

# **OCCUPATIONAL HEALTH IN KENTUCKY, 2012**

**An Annual Report by the Kentucky Injury Prevention and Research Center**

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**PREFACE**

**About this Report**

This is the seventh annual report produced by the Kentucky Occupational Safety and Health Surveillance (KOSHS) program at the Kentucky Injury Prevention and Research Center. This report provides trend data on occupational injury and illness indicators including health, exposure, hazard, intervention, and socio-economic indicators. It also includes comparisons between Kentucky occupational injury and illness rates, and US rates.

The Kentucky Injury Prevention and Research Center, as the bona fide agent for the Kentucky Department for Public Health, has been funded by the National Institute for Occupational Safety and Health (NIOSH) to collect data on 20 indicators of worker injuries and illnesses using guidelines established by the Council of State and Territorial Epidemiologists (CSTE). Kentucky also collects data for three state- specific indicators.

Indicator data was collected using standardized methodology from a variety of different state data sources including

emergency department billing data, inpatient hospitalization billing data, motor vehicle crash data, mortality data, poison control center data, workers' compensation data, Kentucky Adult Blood Lead Epidemiology and Surveillance data, and Kentucky Cancer Registry data, among others.

**Our Objectives**

The objectives of the KOSHS program are to identify worker populations and work environments with elevated risk for nonfatal and fatal worker injuries and illnesses, to identify risk factors for an occupational injury, and to develop strategies for dissemination of state occupational health data, with the ultimate goal of reducing the burden of occupational injuries in Kentucky.

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## EXECUTIVE SUMMARY

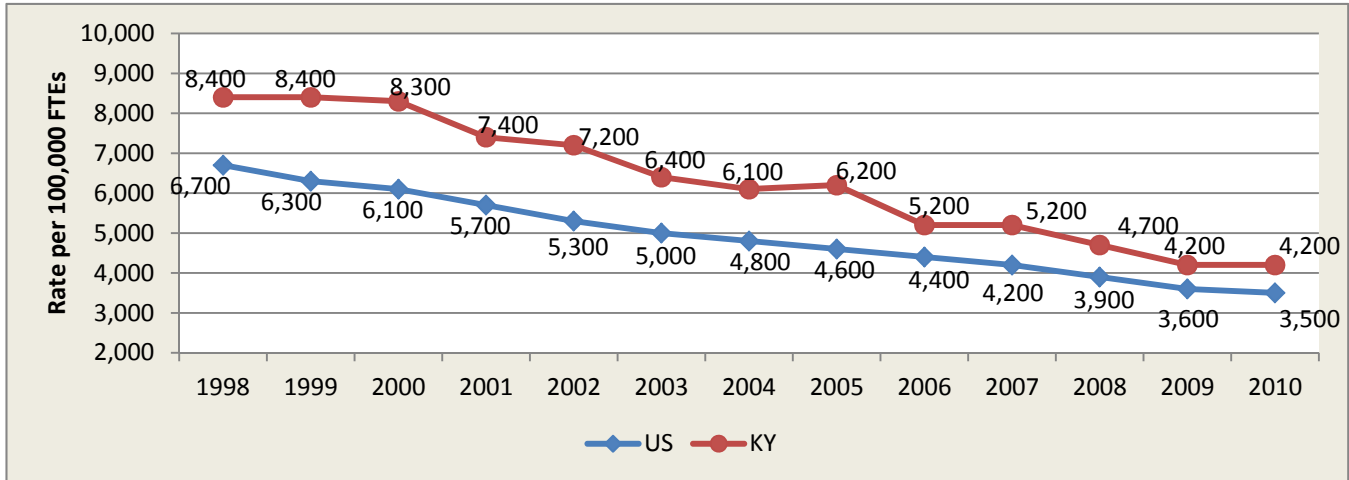
### Key findings:

- ❑ Kentucky's 2010 *nonfatal* work-related injury and illness rate has decreased 50% since 1998 but is still 20% above the national rate.
- ❑ The highest number of work-related fatalities was in the transportation occupation (n=12) in the year 2010.
- ❑ Kentucky's amputation workers' claim rate decreased to 6.5 claims/100,000 workers in 2009.
- ❑ From 2009 to 2010, Kentucky's overall musculoskeletal disorder incidence rate increased 7%.
- ❑ The acute work-related pesticide-associated injury and illness rate for Kentucky decreased to 2.1/100,000 FTEs in 2009.
- ❑ Kentucky's 2009 malignant mesothelioma incidence rate decreased 30% from 2008 to 2009.
- ❑ The Kentucky occupational motor vehicle injury rate was 63 injuries per 100,000 workers in 2009.
- ❑ The occupation at highest risk for work-related injuries and illnesses in Kentucky was the laborers, and freight, stock, and the material movers occupation in 2009.
- ❑ The occupational fall injury incidence rate increased 13.5% from 2008 to 2010, and occurred primarily in the services industry and in the retail trade industries.
- ❑ The average amount of workers' compensation benefits per covered worker in Kentucky increased to \$442 in 2009 compared to \$398 in 2008.
- ❑ There were 33 commercial vehicle fires in the year 2010 compared to 25 reported in 2009.
- ❑ The number of buses involved in motor vehicle collisions increased from 113 in 2009 to 145 in the year 2010.

**Indicator #1: Non-Fatal Work-Related Injuries and Illnesses Reported By Employers**

In 2010, there were 51,200 non-fatal work-related injuries and illnesses in Kentucky, with an incidence rate of 4,200/100,000 employees, down 50% from 1998 (Figure 1). Kentucky is still 20% above the national incidence rate of 3,500 /100,000 FTEs.

**Figure 1. Non-Fatal Work-Related Injury and Illness Incidence Rates**

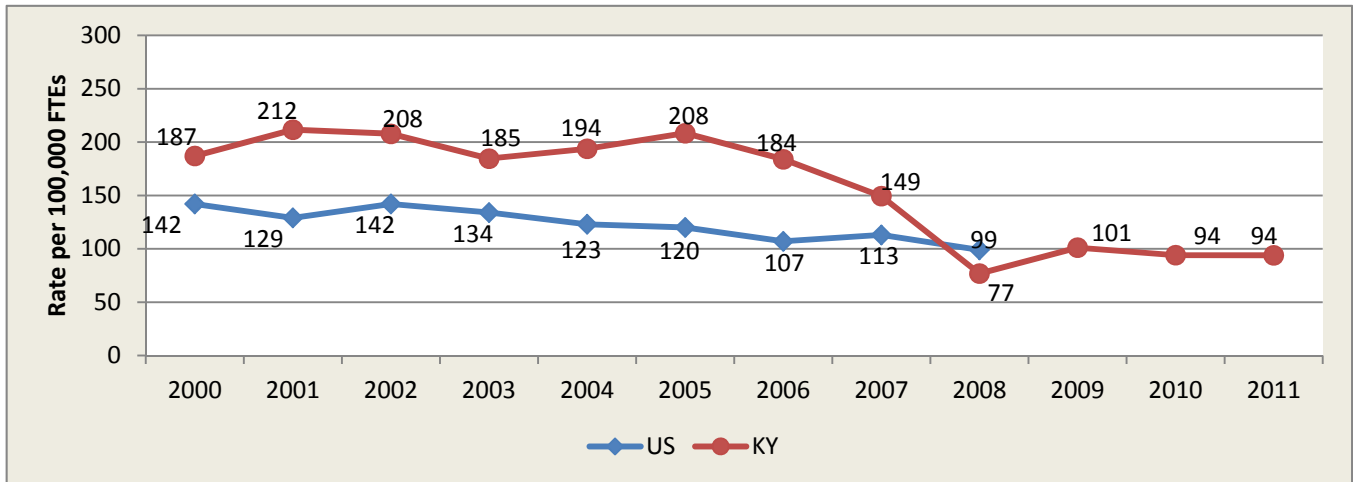


Data Source: Annual Bureau of Labor Statistics (BLS) Survey of Occupational Injuries and Illnesses (SOII).

**Indicator #2: Work-Related Hospitalizations**

In 2011, there were 1,750 work-related hospitalizations with an annual crude rate of 94/100,000 employed persons age 16 years and older, down 50% from the year 2000 (Figure 2).

**Figure 2. Work-Related Hospitalization Rates in Kentucky Compared To U.S. Rates**

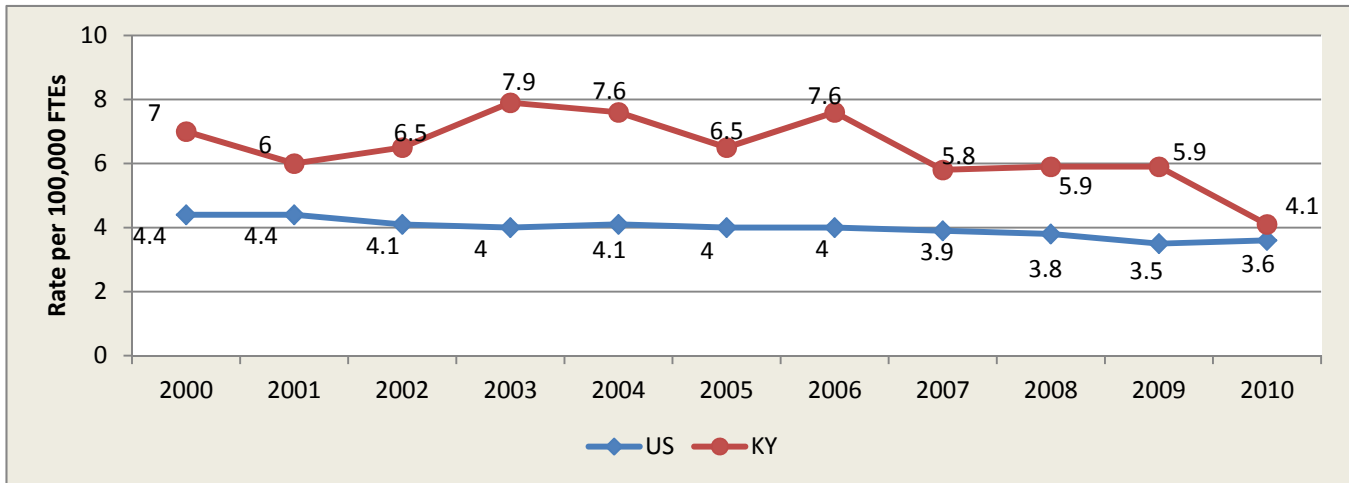


Data Source: Numerator KY data were obtained from the KY Dept. for Public Health hospital discharge data set. Numerator US data are from National Hospital Discharge Survey. Denominator data were obtained from BLS Current Population Survey data. Rates may differ from rates reported in previous reports as the KY hospital discharge files for the last 4 years were updated. The 2008 hospitalization data may not be complete by expected payer source. US data were not available for years 2009-2011.

**Indicator #3: Fatal Work-Related Injuries**

In 2010 there were 69 fatal occupational injuries in Kentucky, a 32% decrease from the reported 101 fatal work-related injuries for 2009. The Kentucky rate, although decreasing, still remains above the national rate.

**Figure 3. Fatal Work-Related Injury Rates in Kentucky Compared To U.S. Rates**

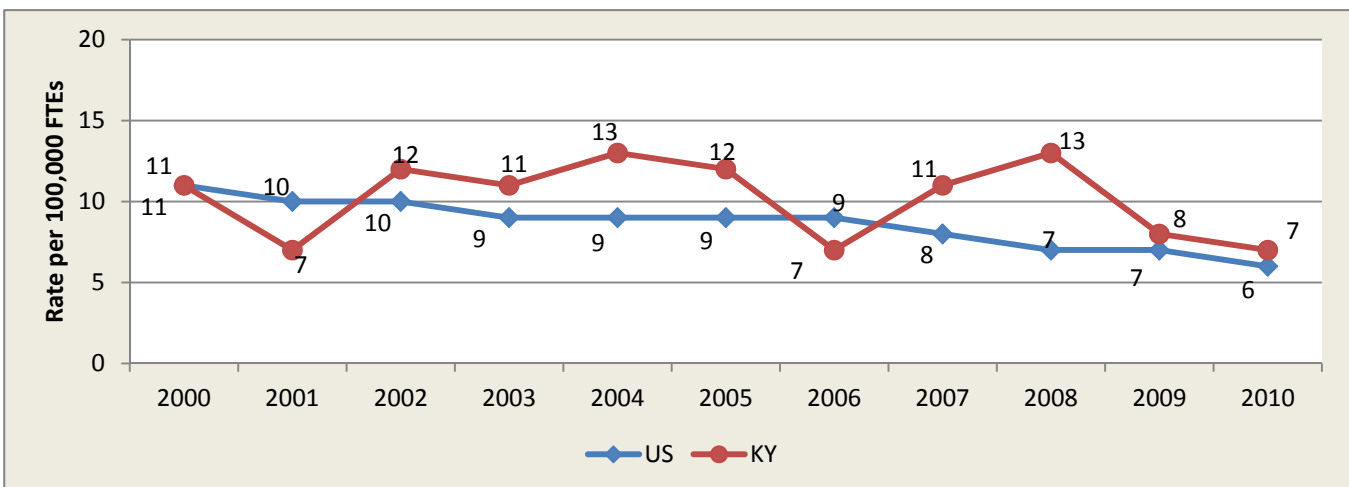


Data Source: Census of Fatal Occupational Injuries (CFOI)

**Indicator #4: Work-Related Amputations with Days Away from Work Reported by Employers**

There were 90 amputation cases with days away from work in 2010, down 10 cases from the year 2009. The annual incidence rate of 7 cases per 100,000 FTEs was higher than the national amputation incidence rate of 6/100,000 (BLS SOII) in 2010 (Figure 4).

**Figure 4. Rate of Work-Related Amputations Involving Days Away from Work**

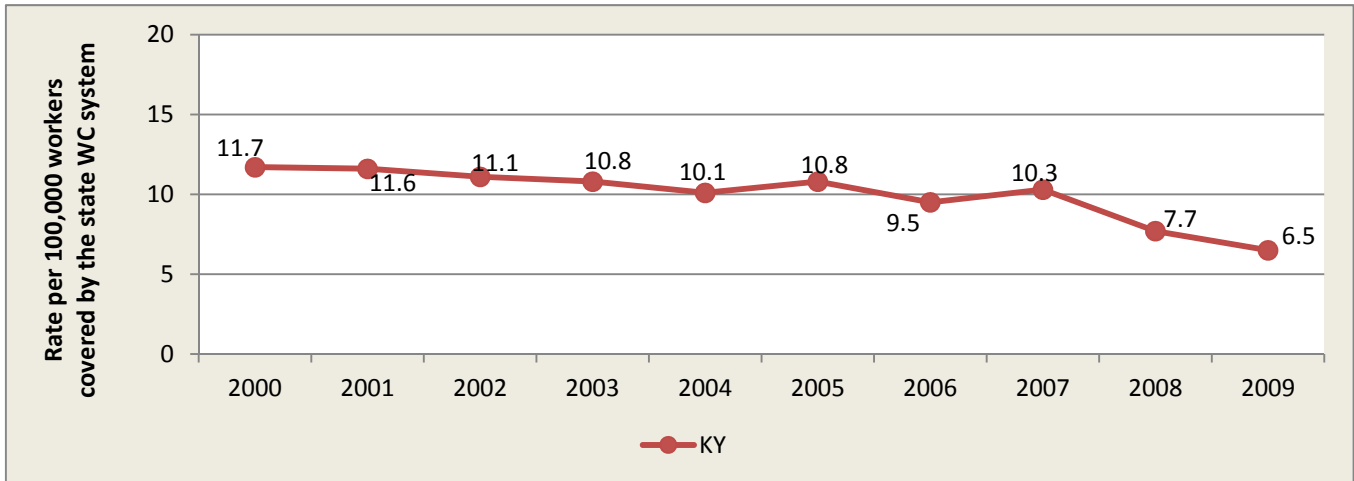


Data Source: Annual BLS Survey of Occupational Injuries and Illnesses (SOII).

**Indicator #5: Amputations Filed with the State Workers' Compensation System by Injury Year**

The number of amputations filed with the Kentucky Department of Workers' Compensation in the year 2009 was 108 compared to 134 filed in 2008. The annual incidence rate for amputations was 6.5 cases per 100,000 employees (Figure 5). Most of the amputations occurred in the manufacturing industry (n=44).

**Figure 5. Rate of Amputations Filed with State Workers' Compensation System by Injury Year**

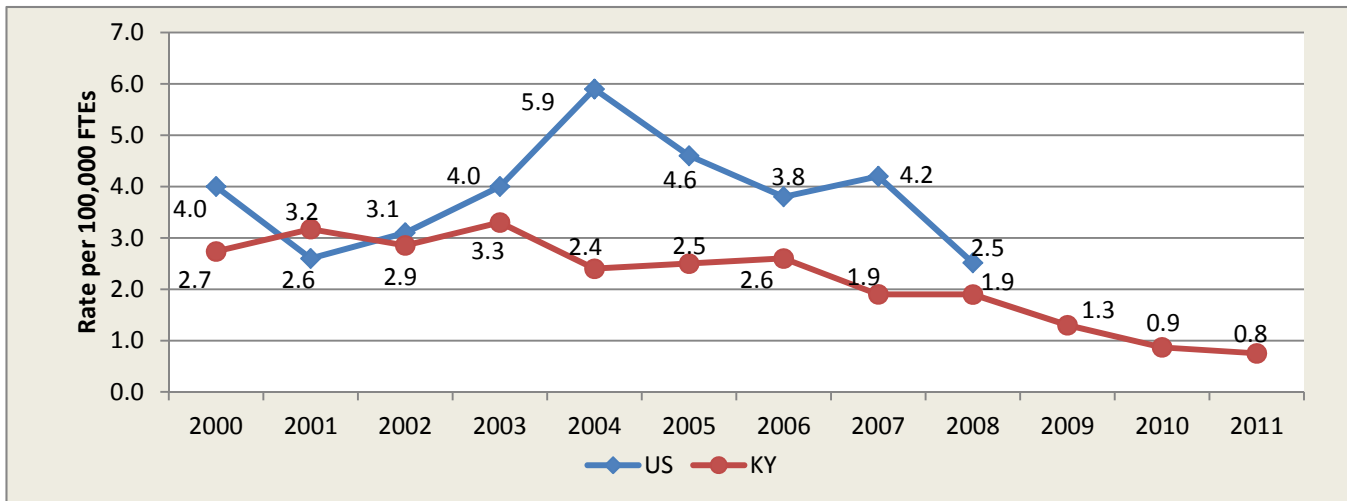


Data Source: Data provided by the Kentucky Department of Workers' Claims, Frankfort, KY.

**Indicator #6: Work-Related Burn Hospitalizations**

There were 14 work-related burn hospitalizations in 2011 with an annual crude rate for work-related burn hospitalizations of 0.8/100,000 employed persons age 16 years or older. Kentucky work-related burn hospitalization rates have been decreasing in recent years and remain below the US rates (Figure 6).

**Figure 6. Rate of Hospitalizations for Work-Related Burns**

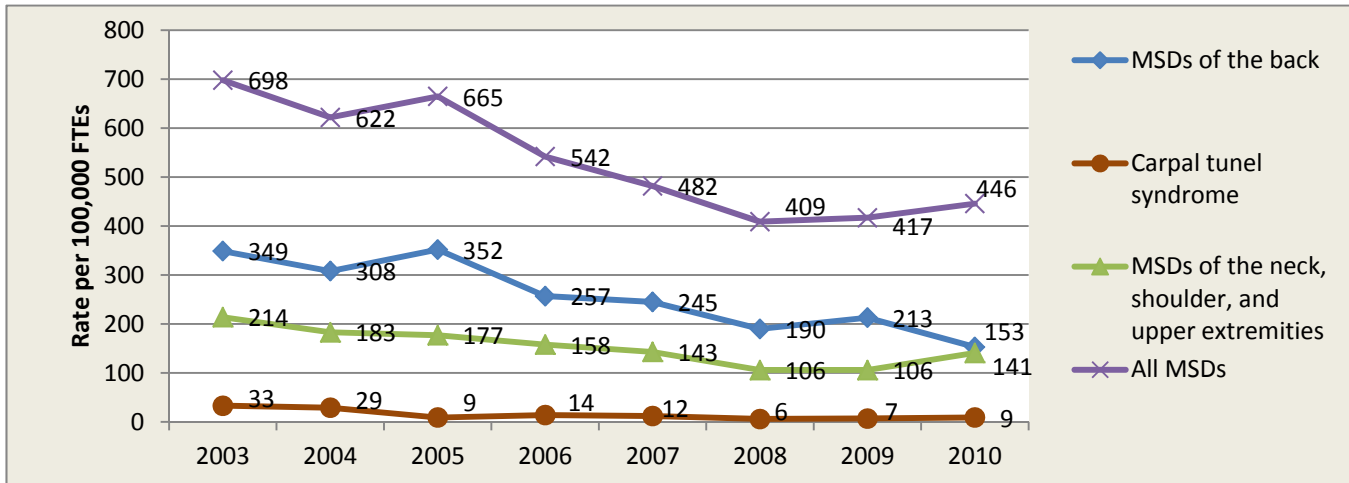


Data Source: Kentucky Department for Public Health hospital discharge data.

**Indicator #7: Work-Related Musculoskeletal Disorders (MSDs) with Days Away from Work**

Kentucky had a total annual MSD incidence rate of 446 cases/100,000 FTEs in 2010 (Figure 7), a 7% increase from 2009, due primarily to an increase in the MSD of the neck, shoulder, and upper extremities.

**Figure 7. Incidence Rates for Musculoskeletal Disorders Involving Days Away from Work**

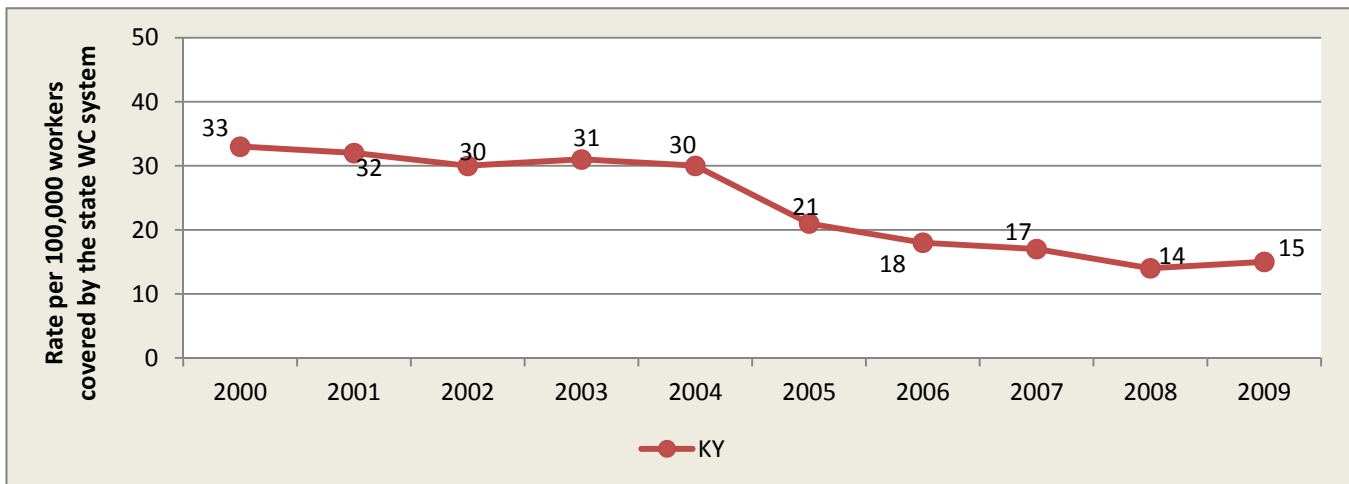


Data Source: Annual Bureau of Labor Statistics (BLS) Survey of Occupational Injuries and Illnesses (SOII).

**Indicator #8: Carpal Tunnel Syndrome Cases Filed with the State Workers' Compensation System by Injury Year**

Carpal tunnel syndrome (CTS) case claim rates have declined 55% since the year 2000 (Figure 8). CTS injuries occurred primarily in the manufacturing (n=84), and services (n= 67) industries.

**Figure 8. Rate of Lost Work-Time Claims for Carpal Tunnel Syndrome Cases Identified in State Workers' Compensation Systems for Kentucky**

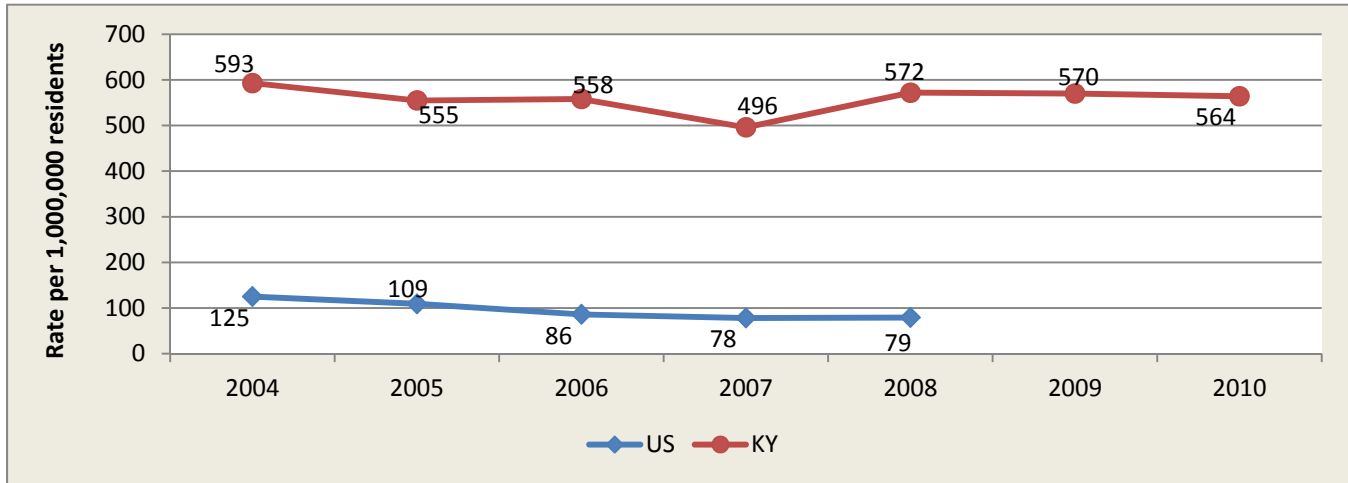


Data Source: Carpal tunnel syndrome claims data was provided by the Kentucky Department of Workers' Claims

**Indicator #9: Hospitalization from or with Pneumoconiosis**

The annual age-standardized rate of pneumoconiosis hospitalizations per million residents in Kentucky has remained fairly steady at 564/million in 2010 (Figure 9).

**Figure 9. Age-Standardized Hospitalization Rates from or with Total Pneumoconiosis**



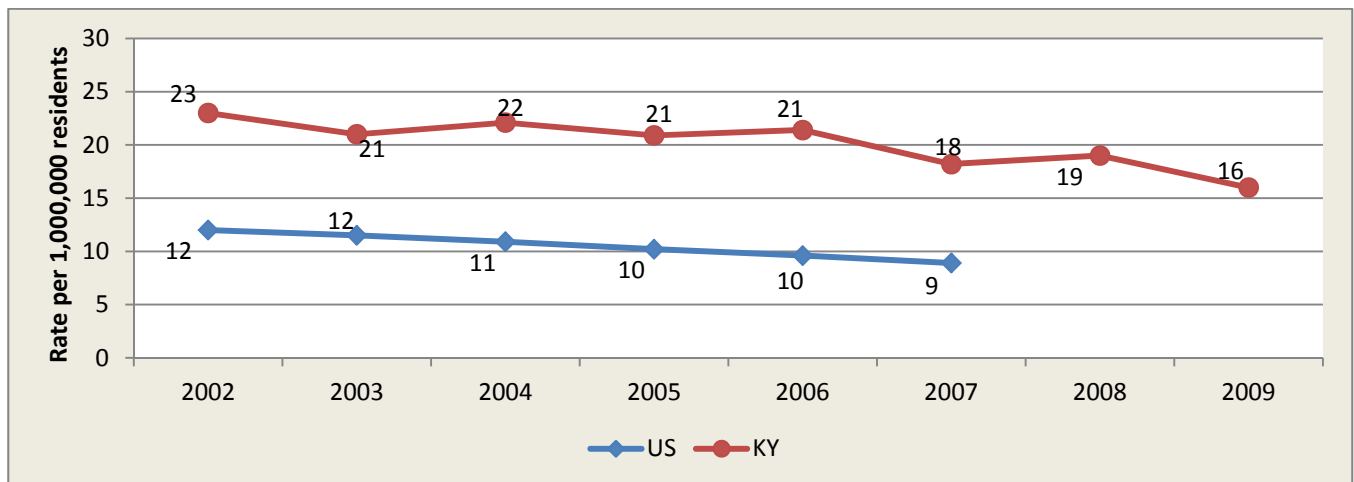
Note: U.S. rates are not yet available for years 2009 and 2010.

Data Source: Kentucky Department for Public Health hospital discharge data.

**Indicator #10: Mortality from or with Pneumoconiosis**

The age-adjusted total death rate for pneumoconiosis was 16 per million residents in 2009 (Figure 10).

**Figure 10. Age-Standardized Mortality Rate from or with Pneumoconiosis for Kentucky and U.S.**



Note: U.S. rates are not yet available for years 2008, 2009.

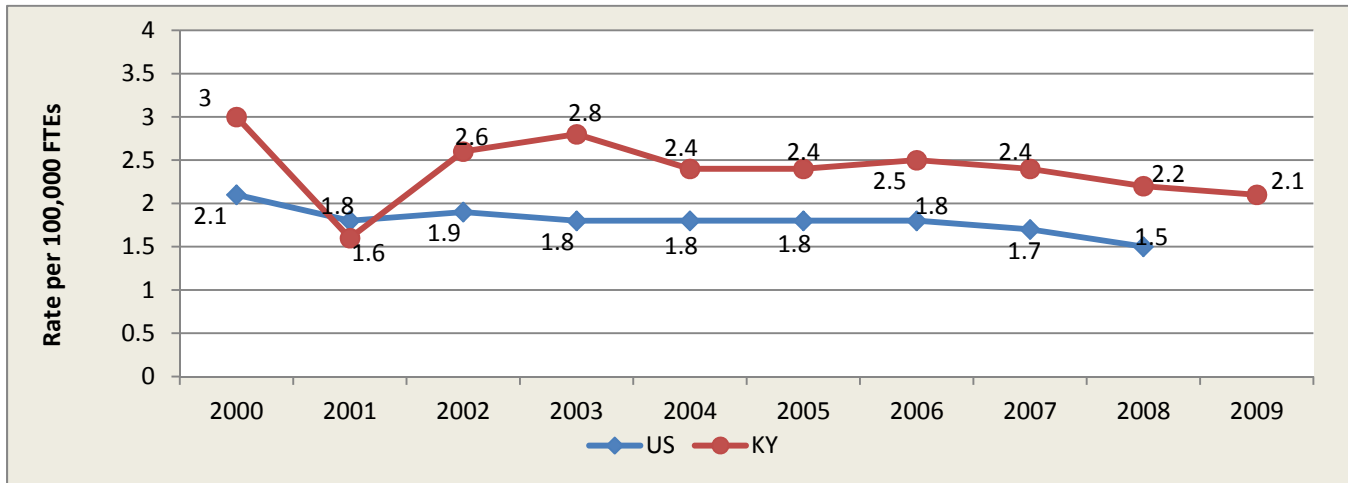
Data Source: State pneumoconiosis mortality data was obtained from the Kentucky Department for Public Health Office of Vital Statistics.



**Indicator #11: Acute Work-Related Pesticide-Associated Illness and Injury Reported to Poison Control Centers**

The annual incidence rate of reported work-related pesticide poisonings in Kentucky remains well above the national rate in the recent years. The 2009 rate was 2.1/100,000 FTEs (Figure 11).

**Figure 11. Rate of Work-Related Pesticide-Associated Poisonings for Kentucky and U.S.**

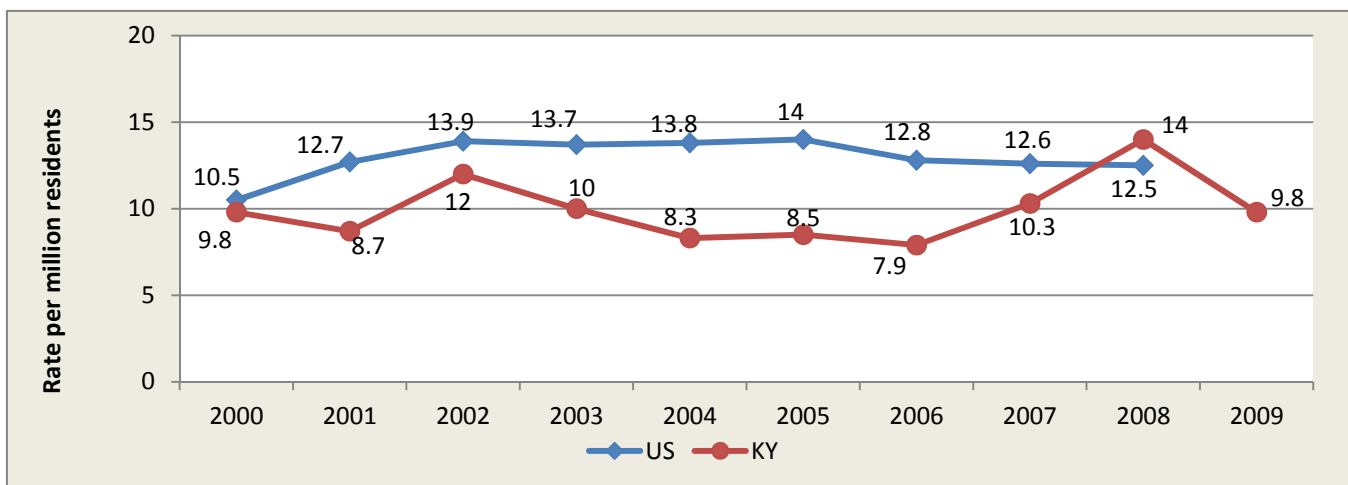


Note: U.S. rate is not yet available for year 2009.  
 Data Source: American Association of Poison Control Centers.

**Indicator #12: Incidence of Malignant Mesothelioma**

The age-adjusted rate of malignant mesothelioma was 14 cases per million residents (37 cases) in 2008, compared to 12 cases per million in 2007 (Figure 12).

**Figure 12. Age-Standardized Incidence Rate of Malignant Mesothelioma**

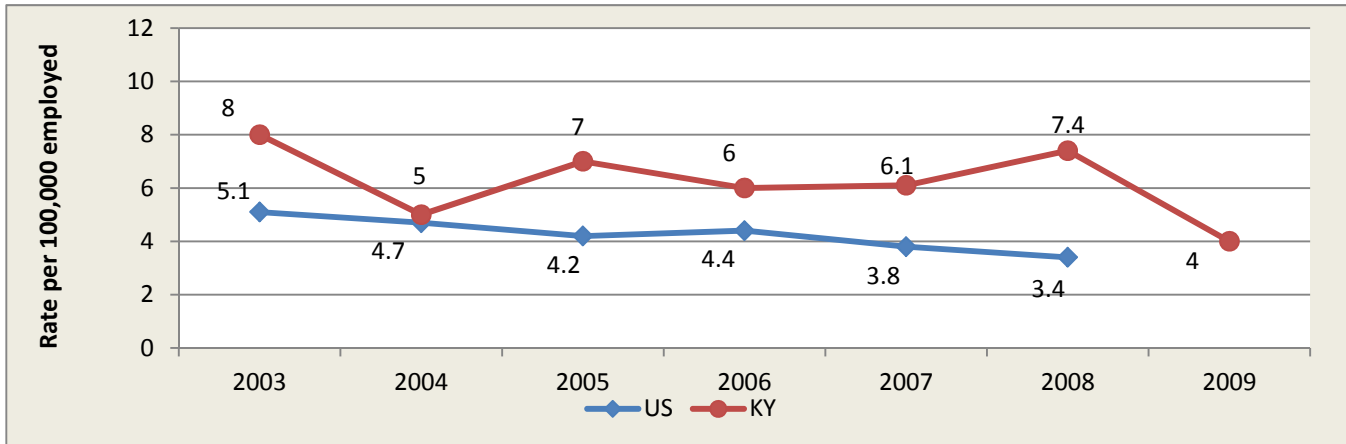


Data Source: Kentucky Cancer Registry.

**Indicator # 13: Elevated Blood Lead Levels (BLL) among Adults**

Lead exposure is considered elevated in an adult when it reaches 25 µg/dL. The Kentucky prevalence rate of persons with blood lead levels ≥ 25µg/dL in 2009 is the lowest in the last 7 years, 4/100,000.

**Figure 13. Annual Incident rate of Persons Age 16 Years and Older with Elevated BLL ≥25 mg/dL**

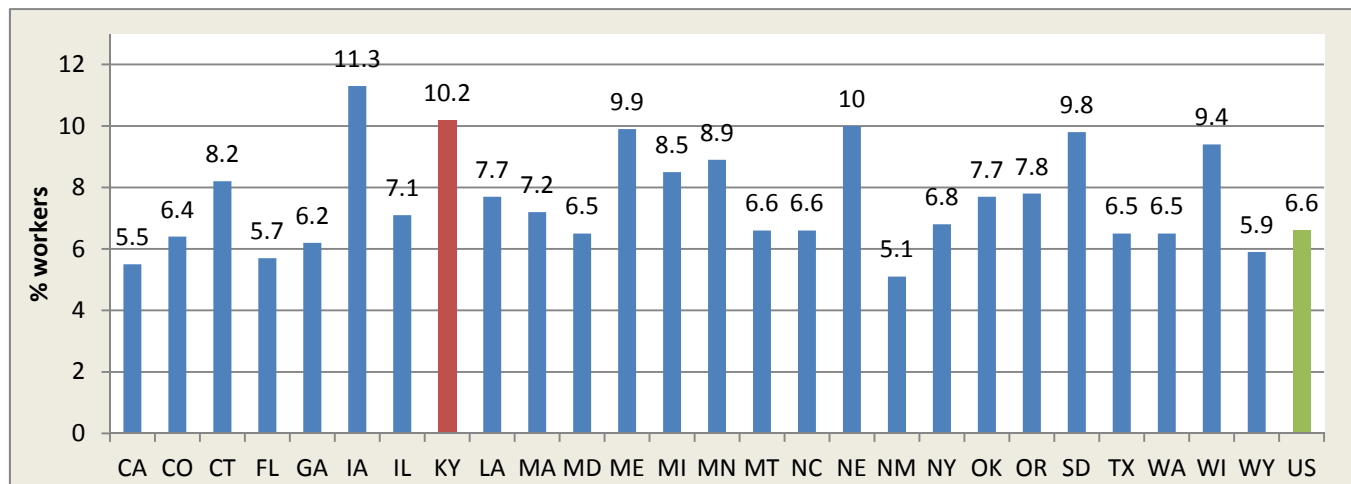


Data Source: Kentucky Lead Poisoning Prevention Program, Division of Adult and Child Health, Frankfort, KY. US rates were obtained from the NIOSH ABLES program.

**Indicator #14: Workers Employed in Industries with High Risk for Occupational Morbidity**

The percentage of Kentucky workers employed in high-risk morbidity industries in year 2009 was 9.7%, almost the same as in 2008 – 10.2%. The percentage of workers employed in industries with high risk for occupational morbidity nationwide in 2008 was 6.6% (Figure 14).

**Figure 14. Percentage of Workers in Industries with High Risk for Occupational Morbidity**

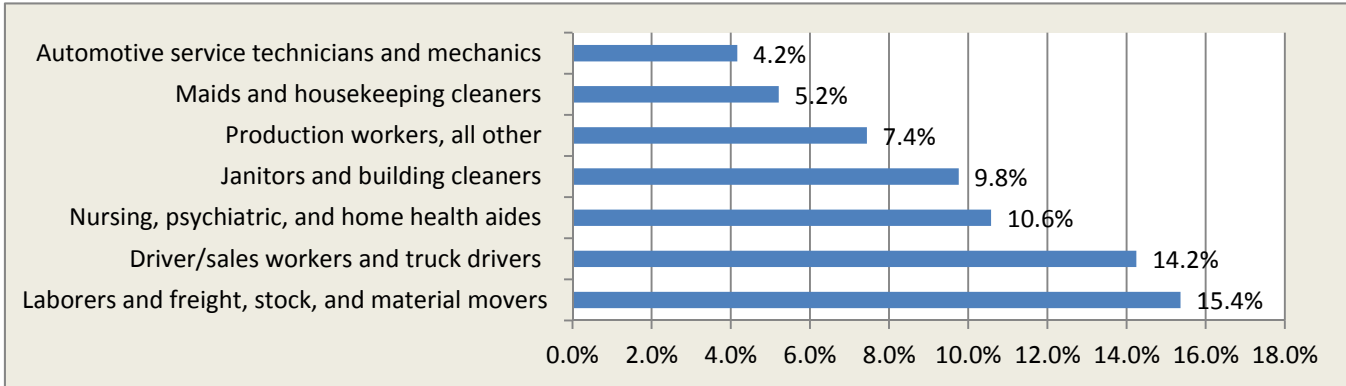


Data Source: Census Bureau County Business Pattern.

**Indicator #15: Percentage of Workers Employed in Occupations at High Risk for Occupational Morbidity –**

The largest groups of occupations at highest risk for occupational injuries and illnesses in 2009 in Kentucky are presented in Figure 15 as percentage of employed population. In 2009 the overall percentage in Kentucky was 17.8%, slightly lower than the percentage in 2008 (18.4%). The percentage of workers employed in occupations at high risk for occupational morbidity in U.S. in 2008 was 16.1%.

**Figure 15. Percentage of Workers in Occupations with High Risk for Occupational Morbidity**

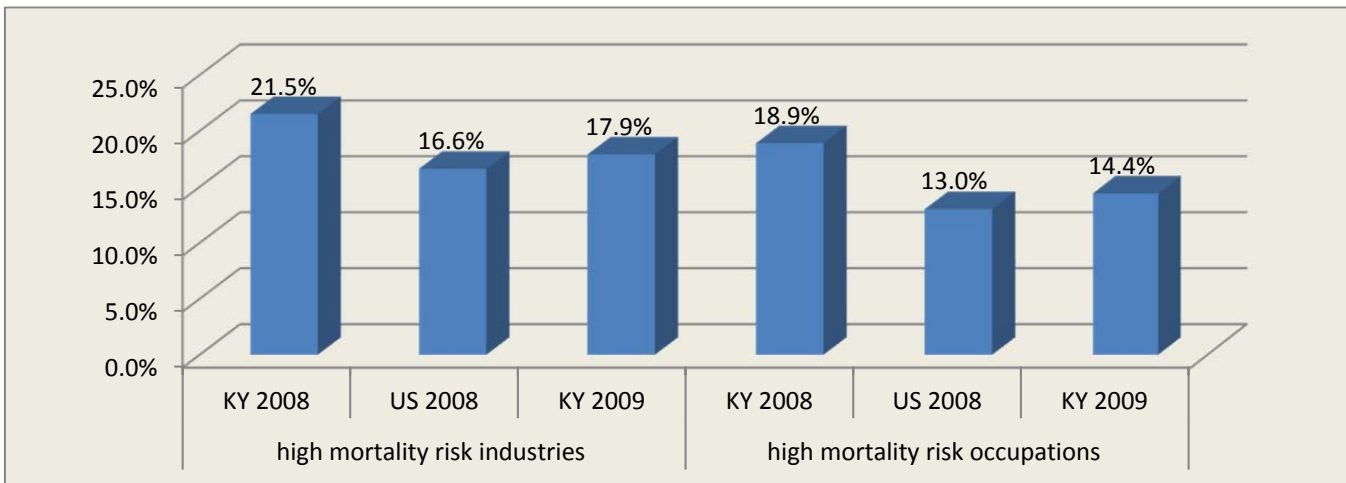


Data Source: Bureau of Labor Statistics (BLS) Current Population Survey (CPS).

**Indicator #16: Percentage of Workers Employed in Industries and Occupations at High Risk for Occupational Mortality**

The percentage of Kentucky workers employed in industries at high risk for occupational mortality was 17.9% in 2009, a 17% decrease from the 21.5% in 2008. The percentage of Kentucky workers employed in high mortality risk occupations in 2009 was 14.4%, a 24% decrease from 2008 (18.9%).

**Figure 16. Percentage of Workers Employed in High Mortality Risk Industries/Occupations**



Data Source: Bureau of Labor Statistics (BLS) Current Population Survey (CPS).

**Indicator #17: Occupational Safety and Health Professionals**

In 2009, the rate of occupational safety and health professionals in Kentucky was 57.4 professionals per 100,000 workers (Table 1), down from 58.6 in 2008.

**Table 1. Rates of Occupational Safety and Health Professionals in Kentucky**

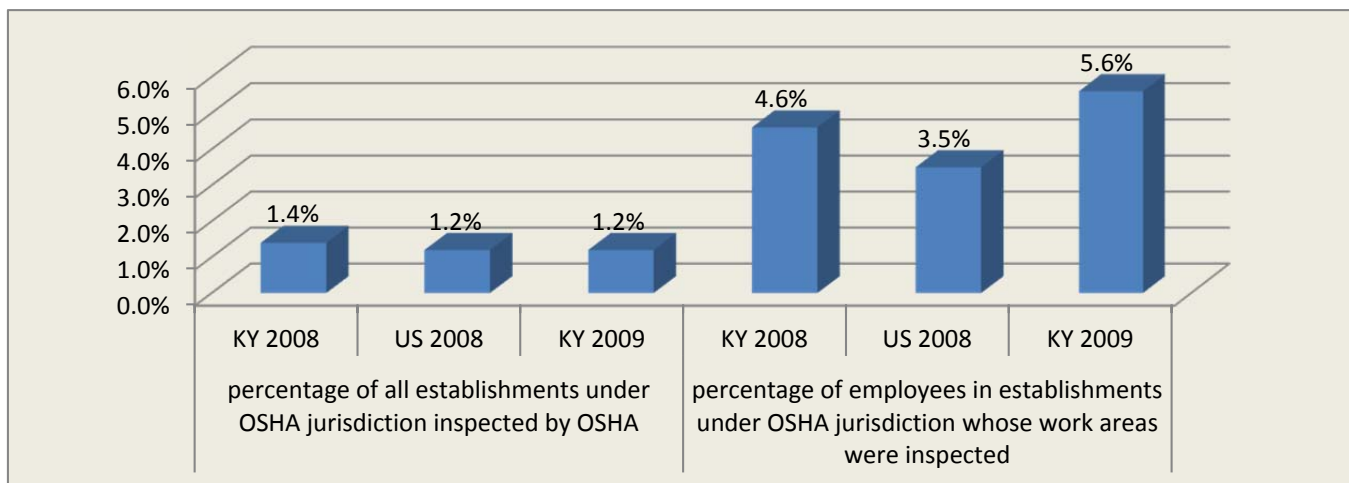
Rate per 100,000 employees	KY 2009	KY 2008	US 2008
Rate of board-certified occupational physicians	1.2	1.3	1.9
Rate of American College of Occupational and Environmental Medicine members	3.8	3.9	3.0
Rate of board-certified occupational health registered nurses	4.6	4.5	4.0
Rate of members of the American Association of Occupational Health Nurses	4.2	5.6	5.4
Rate of board-certified industrial hygienists	3.5	3.3	4.8
Rate of American Industrial Hygiene Association	4.9	5.1	6.1
Rate of board certified safety health professionals	8.1	7.0	7.9
Rate of American Society of Safety Engineers membership	27.1	27.9	22.0

Data Sources: American Board of Preventive Medicine (ABPM) diplomats database, ACOEM annual roster, American Board of Occupational Health Nurses Directory, AAOHN annual roster, American Board of Industrial Hygiene, AIHA member directory, BCSP member directory, ASSE member directory, BLS Current Population Survey.

**Indicator #18: OSHA Enforcement Activities**

In 2009, there were 1,314 establishments inspected by KY OSHA, a decrease from 1,500 in 2008. The percentage of establishments under OSHA jurisdiction inspected by KY OSHA in 2009 was 1.2% (Figure 17). The percentage of OSHA-covered employees eligible for inspection whose work areas were inspected by OSHA in 2009 was 5.6%, a one percent increase compared with year 2008.

**Figure 17. OSHA Enforcement Activities**

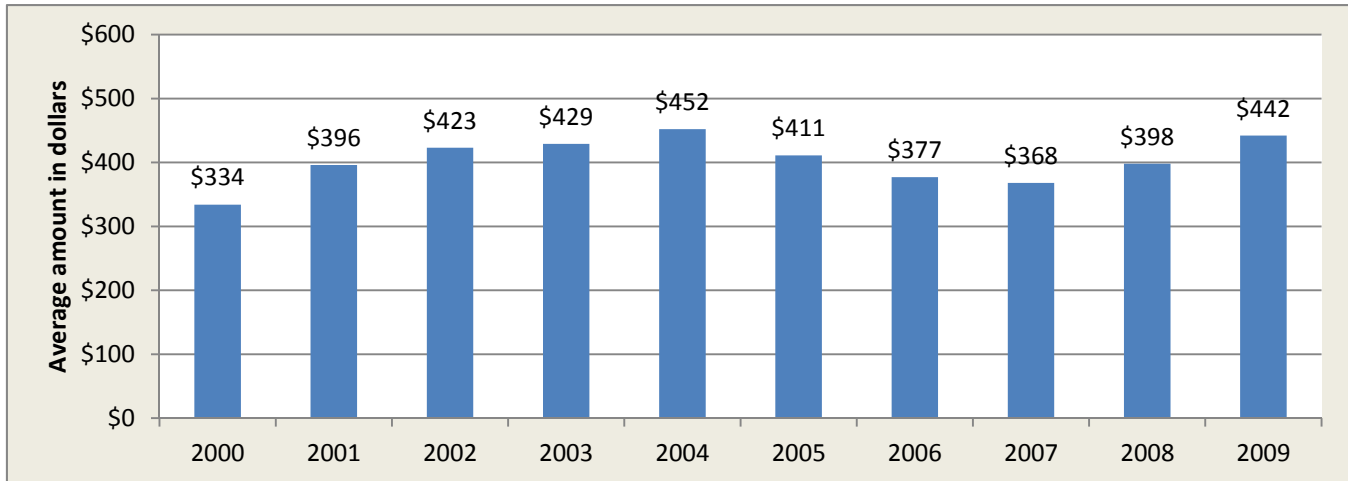


Data Sources: OSHA annual reports of total inspections conducted and the number of workers covered by these inspections, BLS statistics on Covered Employers and Wages.

**Indicator #19: Workers' Compensation Awards**

The total amount of workers' compensation benefits paid in Kentucky in 2009 was \$737,392,000. The average amount of workers' compensation benefits paid per covered worker in KY increased to \$442 in 2009 compared to \$398 in 2008 (Figure 18).

**Figure 18. Average Amount of Workers' Compensation Benefits Paid Per Worker in Kentucky**



Data Source: National Academy of Social Insurance

**Indicator #20: Low Back Disorders**

In 2009, the number of work-related surgical low back disorder hospitalizations for persons 16 years or older in Kentucky was 215 with an annual rate of 11.6/100,000 employees. The annual number of work-related low back disorder hospitalizations for persons 16 years old and above was 333 with an annual rate of 18 hospitalizations per 100,000 employees.

**Indicator #21 (Kentucky-Specific): Fatal and Non-Fatal Occupational Motor Vehicle Collision Injuries** —

In 2010, there were 10,780 occupational motor vehicle collisions (MVCs) in Kentucky, not a big change from 10,841 in the year 2008; 122 drivers or occupants in the vehicles involved in these collisions were killed and 2,363 people were injured. The majority of the occupational vehicles were commercial vehicles. Table 2 compares some characteristics of the commercial vehicles involved in collisions in Kentucky 2006-2010. In about two thirds of the cases, the commercial vehicle driver was reported as at fault according to the police officer. There were 33 commercial vehicle fires in the year 2010 compared to 25 reported in 2009. Also, the number of buses involved in motor vehicle collisions increased from 113 in 2009 to 145 in the year 2010.

**Table 2. Characteristics of the commercial vehicles involved in collisions in Kentucky, 2006-2010**

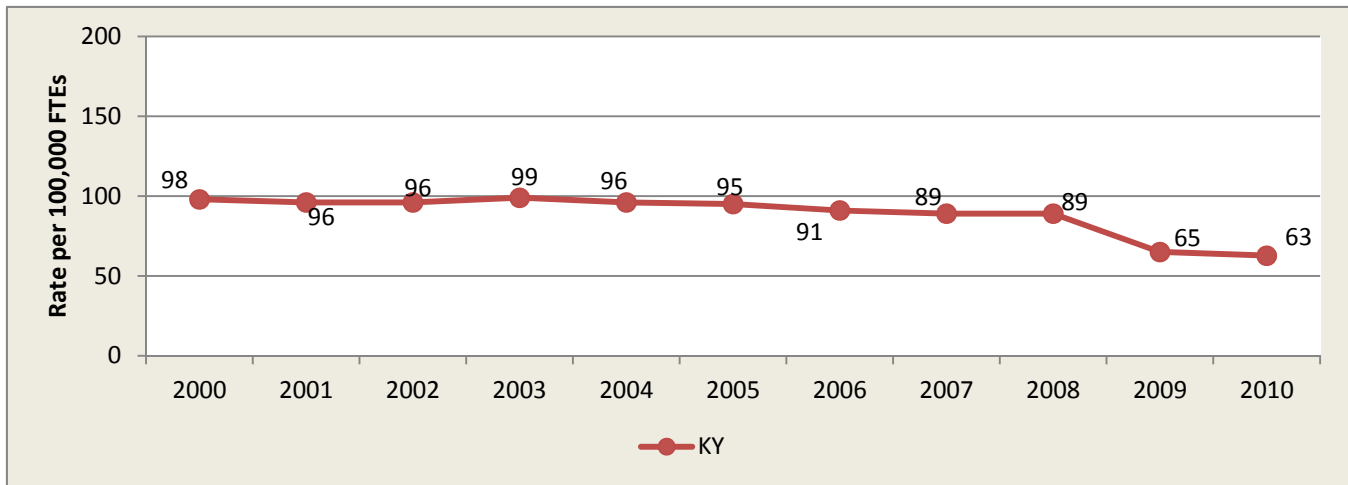
	Year				
	2006	2007	2008	2009	2010
	N	N	N	N	N
Total number of commercial vehicles involved in collisions in Kentucky	8,327	7,867	7,159	5,683	5,984
Unit number 01 (unit at fault according to the police )	5532	5300	4662	3674	3840
Driver's injury					
Fatal	24	20	20	19	9
Incapacitating	57	57	46	38	31
Non-incapacitating	193	191	152	138	145
Possible injury	181	204	186	138	139
Vehicle fire	34	28	34	25	33
KY license	4564	4209	3965	3237	3454
Total number of fatalities in collisions involving a commercial vehicle	116	112	115	107	99
Total number of injuries in collisions involving a commercial vehicle	1999	1910	1672	1383	1416
Single vehicle collision	1,692	1,688	1,591	1,304	1,307
Unit type					
Bus	72	92	107	113	145
School bus	51	46	52	53	57
Truck and trailer	1381	1280	1278	996	1004
Truck – single unit	1988	2019	1718	1460	1479
Truck tractor & semi-trailer	4413	4135	3754	2867	3074
Truck – other combination	164	126	133	91	122
Other	258	169	117	103	103
Hazard cargo present	194	150	139	155	169

Data Source: Motor vehicle collision surveillance data was obtained from the Collision Report Analysis for Safer Highways (CRASH) database established and maintained by the Kentucky State Police.

**Indicator #22 (Kentucky- Specific): Occupational Motor Vehicle Collisions- First Reports of Injury and Claims Filed with Workers' Claims by Injury Year**

There were 1,158 occupational motor vehicle collision claims or first reports of injury filed with the Kentucky worker's compensation in 2009, with an associated injury rate of 63 injuries per 100,000 workers (Figure 19).

**Figure 19. Occupational Motor Vehicle Collision Injury Rates**

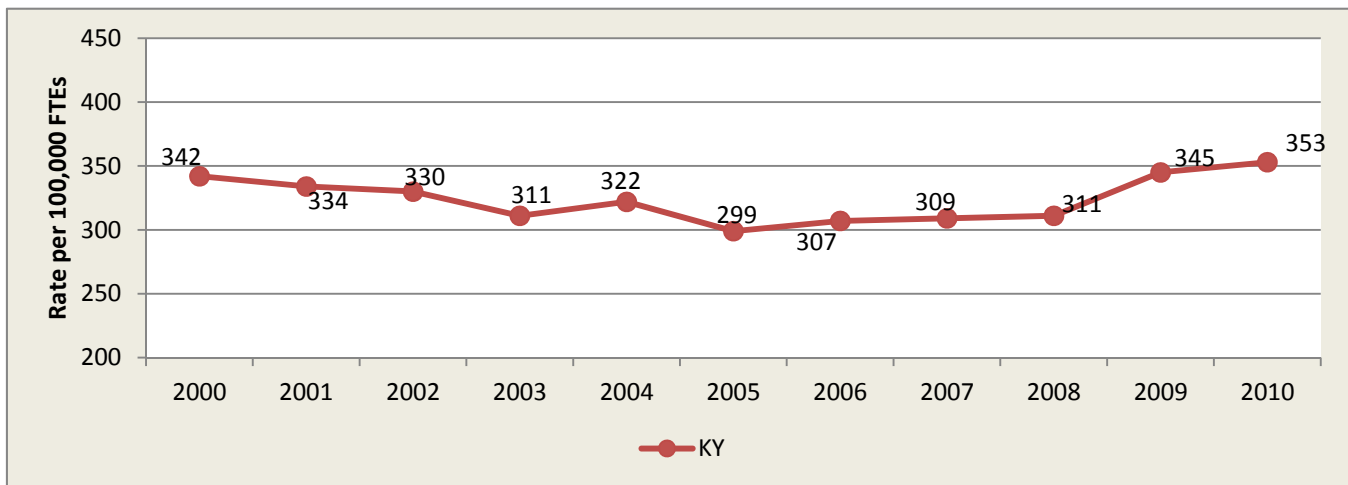


Data Source: Kentucky Department of Workers' Claims.

**Indicator #23 (Kentucky- Specific): Occupational Falls- First Reports of Injury and Claims Filed with Workers' Claims by Injury Year**

In the year 2010, there were 6,597 occupational fall claims and first reports filed with an associated occupational fall injury incidence rate of 353/100,000 employed workers, an increase from 2009 (Figure 20). Most occupational falls occurred in the services (n=2,448; 37%) and retail trade (n=1,088; 16%) industries.

**Figure 20. Occupational Fall Injury Incidence Rates**



Data Source: Kentucky Department of Workers' Claims.



The Kentucky Injury Prevention and Research Center (KIPRC) is a partnership between the Kentucky Department for Public Health and the University of Kentucky's College of Public Health that combines academic investigation with practical public health initiatives.

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