

blood, antibiotics, etc.) Economic evaluation was based on 1997 prices. Data were compared to a pool of previously collected variables in a larger number of German hospitals by an independent consulting company (GEBERA).

RESULTS: Costs for endoscopic surgery were 9,428 Deutschmarks (DM) versus 10,896 DM for open surgery, Operating room costs came to 5,091 DM for endoscopy versus 3,986 DM for open surgery. A shorter hospital stay of 12.7 days in comparison to 18.9 days for open surgery contributed to the higher total costs of open surgery. After endoscopic surgery, patients had higher quality-of-life scores even 6 weeks after surgery—GIQLI: 115 points versus 95 points ($p < .05$). Parallel results were confirmed by the EuroQol and the SF-36 scores.

CONCLUSIONS: Laparoscopic colonic surgery is a more cost-effective alternative to open procedures, offering a better quality of life, but requiring highly developed surgical skills.

G12

DIGEST INTERNATIONAL SURVEY: IMPACT OF UPPER GASTROINTESTINAL SYMPTOMS ON RESOURCE UTILIZATION AND QUALITY OF LIFE

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OBJECTIVES: In 1997, a face-to-face survey of urban adults was conducted in the Nordic countries, Italy, the Netherlands, Switzerland, Canada, the US, and Japan to determine the prevalence of upper GI symptoms and impact on resource consumption (physician visits, medication use, hospitalization days, workdays off) and quality of life (QoL).

METHODS: Validation of 128 patients and 72 volunteers yielded $r_{\text{Internal consistency}} = 0.9-1.0$ and $r_{\text{rest-retest}} = 0.6-0.9$. Questions were asked about symptoms, categorized as gastroesophageal reflux disease (GERD) or other upper gastrointestinal symptoms (UGIs), and healthcare utilization during the previous 3 months. Quality of life was measured using the Psychological General Wellbeing Index (PGWBI) (score 0–110) and the pertinent SF-36 questions.

RESULTS: Of 5581 responses analyzed, ≥ 500 each were from Switzerland, Japan, and the Netherlands, and ≥ 1000 were from other countries. Results were similar across countries. Average age was 44 years; 51% were females; 41% reported symptoms, the most common being heartburn (36%), postprandial fullness (31%), and abdominal distention (31%). There was no age effect, except that those aged >65 had lower prevalences. More females reported UGIs (58%); males reported GERD (52%). Symptomatic persons had 2.6 times more physician visits for any reason (1.60 versus 0.62, $p < 0.05$), 1.5 times more prescriptions ($p < 0.001$) and 1.7 times more over-the-counter medications (OTCs) ($p < 0.001$), 2.5 times more hospital days (0.55 versus 0.22, $p < 0.05$), and 2.2 times more days off work (4.20 versus

1.85, $p < 0.05$). Patients averaged 0.51 physician visits for GERD/UGIs. QoL was significantly lower in symptomatic than nonsymptomatic persons for all domains. Overall PGWBI mean (71.8 versus 85.6, $p < 0.01$) correlated with increased physician visits ($p < 0.001$). Projecting annually for the US, >1 billion additional workdays are lost, costing \$100 billion (1.5% of GDP).

CONCLUSIONS: GI symptoms constitute a major health problem with substantial health and economic impact.

G13

THE EFFECT OF AN OPEN ACCESS ENDOSCOPY SERVICE ON PRESCRIBING COSTS OF ULCER-HEALING DRUGS

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Open access services allow direct referral by primary care doctors without an opinion from a gastroenterologist. Our aim was to measure this new service's effect on prescribing costs.

METHODS: The study used all patients from Tayside who had complete prescribing data for 1 year before referral and 1 year after endoscopy and had a diagnosis recorded at endoscopy. The main outcome measure was the change in prescribing costs for dispensed ulcer-healing drugs (UHDs) in the 4 months after endoscopy compared to the 4 months before referral.

RESULTS: Of the 1063 patients referred, 883 were resident in Tayside and had complete data. The results of endoscopy were normal in 311 (35%), esophagitis in 323 (37%), ulcer in 55 (6%), both in 33 (4%), and other upper GI pathology in 161 (18%). Significant independent predictors of prescribing cost after endoscopy were: the cost of drugs before referral, the diagnosis at endoscopy, and age ($p = 0.0001$ by both generalized linear modeling and a nonparametric ranking test). Variables that were not significantly associated with prescribing cost after endoscopy were: sex, interval between referral and endoscopy, and previous history of either UHDs, endoscopy, or hospitalization for GI event. Controlling for age and cost of drugs before referral, there was a mean decrease in prescribing costs of £11 per patient with normal endoscopy. Prescribing costs increased by £33 for esophagitis, by £25 for ulcer, by £41 for both, and by £23 for other pathology.

CONCLUSIONS: Open access endoscopy was associated with increased cost of prescribing for UHDs, mainly because the procedure revealed pathology in 65% of cases.