



Alternative medicine, worker health, and absenteeism in the United States



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ABSTRACT

Health related absenteeism costs an estimated \$153 billion annually in the United States (Witters and Agrawal, 2011).¹ Chronic conditions (major contributors to absenteeism) are often successfully managed by Complementary and Alternative Medicine (CAM). As CAM becomes an increasingly visible component of healthcare, firms may wish to consider whether CAM therapies can help reduce illness-related absenteeism. This paper aims to extend the literature on healthcare utilization and absenteeism by exploring whether CAM treatment is associated with fewer workdays missed due to illness.

Methods: Using the 2007 National Health Interview Survey (NHIS) and propensity score matching (PSM), this study estimates the relationship between visits to CAM practitioners, health, and illness-related absenteeism.

Results: In a sample of 8820 workers, the average annual number of workdays lost due to illness is 3.69. Visiting an acupuncturist correlates with lower absenteeism among men (1.182 fewer workdays missed, $p < 0.05$), whereas visiting a naturopathic doctor correlates with 2.359 and 2.521 fewer workdays missed for women and men, respectively (both $p < 0.001$). Active mind-body practices, massage, chiropractic and acupuncture treatments are all significantly associated with improved health.

Conclusions: Estimates suggest that some CAM modalities correlate with lower absenteeism, and many correlate with improved health. Two limitations of this study are worth noting. First, a small proportion of the sample uses CAM, limiting the generalizability of results. Second, if health conscious individuals are more likely to use CAM, then health attitudes may be contributing to lower absenteeism among the treated. Further research is needed to identify a causal relationship between CAM treatment, health, and absenteeism.

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1. Introduction

With the high costs of illness-related absenteeism, employers and policy makers are interested in treatments and interventions that might reduce sick days and improve worker health. Major contributors to absenteeism, chronic conditions, are shown to be effectively treated (or managed) by Complimentary and Alternative Medicine (CAM).^{2–7} A growing body of literature explores the relationship between CAM and absenteeism. Such research is increasingly important as the healthcare industry continues to shift toward preventive care. Insurance coverage of CAM, which has already risen in the previous decade, may rise further because the Affordable Care Act (2010) prohibits insurers from discriminating against any licensed or certified health service provider.^{6,8–10}

Therefore, it is important to determine whether CAM can be effective in improving worker health and reducing absenteeism.

This study expands the literature by exploring the relationship between CAM treatment and absenteeism using nationally representative survey data. Specifically, this study investigates whether workers that visit a CAM practitioner exhibit improved health or miss fewer workdays due to illness. Five different CAM practices are considered: active mind-body (e.g. yoga, meditation), naturopathy, massage therapy, chiropractic and acupuncture. Results indicate that visiting an acupuncturist is associated with lower absenteeism for men, whereas visiting a naturopathic doctor correlates with fewer illness-related absences for both sexes. Active mind-body techniques, massage, chiropractic and acupuncture treatments are all significantly associated with improved health.

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2. Background

Health related absenteeism costs an estimated \$153 billion annually in the United States.¹ As such, understanding what factors contribute to absenteeism is a concern for employers and policy makers alike. One major contributor to absenteeism is chronic conditions. Lower back pain, diabetes, arthritis, allergies, asthma, menstrual pain, migraines, cancer, obesity, and several mental conditions (e.g. bipolar disorder, anxiety, depression) correlate with greater absenteeism and absenteeism costs.^{1,11–22} For example, the odds ratio on absenteeism is two times higher for those with a recent depressive episode,¹² and migraine victims lose an estimated 4–5 workdays annually.²² Moreover, chronic conditions comprise the largest share of healthcare spending: 75% of spending is devoted to chronic conditions, adding about \$3600 per person per year to employer healthcare costs.²³

Interestingly, many of the chronic conditions associated with absenteeism are conditions for which Complementary and Alternative Medicine (CAM) is found to be effective. Research suggests that several types of CAM may be effective in preventive care, treating non-acute illness, and managing a variety of chronic conditions.^{2–7} As an example, massage therapy may relieve back pain.^{4,6} Acupuncture can relieve pain and improve functionality for those suffering from headaches, lower back pain, menstrual pain and osteoarthritis of the knee, and is also associated with reduced nausea for postoperative cancer patients.^{3,5,6,24,25} Mind-body techniques and some herbal products may be effective in lowering glucose levels, cholesterol, and body weight, and improving physical and psychological wellbeing.⁵

A growing body of literature explores the relationship between absenteeism and use of alternative, as well as mainstream, medical treatments.^{22,26–31} For example, a recent longitudinal analysis finds that CAM treatments are effective in reducing long-term absenteeism for individuals with several neurotic conditions.³¹ Another U.S. based study reports that unlimited acupuncture, when introduced for a trial period, resulted in lower pain and zero absenteeism over the trial period.²⁶ Controlling for self-selection, spa visits reduced absenteeism and lowered rates of hospitalization in a German study.²⁷ Timing of treatment may matter as well. A recent Dutch study reports that visiting a physical therapist, general practitioner or specialist, can shorten the duration of an absence if the visit occurs eight weeks into the leave, rather than at the start of the leave, for individuals with non-specific musculoskeletal issues.²⁹ Treatments may be funded out-of-pocket, but may also be covered by employers who wish to benefit from more productive workers.

Kaiser Permanente, one of the largest managed care organizations in the U.S., suggests that investing in preventive care and employee wellness programs has reduced absenteeism, increased productivity, and provided substantial cost savings.²³ This statement is supported by several recent papers, which find that employee assistance plans, occupational health, wellness programs and other workplace interventions may improve health and work outcomes.^{23,32–40} Employee assistance programs can identify health concerns and increase use of other healthcare resources, particularly for alcohol, drug and mental health concerns.⁴¹ One U.S. study estimates an average loss of 2.6 workdays (per worker) if employee assistance program services are not provided.⁴⁰ Results from another workplace study suggest that intervention, in the form of an online mindfulness program, can reduce stress and increase work engagement.³⁴

This paper extends the topic of healthcare and absenteeism by exploring the relationship between use of CAM, worker health, and illness-related absenteeism. Using propensity score matching and nationally representative survey data, this study estimates treatment effects for five separate CAM practices:

active mind-body, naturopathy, massage therapy, chiropractic and acupuncture.

3. Data & methods

3.1. Data

This paper uses the 2007 National Health Interview Survey (NHIS) with the Complementary and Alternative Medicine (CAM) supplement. The NHIS is a nationally representative, cross-section survey of U.S. households and non-institutional group dwellings. Oversampling of Black, Hispanic and Asian persons is accomplished via “screening” and higher sampling rates within the household and by geographic area. Within each household a sample adult is randomly selected.⁴²

The NHIS provides extensive data on individual health, behavior, demographic characteristics, employment, insurance, and healthcare. The CAM supplement asks about use of 18 non-conventional healthcare practices, including, but not limited to: acupuncture, chiropractic manipulation, massage therapy, naturopathy, yoga, and relaxation techniques.

All sample adults were asked to complete the CAM supplement, but not all responded. Analysis is carried out on a subsample of non-proxy adult respondents who completed at least part of the supplement, were employed in the previous week, worked full-time (but not more than 95 h per week), were under 65 years old, and not in the armed forces. Observations with missing values are dropped, as are six observations that are off the common support in the baseline propensity score estimation. The resulting sample is 8820 observations. Only a small proportion of the sample uses CAM treatments. Low treatment rates and the lack of geographic identification below the region level, represent two limitations of the NHIS data. Small sample size is not unusual for CAM studies.

The treatment variables for this study are binary indicators based on data from the questions: “During the past 12 months, did you see a practitioner for treatment?” Where treatment refers to acupuncture, naturopathy, massage therapy, chiropractor, and a set of mind-body practices (Yoga, TaiChi, QiGong, Alexander Technique, Pilates, Feldenkreis, Trager Psychophysical Integration, meditation, guided imagery, progressive relaxation, deep breathing, support group meetings, stress management classes).

Among the practitioners, naturopaths typically have the most breadth of practice. Naturopathy, itself, has a broad definition: “Naturopathic medicine is a distinct primary health care profession, emphasizing prevention, treatment, and optimal health through the use of therapeutic methods and substances that encourage individuals’ inherent self-healing process. [...] The practice of naturopathic medicine includes modern and traditional, scientific, and empirical methods.”⁴³ Colleges of naturopathic medicine require prospective doctors to take core medical science courses, as well as broad range of courses on public health, primary care, health psychology, nutrition, and alternative medical treatments (e.g. botanical medicine, Asian medicine). Naturopaths sit for standardized Naturopathic Physicians Licensing Examinations, administered by the North American Board of Naturopathic Examiners; however, naturopathic practices can vary due to preference as well as licensing. In some states, naturopaths are licensed, and insured as primary care providers, while in others they are not. In some states, but not all, naturopaths are licensed to perform minor surgery.

The main outcome variable in this study is number of workdays lost to illness, from the survey question:

“During the PAST 12 MONTHS, that is, since {12-month ref. date}, ABOUT how many days did you miss work at a job or business because of illness or injury (do not include maternity

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