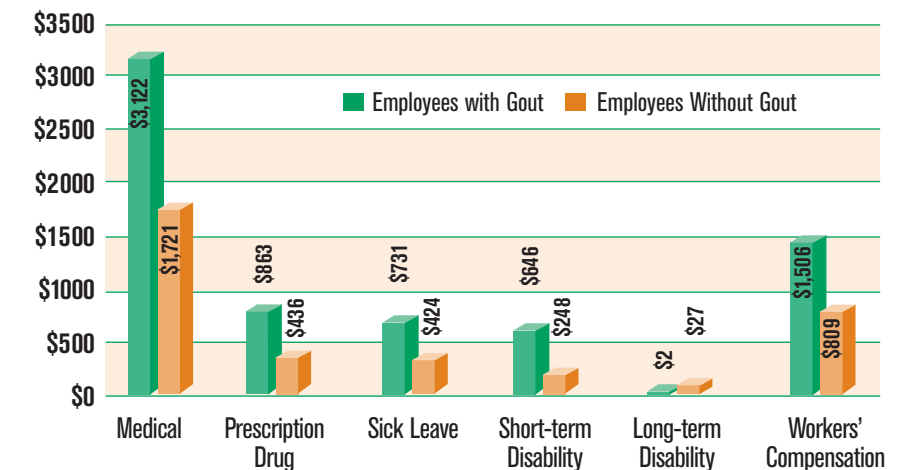
- ¹ Kramer HM, Curhan G. Am J Kidney Dis 2002;40:37-42.
- ² Mikuls TR, et al. Ann Rheum Dis 2005;64:267-72.

TABLE 2: Differences in Costs for Health Benefits Between Employees with Gout and Those Without Gout

EMPLOYEES ²	WITH GOUT	WITHOUT GOUT	DIFFERENCE
COST CATEGORY ¹	N	N	
Medical	1,171	247,867	\$1,401
Prescription Drug	1,171	247,867	\$427
Sick Leave	600	123,461	\$307
Short-term Disability	484	102,234	\$358
Long-term Disability	822	177,477	-\$25
Workers' Compensation	1,085	224,723	\$697
Total			\$3,166

- ¹ Costs were adjusted using regression modeling and controlling for age, tenure, gender, marital status, race, exempt status, full-time/part-time status, salary, location, and Charlson Comorbidity Index. Only employees eligible for each specific benefit were included in the regression models for that benefit. Lost time costs include all costs from claims open at some point during the year following the index date.
- ² For employees with disease, the index date is the date of the first gout diagnosis (ICD9 274.xx) in the study period. For employees without disease, the index date is the average index date based on the group of employees with gout.
- ³ All differences significant $p < 0.05$.

Figure 1: Annual Benefits Costs per Employee (All differences significant $p < 0.05$)



CONCLUSIONS

- Direct medical and prescription costs were approximately \$1,800 higher for employees with gout.
- Sick leave costs were approximately \$307 higher, indicating higher absenteeism in this cohort.
- The possibility that absence from gout is secondary to progression to more chronic states is suggested by the increased costs found for short-term disability.
- Evaluation of treatment patterns of employees with gout may reveal areas that can be improved, including appropriate management of acute attacks, preventive treatment for recurrent attacks, and appropriate initiation of hyperuricemia control. These measures may not only improve employee healthcare, but decrease the economic burden of gout to the employer.