

# Lost Productive Time and Cost Due to Common Pain Conditions in the US Workforce

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**P**AIN IS A COMMON HUMAN malady that spares no group and often impairs function. Pain occurs in a variety of forms, including monophasic events (eg, due to injury), chronic episodic conditions (eg, migraine headache), and chronic persistent problems (eg, persistent pain from arthritis). The broad-based impact of pain, especially among working-age populations, is likely to have significant cost implications. A number of studies have described the impact of pain disorders (migraine,<sup>1-10</sup> tension-type headache,<sup>11-12</sup> back pain,<sup>13-18</sup> arthritis,<sup>19-23</sup> and general musculoskeletal disorders)<sup>24-25</sup> on work.

Although these and other pain conditions have a profound impact on the ability to work, available research has substantial limitations. Most studies focus on a single pain disorder and do not provide composite estimates across a range of common pain disorders.<sup>1-13,15-19,21-26</sup> Many studies on the work-related impact of pain focus on lost time due to absenteeism<sup>7-11,13-28</sup>; few have estimated the pain-related impact of reduced performance while at work.<sup>1-6,12,29</sup> This limitation is important because increasing evidence indicates that reduced work performance due to pain, not absenteeism, is the dominant cause of lost productive time.<sup>1-6,12,29-34</sup> Some studies focus on specific employers<sup>2,7</sup> or other populations limited in generalizability in other ways.<sup>4,27,29</sup> Finally, no study has

**Context** Common pain conditions appear to have an adverse effect on work, but no comprehensive estimates exist on the amount of productive time lost in the US workforce due to pain.

**Objective** To measure lost productive time (absence and reduced performance due to common pain conditions) during a 2-week period.

**Design and Setting** Cross-sectional study using survey data from the American Productivity Audit (a telephone survey that uses the Work and Health Interview) of working adults between August 1, 2001, and July 30, 2002.

**Participants** Random sample of 28902 working adults in the United States.

**Main Outcome Measures** Lost productive time due to common pain conditions (arthritis, back, headache, and other musculoskeletal) expressed in hours per worker per week and calculated in US dollars.

**Results** Thirteen percent of the total workforce experienced a loss in productive time during a 2-week period due to a common pain condition. Headache was the most common (5.4%) pain condition resulting in lost productive time. It was followed by back pain (3.2%), arthritis pain (2.0%), and other musculoskeletal pain (2.0%). Workers who experienced lost productive time from a pain condition lost a mean (SE) of 4.6 (0.09) h/wk. Workers who had a headache had a mean (SE) loss in productive time of 3.5 (0.1) h/wk. Workers who reported arthritis or back pain had mean (SE) lost productive times of 5.2 (0.25) h/wk. Other common pain conditions resulted in a mean (SE) loss in productive time of 5.5 (0.22) h/wk. **Lost productive time from common pain conditions among active workers costs an estimated \$61.2 billion per year. The majority (76.6%) of the lost productive time was explained by reduced performance while at work and not work absence.**

**Conclusions** Pain is an inordinately common and disabling condition in the US workforce. Most of the pain-related lost productive time occurs while employees are at work and is in the form of reduced performance.

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quantified lost time due to common pain conditions capturing both absenteeism and health-related reduced performance on days at work in a representative sample of the US workforce and then translated those estimates into economic terms.

The American Productivity Audit provides an opportunity to better understand the impact of pain on the US workforce. The American Productivity Audit captures a large, representative national sample of the US workforce and assesses lost productive time due to health conditions, with a specific focus

on common pain conditions. Survey respondents report time absent due to pain overall and due to specific pain conditions and reduced performance while at work due to pain overall and due to specific pain conditions. We estimate pain-

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