

## Nonmedical Outcomes of Chronic Backache in the United States

Rizzo JA, Abbott TA 3rd, Berger ML. *The labor productivity effects of chronic backache in the United States. Med Care 1998;36:1471-88.*

### Study Overview

**Objective.** To develop employee-level and national estimates of labor productivity losses caused by chronic back pain.

**Design.** Cross-sectional, retrospective analysis of the database compiled from the National Medical Care Expenditure Survey (NMES), collected for the U.S. Agency for Health Care Policy and Research (AHCPR).

**Setting and participants.** Nationally representative sample of the noninstitutionalized U.S. civilian population in 1987. Excluding full-time students and individuals who had incurred disabilities during military service, the cohort consisted of 8102 men and 9775 women. The database provided information on sociodemographic characteristics, health status, health care utilization and cost, work, and disability.

**Main outcome measures.** Multivariate analyses isolated the effects of chronic backache (defined as frequent pain during the previous 3 months) on employment status and disability days. The analyses results were combined with information on earnings to estimate losses in labor productivity associated with chronic backache.

**Main results.** Prevalence of backache was 22.4%, and it increased monotonically with age and with the presence of other chronic conditions. For example, backache increased from 18% in those aged 18 to 30 years to nearly 30% in those aged 61 to 70 years. Average annual productivity losses per worker due to chronic backache were \$1230 for male workers and \$773 per female workers (measured in 1996 dollars). The gender differences largely reflected lower earnings among women. Disability days accounted for a very small proportion of the losses: 10% (\$124) for male workers and 6% (\$48) for female workers. These per capita figures translated into aggregate annual productivity losses of approximately \$28 billion. Losses were slightly higher for men (\$14.65 billion) than for women (\$13.52 billion).

### Conclusion

Chronic backache is common, and its negative impact on

labor productivity is severe, especially with respect to decreased employment.

### Commentary

Rizzo and colleagues used a nationally representative database to confirm that the prevalence of chronic backache in the United States is high: approximately 22% in 1987. Although this rate comes from self-reports unsubstantiated by clinical verification, it is well within the broad range found in the literature (between 8% and 45%), and it agrees with previous findings based on other data [1,2]. In fact, the financial costs estimated by the authors are substantially lower than those extrapolated from previous studies [3]. Because data from 1987 were used in this analysis and other researchers have suggested that the incidence of backache is increasing over time [4], the prevalence of backache may be higher than the authors reported. In addition, the study's findings highlight the potential nonmedical benefits of effective alternative treatment modalities for backache.

### Applications for Clinical Practice

Clinicians who treat patients for back pain should appreciate the full scope of the condition's impact on the patient. Aside from the clinical impact of back-related pain, this study sheds light on the significant workplace costs that need to be better understood.

### References

1. Grazier KL, Holbrook TL, Kelsey JL, Stauffer RN. The frequency of occurrence, impact, and cost of musculoskeletal conditions in the United States. Rosemont (IL): American Academy of Orthopaedic Surgeons; 1994.
2. Kelsey JL, White AA 3rd, Pastides H, Bisbee GE Jr. The impact of musculoskeletal disorders on the population of the United States. *J Bone Joint Surg Am* 1979;61:959-64.
3. Laboef-Yde C, Lauritsen JM. The prevalence of low back pain in the literature. A structured review of 26 Nordic studies from 1954 to 1993. *Spine* 1995;20:2112-8.
4. Van Tulder MW, Koes BW, Bouter LM. A cost-of-illness study of back pain in the Netherlands. *Pain* 1995;62:233.