Introduction

- Irritable bowel syndrome (IBS) plus constipation (IBS-C) can negatively impact the function of employed patients, which potentially incurs a financial burden to employers.
- The financial burden is a major component of the cost (burden) of illness for IBS-C.
- Employers provide more than just salary to their employees. Some employer contributions are health-related including the following:
  - Healthcare and prescription drug coverage
  - Sick leave and short-term disability salary replacement while employees are absent due to illness
- Consequently, a wide array of health-related outcomes must be quantified to assess the cost impact of IBS-C from an employer’s perspective.
- Previous studies have reported on absenteeism costs or lost time due to IBS-C.

Aim

- To examine the impact of IBS-C in an employed population.

Methods

- A retrospective analysis was performed on data (2001 to 2003) from the Humana Capital Management Services (HCMS) Research Database consisting of approximately 510,000 employees 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.

- 364-06 Constipation, unspecified
- 364-09 Other constipation
- The control group was comprised of employees with no IBS or constipation-related diagnoses. The index date for each employee with IBS-C was 3 months prior to the first date of service associated with IBS, as noted by ICD-9 codes. For controls, the index date was the average index date of subjects with IBS-C.
- The purpose of the analysis, subjects from the IBS-C and control groups needed to be continuously employed and eligible for health benefits for at least 1 year after their index date.
- Outcome measures included direct costs (medical and prescription) as well as indirect costs associated with payments for absences (sick leave and short-term disability) in this time period after the index date.

Data were available for 296,154 eligible employees of which 243 were identified with IBS-C. The employees with IBS-C were more frequently (P<0.05) female (42.3% vs. 40.0%), not married (54% vs. 43.6%), and employed full-time (86.2% vs. 66.6%; Table 1).

Comparisons of annual direct and indirect costs showed all differences between employees with and without IBS-C to be significant (P<0.05). Table 2: IBS-C was associated with annual mean incremental direct costs of $3,530 per employee ($2,865; 66.8% prescription drug costs, 5.3% direct medical costs, and 6.9% sick leave costs). Table 3: IBS-C was associated with an annual mean absence of 8.4 days per employee compared with 5.09 days for the control group.

Conclusions

- These results indicate an opportunity for improved management of patients with IBS-C that may result in reduced costs from a societal perspective.

References


Anonymity of person-level data was maintained according to the Health Insurance Portability and Accountability Act guidelines.

Annual Direct and Indirect Cost of Illness in Employees with Irritable Bowel Syndrome plus Constipation

Richard A. Brock, MS*; Nathan L. Kleinman, PhD; Arthur K. Melkonian, MD* and Robert W. Baran, PharmD*

*Retrospective Analysis, The JoStarx Group, Newfoundland, NJ; **Analysis & Research Services, HCMS, Cheyenne, WY; and ***Health Economics & Outcomes Research, Takeda Global Research & Development Center, Inc., Deerfield, IL.
Purpose:
To assess the annual direct and indirect cost of illness for irritable bowel syndrome plus constipation (IBS+C) among US-based employees.

Methods:
A retrospective analysis was conducted using the Human Capital Management Services Research database, which contains employee data from 2001-2005 sourced from multiple US-based employers. Data fields included medical, pharmacy, payroll, work absence (where available), and demographics. The IBS+ C cohort consisted of employees identified with ICD-9 Codes 564.0 (Constipation), 564.00 (Unspecified), 564.01 (Slow Transit), or 564.09 (Other) co-occurring with 564.1x (IBS) in the same year. Employees with no claims for these codes comprised the Control cohort. The annual measurement period for each IBS+C subject began 3 months prior to the first date of service associated with IBS or C. For controls, the index date was the average index date of subjects with IBS+C. Two-part regression modeling was used to determine the annual cost differences between IBS+C and Control cohorts while controlling for age, job tenure, gender, salary, region, and Charlson Comorbidity Index score. Direct (inpatient and outpatient visits, prescription drug) and indirect (sick leave, and short-term disability [STD]) costs were analyzed.

Results:
Data were available for 296,154 employees. IBS+C employees compared to Controls were more frequently (P<0.05) female (80.2% vs. 42.0%), not married (51.8% vs. 43.8%), and employed full time (95.5% vs. 88.6%). All annual cost outcomes comparisons (Table 1) were statistically greater in the IBS+C cohort (P<0.05). IBS+C was associated with an annual mean incremental direct cost versus controls totaling $3,590; medical costs accounted for 80% of the direct cost difference and prescription drug costs 20%. IBS+C was also associated with $702 incremental indirect costs. IBS+C contributed 1.89 incremental sick leave days (P<0.05) but differences in STD days were not significant.

Conclusion:
IBS+C is associated with significant cost and absenteeism; in this study, the majority of total incremental costs were direct medical.