INTRODUCTION

- Estimates suggest that around 60% of the total cost of gastroesophageal reflux disease (GERD) is accounted for by absence from work and reduced at-work productivity. Studies in working populations (using patient-reported data) have shown that GERD causes a reduction in at-work productivity of around 10% to 25% (4.4% reduction, 6.0% reduction, 0.84 fewer units processed per hour worked). The observed annual at-work productivity loss was higher (6.0%) than the hourly loss (4.4%) because annual at-work productivity measurements also included absence from work.

AIM

- To determine if a relationship exists between GERD and reduced at-work productivity, on the basis of objective measurements of hourly and annual productivity while at work.

METHODS

- An analysis was performed on data from the Human Capital Management Services (HCMS) Research Reference Database consisting of approximately 350,000 employee records representing the retail, service, manufacturing, and financial industries. Anonymity of person-level data was maintained according to the Health Insurance Portability and Accountability Act guidelines.
- From the database, ICD-9 codes were used to identify employees with a primary, secondary, or tertiary diagnosis of GERD (251.x, 530.1, 530.10, 530.11, 530.12, 530.19, 530.81, 787.1x and 787.2x). Employees without GERD were defined as the control group.
- The index date for each employee with GERD was the date of diagnosis associated with the disease. For controls, the index date was the average index date of subjects with GERD.
- For the purposes of the analyses, subjects from the GERD and control groups needed to be continuously employed and eligible for health benefits for at least 1 year after their index date.
- Productivity was measured in terms of units processed per hour worked using real, day-to-day, person-level work output data collected electronically by their employers.
- At-work productivity was analyzed per hour (hourly productivity) and for a 12-month period (annual productivity).

RESULTS

- Productivity data were available for 541 employees with GERD and 26,775 employees without GERD (control group).

CONCLUSIONS

- Objective measurements indicate that GERD impacts productivity while at work.
- The observed link between GERD and at-work productivity supports findings from other studies using self-report productivity instruments.
- An opportunity therefore exists to reduce costs from an employer or society perspective through better management of patients with GERD.

REFERENCES


Figure 1. a) Hourly and b) annual at-work productivity per employee with and without gastroesophageal reflux disease (GERD).

Table 1. Demographic characteristics of employees with and without gastroesophageal reflux disease (GERD).

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Employees with GERD (n = 541)</th>
<th>Employees without GERD (n = 26,775)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age, years (at index date)</td>
<td>40.3 (37.8)</td>
<td>37.8</td>
</tr>
<tr>
<td>Mean tenure, years (at index date)</td>
<td>9.5 (8.3)</td>
<td>8.3</td>
</tr>
<tr>
<td>Women, %</td>
<td>24.8 (21.9)</td>
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<tr>
<td>Married, %</td>
<td>64.5 (59.6)</td>
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<tr>
<td>Race, %</td>
<td></td>
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<tr>
<td>White</td>
<td>77.3 (64.2)</td>
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</tr>
<tr>
<td>Black</td>
<td>15.3 (21.4)</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>5.7 (11.5)</td>
<td></td>
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<tr>
<td>Full-time employment, %</td>
<td>76.9 (73.2)</td>
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<tr>
<td>Mean annual salary, $US</td>
<td>34,001 (33,512)</td>
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<tr>
<td>Mean Charlson Comorbidity Index</td>
<td>0.19 (0.09)</td>
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</table>

Comparison of the two groups in terms of hourly and annual at-work productivity showed that employees with GERD averaged 0.84 fewer units processed per hour worked (4.4% reduction, P = .048) and 1754 fewer units processed per year (6.0% reduction, P = .039) (Figure 1).