

Indicator 20: Hospitalizations for Low Back Disorders

Significanceⁱ

Each year, 15-20% of Americans report back pain, resulting in over 100 million workdays lost and more than 10 million physician visits. National Health Interview survey data estimate that two-thirds of all low back pain cases are attributable to occupational activities. The cost of back pain is also disproportionate, as it represents about 20% of workers' compensation claims, but nearly 40% of the costs. In 2003, 3.2% of the total United States workforce experienced a loss in productive time due to back pain. The total cost of this productive time lost to back pain is estimated to be in excess of \$19.8 billion.

Methods

The Colorado Hospital Discharge Dataset is compiled by the Colorado Hospital Association (CHA) and, through a data sharing agreement, made available to the Colorado Department of Public Health and Environment (CDPHE). The hospital discharge dataset contains records of all hospital discharges from member hospitals. In Colorado, nearly 100% of hospitals are CHA members (excluding Federal facilities). Each record in the dataset represents one hospital discharge resulting from an inpatient hospital admission.

Data were collected from all Colorado discharge data records. Work-related hospitalizations were identified by selecting records where workers' compensation insurance is the expected payer. Surgical low-back disorder hospitalizations were identified with a relevant ICD-9-CM diagnostic code in any of the first seven principle diagnosis fields in combination with a relevant ICD-9-CM surgical procedure code in any of the first four procedure fields, with certain case exclusions. Non-surgical low-back disorder hospitalizations were identified with a relevant ICD-9-CM diagnostic code in any of the first seven diagnosis fields, with certain case exclusions. See the Council of State and Territorial Epidemiologists (CSTE) Occupational Health Indicator (OHI) Guidance¹ for the complete list of ICD-9-CM codes and exclusion criteria. Only Colorado residents age 16 and older are included for analysis. Rates are calculated using employment data from the Bureau of Labor Statistics.

Note, with the exception of data for the year 2008, the CSTE has not yet provided state-based surveillance programs with low-back disorder hospitalization national probability estimates from the National Hospital Discharge Survey (NHDS); thus, national comparison data are not presented in this report.

ⁱ Council of State and Territorial Epidemiologists. *Occupational Health Indicators: A Guide for Tracking Occupational Health Conditions and Their Determinants*. Last updated April 2012.

Results

Table 20.1 Work related low-back disorder hospitalizations, Annual number and crude rate per 100,000 employed, Primary payer workers' compensation, Age 16 and older, Colorado 2001-2011*

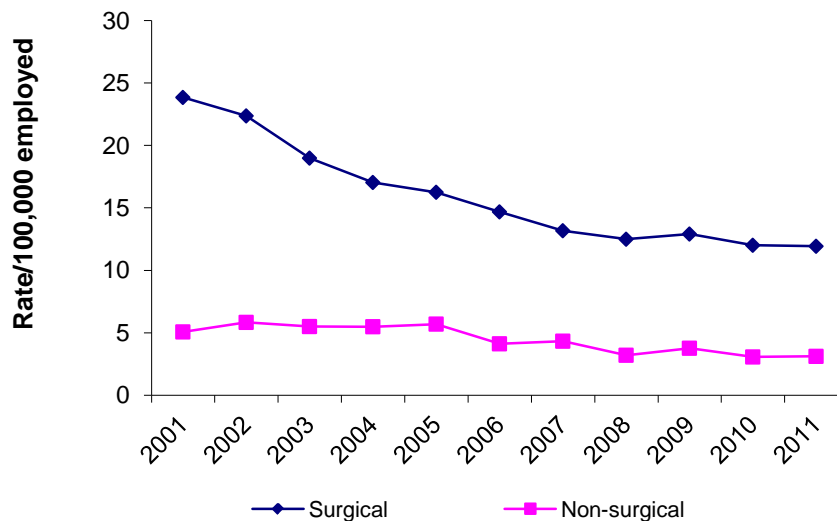
Year	Number of <u>surgical</u> hospitalizations	Crude rate of <u>surgical</u> hospitalizations	Number of <u>non-surgical</u> hospitalizations	Crude rate of <u>non-surgical</u> hospitalizations	Number of <u>total</u> hospitalizations	Crude rate of <u>total</u> hospitalizations
2001	527	23.8	112	5.1	639	28.9
2002	514	22.4	134	5.8	648	28.2
2003	442	19.0	128	5.5	570	24.5
2004	407	17.0	131	5.5	538	22.5
2005	391	16.3	137	5.7	528	21.9
2006	371	14.7	104	4.1	475	18.8
2007	341	13.2	112	4.3	453	17.5
2008	324	12.5	83	3.2	407	15.7
2009	326	12.9	95	3.8	421	16.7
2010	298	12.0	76	3.1	374	15.1
2011	299	11.9	78	3.1	377	15.0
Average	400	16.5	110	4.5	510	21.3

Numerator: Colorado Hospital Association hospital discharge data from the Colorado Department of Public Health and Environment Health Statistic Section

Denominator: Bureau of Labor Statistics (BLS), Geographic Profile of Employment and Unemployment (GP) and Current Population Survey (CPS).

**2011 rate calculations are preliminary*

Figure 20.1: Annual crude rates of work-related surgical and non-surgical low back disorder hospitalizations per 100,000 employed persons, Colorado 2001-2011



Numerator: Colorado Hospital Association hospital discharge data from the Colorado Department of Public Health and Environment Health Statistic Section

Denominator: Bureau of Labor Statistics (BLS), Geographic Profile of Employment and Unemployment (GP) and Current Population Survey (CPS)

**2011 rate calculations are preliminary*

Limitations

- The indicator utilizes only the first seven diagnosis and four procedure code fields to include and exclude cases. Many states, including Colorado, have more diagnosis and procedure code fields that could be used to include and exclude cases.
- Practice patterns and payment mechanisms might affect decisions by health care providers to hospitalize patients, to correctly diagnose work-related conditions and/or to list the condition as a discharge diagnosis.
- The true burden of work-related low-back disorder hospitalizations may be under-represented if workers utilize of other payer sources (e.g., self-pay, private insurance).
- Colorado residents hospitalized in another state are not captured in these data. Additionally, self-employed individuals, such as farmers and independent contractors, Federal employees, railroad or long-shore and maritime workers, are not covered by state workers' compensation systems and are not captured in these data.
- Hospitalization discharge records are based on admissions, not persons; thus, they may include multiple admissions for a single individual or single person-injury event.
- Work-related hospitalization data analyzed using the methods in this report are not directly comparable between states due to differences in states' workers' compensation insurance programs.

Recommendations and Next Steps

- Evaluate existing hospitalization data available to the CDPHE to describe work-related low-back disorder hospitalizations in Colorado by age, gender, race/ethnicity and type of injury.ⁱⁱ
- Continue to explore opportunities to link hospitalization data with other health and employment data to obtain information on industries and occupations associated with serious injuries/illnesses. (See Indicator #2 Recommendations for more information about analyzing hospitalization data.)
- Better define other issues that may affect hospitalization patterns, such as whether there is a decrease in non-work-related low-back disorder surgeries.
- Identify data sources that estimate the rate of outpatient (non-hospitalized) cases of work-related low-back pain and disorder. A first step might be conducting an evaluation of low-back injuries documented in the workers' compensation data available to the CDPHE.

ⁱⁱ The Occupational Health and Safety Surveillance Program is currently working to publish an expanded analysis of these data.