# **Comparison of Healthcare Resource Utilization, Associated Costs, and Lost Productivity among Chronic Migraine and Episodic Migraine Populations: Results From the American Migraine Prevalence and Prevention (AMPP) Study** A. Manack<sup>1</sup>, D. Serrano<sup>2,3</sup>, D. Buse<sup>4</sup>, E. Chiao<sup>5</sup>, R.B. Lipton<sup>4\*</sup>



# BACKGROUND

Differences in symptom profiles suggest that chronic migraine (CM) and episodic migraine (EM) populations will differ with respect to healthcare resource utilization, headache-related quality of life, and productivity.

# **OBJECTIVE**

To compare physician office and emergency room visit costs and lost productivity between CM and EM populations from the American Migraine Prevalence and Prevention (AMPP) study.

# **METHODS**

The AMPP study is a longitudinal, prospective, population-based, mailed survey initiated in 2004. Screening of 120,000 US households resulted in an initial pool of 32,000 individuals who reported severe headache, from which a random sample of 24,000 have been prospectively sampled annually from 2005 to 2008. Two populations of respondents who met defined criteria for migraine were identified: CM (≥15 headache days/month) and EM (0-8 headache days/month). Based on survey responses from each of these groups, headache-related healthcare utilization over the past year was determined. Costs of headache-related services were assessed based on Wholesale Acquisition Costs, and the average cost of a PCP, ED, and neurologist vist was determined using Current Procedural Terminology codes. Lost productive time (LPT) was calculated as the summing hours of absenteeism and impairment weighted hours of time at work due to headache.

# LIMITATIONS

- Data are self-reported so may be subject to recall bias
- Medication utilization assumes 100% compliance throughout the 12 month period, which may overestimate real-world compliance
- Cost analysis did not include medications used for acute or preventive treatments of HA (ie, triptans) which may underestimate the total HA costs for patients

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Of the respondents, who completed the 2005 AMPP survey, 655 had CM and 10,609 had EM. Over one year when compared to EM, CM respondents made significantly more headache-related visits to physicians (primary care and neurologist) and/or emergency departments (p<0.05), for an annual per-patient cost of \$594.66 for CM and \$182.85 for EM. CM respondents also paid significantly more in out of pocket expenses for HA prescription medications per month (\$75.20 vs \$58.03). (Table 1)

CM respondents who were employed fulltime or part-time had lost more than twice the productive time than the EM respondents (7.98 vs. 3.4 mean hours per week, p<0.001).

### TABLE

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Visits to the ED for

Visits to primary care HA in past 12 month

Visits to neurologist

\*Statistical significan

# **Cost Per CM Patient**

# RESULTS

1: SUMMARY OF REPORTED RESOURCE UTILIZATION AND COST FOR CM AND EM			
	CM Mean (SD)	EM Mean (SD)	CM vs. EM Cost Comparison
severe HA in past 12 months*	0.5 (1.5)	0.22 (1.4)	\$64.56 vs. \$29.59
e physician (PCP) for severe	2.5 (6.5)	0.8 (2.4)	\$338.52 vs. \$107.84
for severe HA in past 12 months*	1.0 (3.04)	0.2 (1.5)	\$191.58 vs. \$45.43
nce at p<0.001 for between group comparisons (CM vs. EM) after controlling for age, gender & income			





### **Cost Per EM Patient**

# CONCLUSIONS

Patients with CM are a relatively small subset of all individuals with migraine but, in this sample, consumed 3-times the costs associated with utilization of headacherelated resources and demonstrated a greater amount of LPT than EM patients. The appropriate and effective use of preventive therapy in this subset of individuals with CM may reduce healthcare resource utilization and associated costs.

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