



Migraine-related Worker Absenteeism: Cost-effectiveness of Two Competing Treatments

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Migraine is a common disease in North America. Its prevalence in the United States is estimated at 13.2% among those aged between 18 and 65, and is even higher within the working age population (25-55) [Schwartz et al. (1997), Evans and Mathew (2000)]. The economic burden of this disorder is approximately 13 billion dollars [National Headache Foundation (2002)]. This includes absenteeism, productivity loss and medical costs.

This paper assesses the cost-effectiveness, from an employer's point of view, of the two most widely used treatments: Midrin, a combination of isometheptene (vasoconstrictor), acetaminophen (analgesic) and dichloralphenazone (mild sedative), and Sumatriptan a triptan drug first made available in 1991. The treatments are relatively good substitutes [Haas (2001)].

We focus on the work history of a sample of employees of a large Fortune 100 corporation in the United States. We model the transitions between employment (no illness), absenteeism due to migraines and absenteeism due to depression, a major comorbidity, using a multi-state multi-episode transition model. Our goal is to assess the impact of the two treatments on the proportion of time spent in employment. We also account for the type of insurance plan [Blue Preferred Provider Organization (PPO), Blue Standard Plan and SelectCare PPO] to which subscribe the employees. All in all our results indicate that the type of insurance plan has a direct impact on time spent away from employment. They also show that Midrin is more cost effective. We conjecture this might be due to the fact that Midrin is used to treat milder migraines.

Keywords: Migraines, Absenteeism, Cost-Effectiveness, Multi-State Multi-Episode Transition Model