

Annual Costs Associated with Patterns of Antidepressant Treatment among Employees

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OBJECTIVES

- Describe the annual direct healthcare and indirect work-loss costs for employees treated with antidepressants and compare them across patients with different treatment response

DATA

- Administrative claims data from 7 self-insured large companies, 1999-2003
 - Companies have nationwide operations
 - Broad array of industries and occupations (e.g., financial services, manufacturing, food and beverage)
- Data covers approximately 1.2 million beneficiaries
 - Employees, spouses, and children
 - Detailed administrative (e.g. medical, drug, disability) information
- Direct healthcare costs include medical and drug claims
 - Diagnosis codes (i.e., ICD-9)
 - Procedure codes (i.e., CPT)
 - Drug codes (i.e., NDC)
 - Provider payments
- Indirect work-loss costs include
 - Disability costs (i.e., employee benefits paid by employers for work days missed for medical reasons more than 6 days)
 - Employer payments for disability days used to calculate disability costs
 - Medically-related absenteeism (non-disability) of less than 6 days
 - For each day in which an employee had at least one medical claim:
 - A day of medically related work-loss was counted for a hospital day
 - Half a day of medically related work-loss was counted for other services
 - Imputed wages used to calculate medically related work-loss costs

STUDY SAMPLE SELECTION CRITERIA

- Employees, age 18-64
- At least one diagnosis of major depressive disorder (MDD) [ICD-9 code: 296.2x, 296.3x]
- At least one prescription of selective serotonin reuptake inhibitors (SSRI) or serotonin-norepinephrine reuptake inhibitors (SNRI)
- Index Date defined as the date when patients receive their first SSRI or SNRI prescription (Index Drug) after a 6 month washout period of no SSRI nor SNRI
- Continuous eligibility for 6 month prior to the Index Date and 12 months thereafter

TIME PERIOD FOR ANALYSIS IS 12 MONTHS AFTER THE INDEX DATE (FOLLOW-UP PERIOD)



METHODOLOGY

1. CATEGORIZE PATIENTS' RESPONSE TO DRUGS INTO DIFFERENT TREATMENT PATTERN CATEGORIES

Identify Index Drug and Index Date

- Index Drug**
 - A patient's first SSRI or SNRI prescription following the 6 months washout period
- Index Date**
 - The date when patients receive their first SSRI or SNRI prescription (Index Drug) after a 6 months washout period of no SSRI nor SNRI

Patients were assigned to only one of four mutually exclusive treatment pattern categories, based on their first treatment response in the 60 days following their Index Drug prescription:

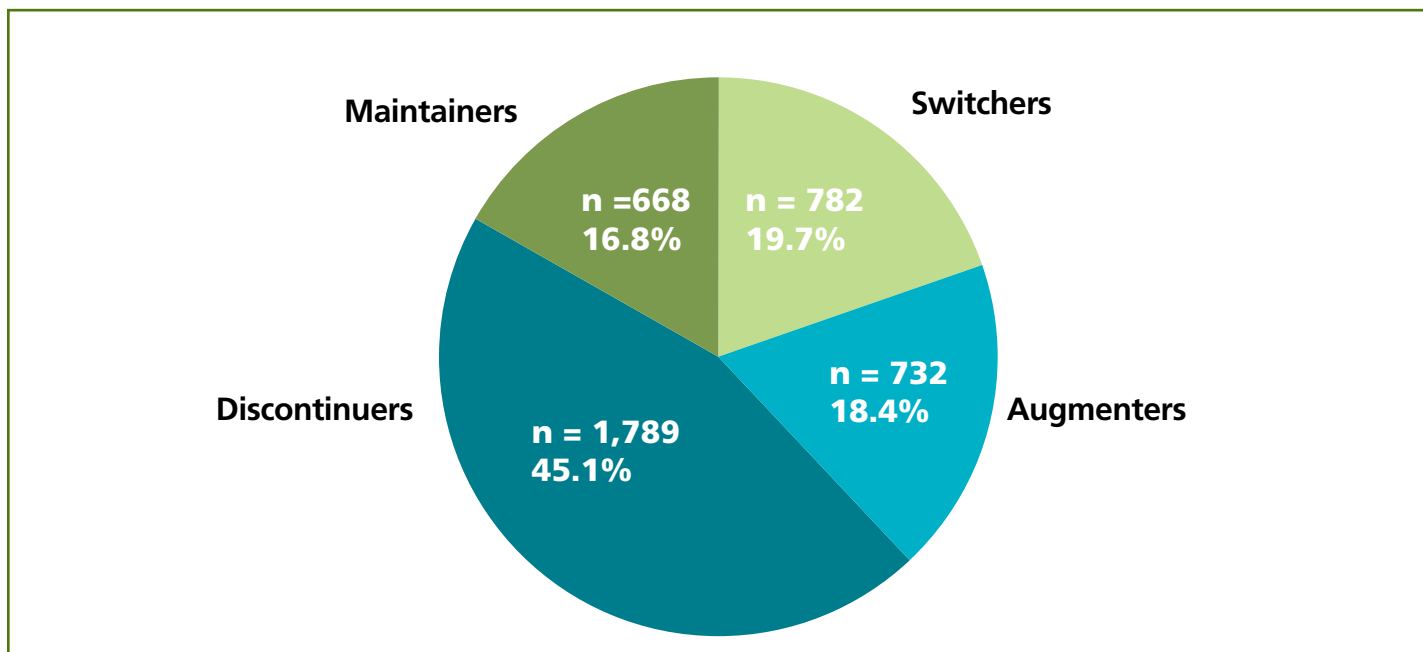
- Switchers**
 - A patient switches to an antidepressant other than the Index Drug
 - No refill of the Index Drug within 60 days of the end date of the current Index Drug prescription
- Augmenters**
 - Prescribed an additional antidepressant on or after the Index Date, in conjunction with continuing refills of the Index Drug
 - Refill of the Index Drug must occur from the start date of the new additional antidepressant to 60 days after the end date of the current Index Drug prescription
- Discontinuers**
 - Neither a switcher nor an augmenter
 - No refill of the Index Drug within 60 days of the end date of the current Index Drug prescription
- Maintainers**
 - Not a switcher, augmenter or discontinuer

2. ASSESS ANNUAL COSTS ACROSS TREATMENT PATTERN CATEGORIES

- Direct healthcare and indirect work-loss costs were calculated across treatment pattern categories during the 12 months follow-up period
- Direct healthcare costs include medical and drug costs
 - Medical costs further divided into hospital inpatient and outpatient costs
- Indirect work-loss costs include
 - Disability costs
 - Medically-related absenteeism (non-disability)
- Direct and indirect costs adjusted to 2003 dollars using medical and general Consumer Price Index (CPI), respectively
- Costs of patients across treatment pattern categories were compared using ANOVA analysis

RESULTS

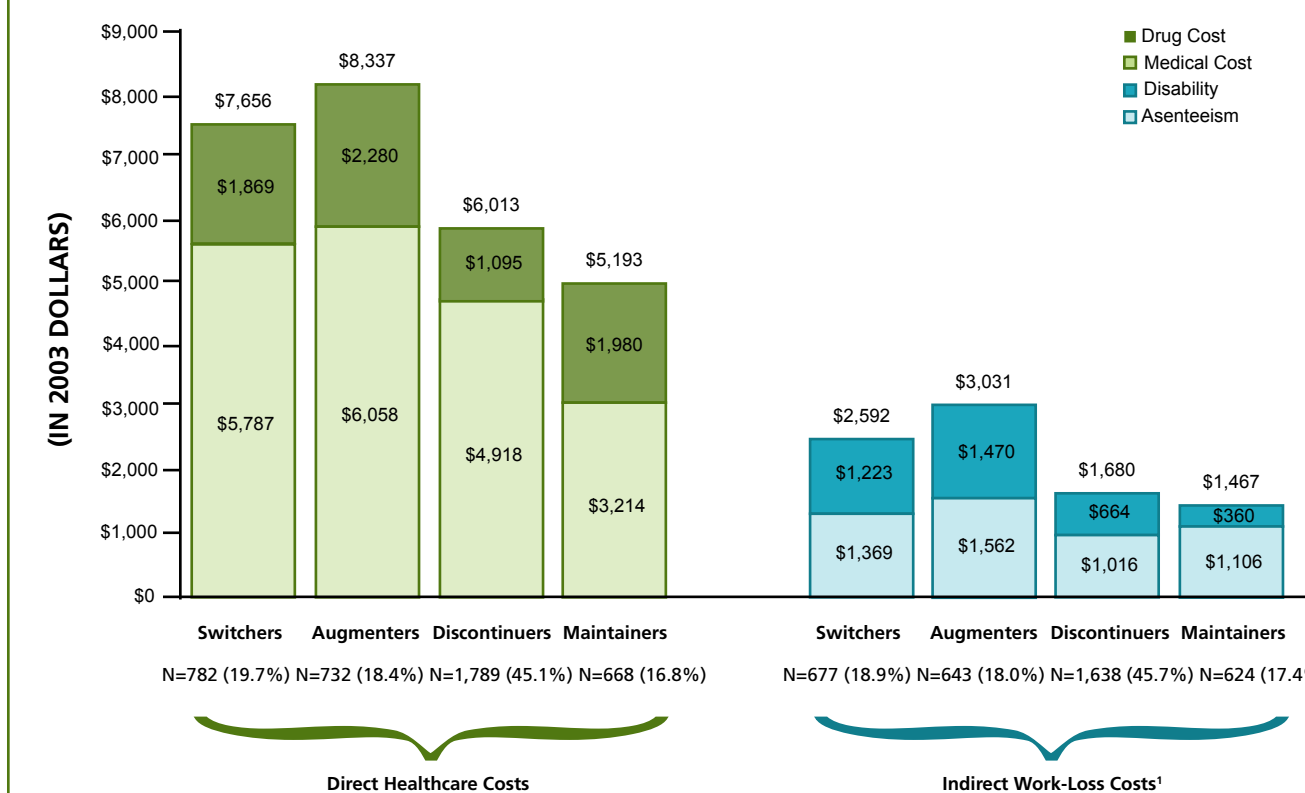
DISTRIBUTION OF STUDY SAMPLE ACROSS TREATMENT PATTERN CATEGORIES (N=3,971)



RESULTS

DIRECT HEALTHCARE AND INDIRECT WORK-LOSS COSTS ACROSS TREATMENT PATTERN CATEGORIES IN THE 12 MONTHS FOLLOW-UP PERIOD (N=3,971)

- Switchers and augmenters had similar direct and indirect costs (all p>0.08), and were more expensive than discontinuers and maintainers (all p<0.001)
- Maintainers had higher drug costs but lower medical costs compared to discontinuers (all p<0.005)



¹The sample size for indirect cost calculation (N = 3,582) is smaller than the direct cost sample (N = 3,971) because some employees (N = 389) are missing disability data.

RESULTS

DIRECT HEALTHCARE AND INDIRECT WORK-LOSS COSTS ACROSS TREATMENT PATTERN CATEGORIES IN THE 12 MONTHS FOLLOW-UP PERIOD (N=3,971) PERIOD (N=3,971)

- Switchers or augmenters had higher direct costs than discontinuers or maintainers (p<0.001)
- Switchers or augmenters had higher indirect costs than discontinuers or maintainers (p<0.001)



¹The sample size for indirect cost calculation (N = 3,582) is smaller than the direct cost sample (N = 3,971) because some employees (N = 389) are missing disability data.

CONCLUSIONS

- First study (that we know of) that categorizes treatment patterns and quantifies direct and indirect costs
- Preliminary results indicate that:
 - Switchers and augmenters had similar direct and indirect costs and higher costs than maintainers and discontinuers
 - The average direct costs and average indirect costs for switchers or augmenters were higher than for discontinuers or maintainers
 - Maintainers had higher drug costs but lower medical costs compared with discontinuers
 - Analyses did not show any costs differences between patients taking SSRIs and SNRIs
 - Ongoing research is refining the methodology of the descriptive analyses and conducting a multivariate analysis to control for confounding factors