ABSTRACT

INTRODUCTION: To characterize the health care expenditures associated with chronic constipation (CC) using a Medicaid database.

METHODS: Pharmacy and medical claims were retrospectively analyzed for California Medicaid (Medi-Cal) patients using the 20% sample from 1995 to 2003. CC was defined as: two or more diagnoses of constipation (ICD9 = 564.0, 564.00, 564.01, 564.09) at least 30 days apart; or a diagnosis and a constipation-related prescription more than 30 days after the diagnosis date. The annual prevalence of CC was calculated for the beneficiaries who were eligible for a whole year. For beneficiaries with eligibility 24 months prior to the observed initial diagnosis of constipation and 12 months after the diagnosis, itemized and total costs were calculated. Prescriptions and available over-the-counter agents (Rx/OTCs), outpatient care, inpatient care, and long-term care costs were compared before and after the diagnosis.

RESULTS: The annual CC incidence was estimated as 1.27% to 2.23% in 1995 to 2003, with increasing trends over time in the number of patients and rate. The population also decreased in age (64.8 to 55.7 years) and percent female (66% to 60%) over the study period. Average monthly costs for the CC cohort (n=7,463) by category before versus after diagnosis were: Rx/OTCs $173 vs. $255, a 47% increase; outpatient $349 vs. $508, a 46% increase; inpatient $293 vs. $392, a 34% increase; and long-term care $72 vs. $113, a 57% increase. There was a 43% increase in total costs after diagnosis, from $887 to $1,269. All before and after differences were significant at P<0.01. Outpatient costs represented the largest absolute increase.

CONCLUSIONS: There is a significant burden of chronic constipation in the Medi-Cal population. Prevalence may be underreported by ICD-9 coding, thereby underestimating costs. Increases in outpatient costs are a primary driver of total constipation costs.
INTRODUCTION

• Chronic constipation (CC) is a highly prevalent functional GI disorder estimated to affect up to 20% of the North American population.1,2
• Although not usually life-threatening, CC negatively affects health-related quality-of-life and imposes significant direct and indirect costs.3-5
• Understanding the costs of chronic constipation over time and throughout the healthcare system is important for evaluating effective cost containment strategies.
• While comprehensive data are available for other functional GI disorders, such as IBS, data are limited for chronic constipation.2,6
• The incremental cost of illness (COI) for CC can be reliably determined by comparing health resource utilization and healthcare costs in the time periods before versus after diagnosis.

RESULTS

• A total of 23,753 subjects were identified in the Medi-Cal 20% sample for the years 1995-2003 with at least one diagnosis of constipation.
• Differences in Medi-Cal eligibility requirements during the time period, resulted in the Medi-Cal population ranging from 726,767 to 979,401.
• From 1997-2002, a total of 7,463 subjects satisfied the definition for CC (Table 1).

METHODS

• A retrospective analysis was performed on cost and epidemiologic data extracted from a 20% sample of California Medicaid (Medi-Cal) pharmacy and medical claims.
• Pharmacy claims included OTC (over-the-counter) and prescription products provided through Medi-Cal coverage.
• CC was defined according to either of the following criteria:
  - Two or more diagnoses of constipation at least 30 days apart.
  - • International Classification of Diseases-9 (ICD-9) codes: 564.0 (Constipation) 564.03 (Unspecified Constipation) 564.03 Other Constipation
  - • Annual demographics (age, sex) of CC cohort.
• Epidemiologic trends of the CC cohort were analyzed. Specific outcomes measured included:
  - Annual CC incidence.
  - Annual demographic statistics (age, sex) of CC cohort.
• For each subject, cost data were analyzed (1997 to 2003) during the:
  - 24 months prior to first CC diagnosis (pre-diagnosis period)
  - 12 months after diagnosis (post-diagnosis period).
• Remitted costs encompassed outpatient (including ED), inpatient, long-term care, and prescription or over-the-counter (O/T/C) costs.
• Total costs increased 43% after diagnosis, from $887 to $1,269 (P<0.01).
• Outpatient care accounted for 42% ($1,000 of the total cost increment). Together, the increase in outpatient and inpatient PMPM costs represented more than two-thirds of total incremental costs. (Figure 4)

SUMMARY AND CONCLUSION

• There is a significant burden of chronic constipation in the Medi-Cal population, with an increasing incidence over time.
• The age of initial diagnosis of chronic constipation is decreasing over time, and the characteristic pattern of CC as a female predominant disorder is becoming less pronounced in the Medi-Cal population.
• Total PMPM costs increase significantly in the Medi-Cal population (+45%) following chronic constipation diagnosis.
• Individuals with chronic constipation incur significantly higher PMPM costs across every post-diagnosis service after CC diagnosis.
• Increases in outpatient costs are a primary driver of total constipation costs, and represent the largest contributor to incremental costs.
• Prevalence of chronic constipation may be underestimated by KCD-0 coding, thereby underestimating costs.

REFERENCES
