

# TRENDS IN PHARMACEUTICAL SPENDING GROWTH IN THE UNITED STATES, 1998-2002

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## Abstract

**Objectives:** Increasing drug utilization, increasing average drug cost, or both may be responsible for pharmaceutical spending growth in the US. Recent trends in outpatient drug utilization were examined to assess the relative contribution of both factors. **Methods:** Five-year trends in expenditures and prescribing rates for outpatient drugs were estimated by analyzing the most recently available nationally representative data from the Medical Expenditure Panel Survey (MEPS), National Ambulatory Medical Care Survey (NAMCS) and National Hospital Ambulatory Medical Care Survey (NHAMCS). **Results:** MEPS data indicate that from 1998 to 2002 outpatient prescription drug expenditures (excluding inpatient prescriptions, over-the-counter medicines and samples) nearly doubled from \$78 billion to \$151 billion. Total number of prescription drug purchases increased by 37%, while average cost per prescription increased by 41%. Over the same period, NAMCS and NHAMCS data reveal that physician office, hospital outpatient department and emergency department visits accounted for 81%, 8% and 11%, respectively, of medications given at outpatient visits (prescribed or provided). For visits at which medications were given, number of visits increased by 6.9%, 12.6% and 16.6%, and number of medications per visit increased by 6.6%, 8.5%, and 13.5% for physician office, outpatient department, and emergency department visits, respectively. However, the proportion of physician office and outpatient department visits at which drugs were given remained relatively constant at approximately 65%. The proportion of emergency department visits at which drugs were given increased from 71.3% to 75.8%. **Conclusion:** Total drug utilization and average drug cost both increased to a comparable degree between 1998 and 2002. Although the total number of visits and the average number of drugs given per visit increased, the proportion of healthcare visits at which outpatients received drugs or prescriptions was relatively stable. Increased utilization was greater for emergency department visits than for physician office or hospital outpatient department visits.

## Objectives

Per capita spending on prescription drugs in the US grew by between 13.2% and 18.4% every year from 1998 to 2002.<sup>1</sup> Nationally representative survey data were analyzed to quantify changes in average outpatient prescription drug costs and utilization that underlie increasing drug expenditures.

## Methods

### Drug Costs

- Data for the number and cost of outpatient drugs prescribed annually from 1998 to 2002 were retrieved from the Household Component of the Medical Expenditure Panel Survey (MEPS). MEPS data are nationally representative of the US civilian non-institutionalized population.<sup>2</sup>
- Descriptive statistics were estimated using the publicly-accessible Internet-based analysis tool MEPSnet.<sup>3</sup>

### Drug Utilization

- Data for the number of drugs prescribed or provided at outpatient visits to non-federally employed, office-based physicians in the US from 1998 to 2002 were retrieved from the National Ambulatory Medical Care Survey (NAMCS).<sup>4</sup>
- Data for the number of drugs prescribed or provided at visits to emergency and outpatient departments of non-institutional, non-federal, general and short-stay hospitals in the US from 1998 to 2002 were retrieved from the National Hospital Ambulatory Medical Care Survey (NHAMCS).<sup>5</sup>
- Analyses were conducted using WesVar® 4.2 (Westat, Rockville, MD). Variability was estimated from subsamples of the complete sample using the *JKn* replication procedure.<sup>6</sup> Clustered primary sampling unit and stratum markers (masked for confidentiality) were used to adjust for the hierarchical survey design.<sup>7,8</sup>

## Results

### Drug Costs

- From 1998 to 2002, spending on outpatient prescription drugs increased more rapidly than number of prescription drugs purchased (93% vs 37%, respectively).
- Figure 1 shows that, as a result, the average cost per prescription increased by 41%, from \$39.58 ± 0.47 to \$55.93 ± 0.47 (mean ± standard error).



## Results

### Drug Utilization

- Figure 2 shows that whereas there was no consistent trend from 1998 to 2002 in the proportion of physician office or hospital outpatient visits at which drugs were received, patients who visited emergency departments were more likely to be given drugs in 2002 than in 1998 (75.8% ± 0.8 vs 71.3% ± 1.0, respectively).

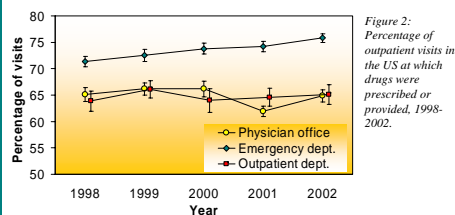


Figure 2: Percentage of outpatient visits in the US at which drugs were prescribed or provided, 1998-2002.

- Figure 3 shows that over the same five-year period, for only those visits at which drugs were prescribed or provided, the average number of drugs given increased by 13.5% for emergency department visits, 8.5% for outpatient department visits, and 6.6% for physician office visits.

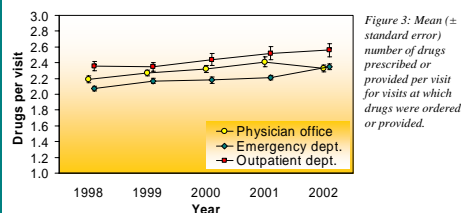


Figure 3: Mean (± standard error) number of drugs prescribed or provided per visit for visits at which drugs were ordered or provided.

- Considering all visits, the average number of drugs given increased by 21.1% for emergency department visits, 10.6% for outpatient department visits, and 5.6% for physician office visits (see Figure 4).

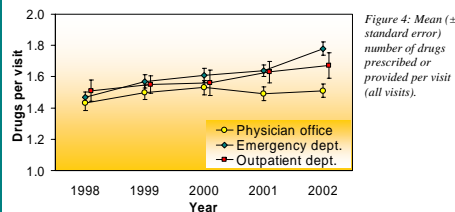


Figure 4: Mean (± standard error) number of drugs prescribed or provided per visit (all visits).

## Results

- Figure 5 shows that the majority of outpatient prescription drugs were obtained at physician office visits.

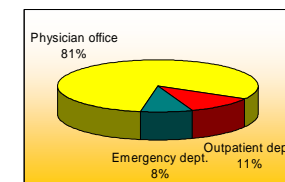


Figure 5: Distribution by type of outpatient visit of all outpatient prescription drugs prescribed or provided in the US from 1998 to 2002.

## Conclusion

Based on nationally representative survey data, average prescription drug cost increased more rapidly than the average rate of drug prescribing from 1998 to 2002. Although the total number of visits and the average number of drugs given per visit increased, the proportion of healthcare visits at which outpatients received drugs or prescriptions was relatively stable. Drug utilization increased more steeply at emergency department visits than at physician office or hospital outpatient department visits. The impact of increased drug use in emergency departments is moderated by the relatively minor proportion of outpatient prescribing accounted for by emergency departments.

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