

OCCUPATIONAL HEALTH IN KENTUCKY, 2015

An Annual Report by the Kentucky Injury Prevention and Research Center

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EXECUTIVE SUMMARY

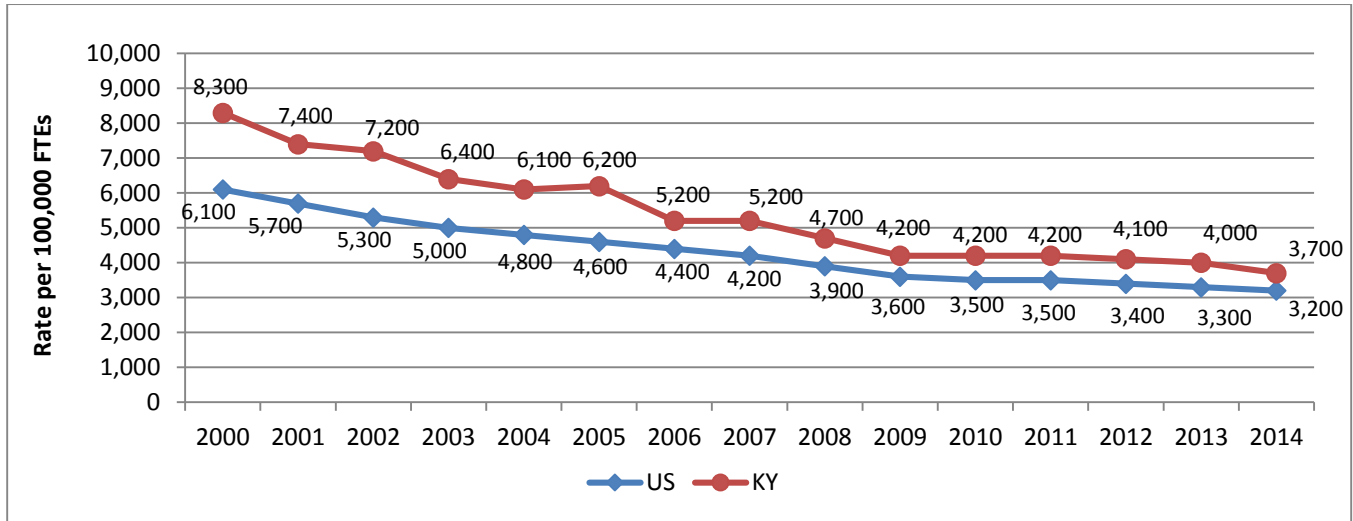
Key findings:

- ❑ Kentucky's 2014 *non-fatal* work-related injury and illness rate was 3,700/100,000 full-time equivalents, still 16% above the national rate.
- ❑ The 2014 work-related *fatality* rate was 4.6 deaths/100,000 workers, 35% above the U.S. rate of 3.4/100,000.
- ❑ Kentucky's work-related amputation rate was 8 claims/100,000 workers in 2014, 60% above the 2014 U.S. rate.
- ❑ The 2014 age-adjusted pneumoconiosis mortality rate was 31 deaths/million residents, 417% above the U.S. rate.
- ❑ The 2012 annual incidence rate of reported work-related pesticide poisonings in Kentucky was 2.5/100,000 FTEs, 32% above the national rate.
- ❑ The 2012 percentage of Kentucky workers employed in high risk industries for occupational morbidity was 9.3%, same as in 2011. The corresponding U.S. percentage was 7.2%.
- ❑ The 2012 Kentucky occupational motor vehicle injury rate was 68/100,000 workers, a 10% increase from 2011.
- ❑ The occupational fall injury incidence rate increased by 11% from 2012 to 2013.
- ❑ The average amount of workers' compensation benefits per covered worker in Kentucky increased by 5% from \$384 in 2012 to \$402 in 2013.
- ❑ There were 3,884 truck tractor and semi-trailer collisions in 2014, a 16% increase from 2013, and the highest number in Kentucky since 2010.
- ❑ There were 82 school bus collisions in 2014, a 15% increase from 2013.
- ❑ The number of buses involved in motor vehicle collisions increased by 10% from 156 in 2013 to 171 in the year 2014.

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

In 2014, there were 46,200 non-fatal work-related injuries and illnesses in Kentucky, with an incidence rate of 3,700/100,000 full-time equivalents (FTEs), down 55% from 1998 (Figure 1). Kentucky is still about 16% above the national incidence rate of 3,200/100,000.

Figure 1. Non-Fatal Work-Related Injury and Illness Incidence Rates, 2000-2014

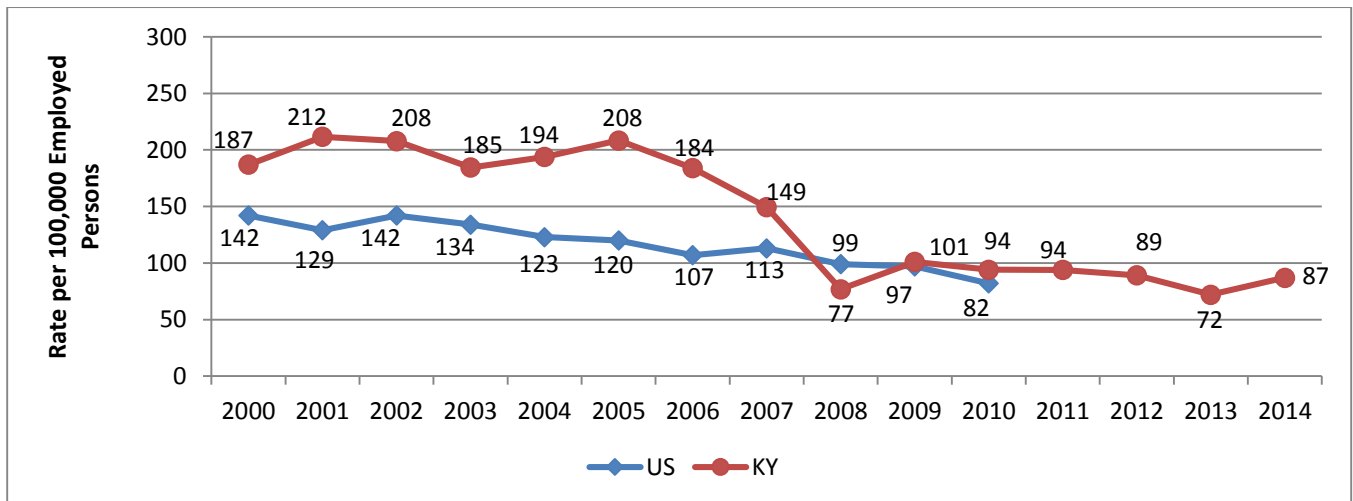


Data Source: Annual Bureau of Labor Statistics (BLS) Survey of Occupational Injuries and Illnesses (SOII).

Indicator #2: Work-Related Hospitalizations

In 2014, there were 1,640 work-related hospitalizations with an annual crude rate of 87/100,000 employed persons age 16 years and older, 20% increase from the year 2013 (Figure 2).

Figure 2. Work-Related Hospitalization Rates, 2000-2014

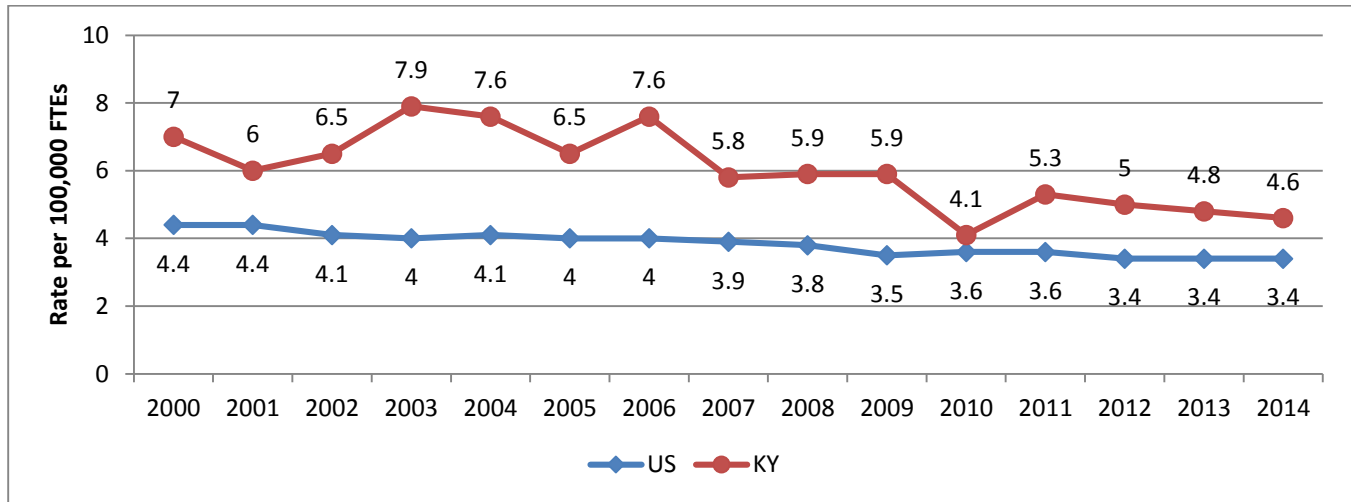


Data Source: Numerator KY data: Kentucky Inpatient Hospital Discharge Data, Office of Health Policy. Numerator US data: National Hospital Discharge Survey. Denominator data: BLS Current Population Survey data. Rates may differ from rates reported in previous reports as the KY hospital discharge files for the last 4 years were updated.

Indicator #3: Fatal Work-Related Injuries

In 2014 there were 82 fatal occupational injuries in Kentucky, a small difference from the reported 86 fatal work-related injuries for 2013. The 2014 Kentucky rate was 4.6/100,000, or 35% above the preliminary 2014 national rate of 3.4/100,000.

Figure 3. Fatal Work-Related Injury Rates, 2000-2014

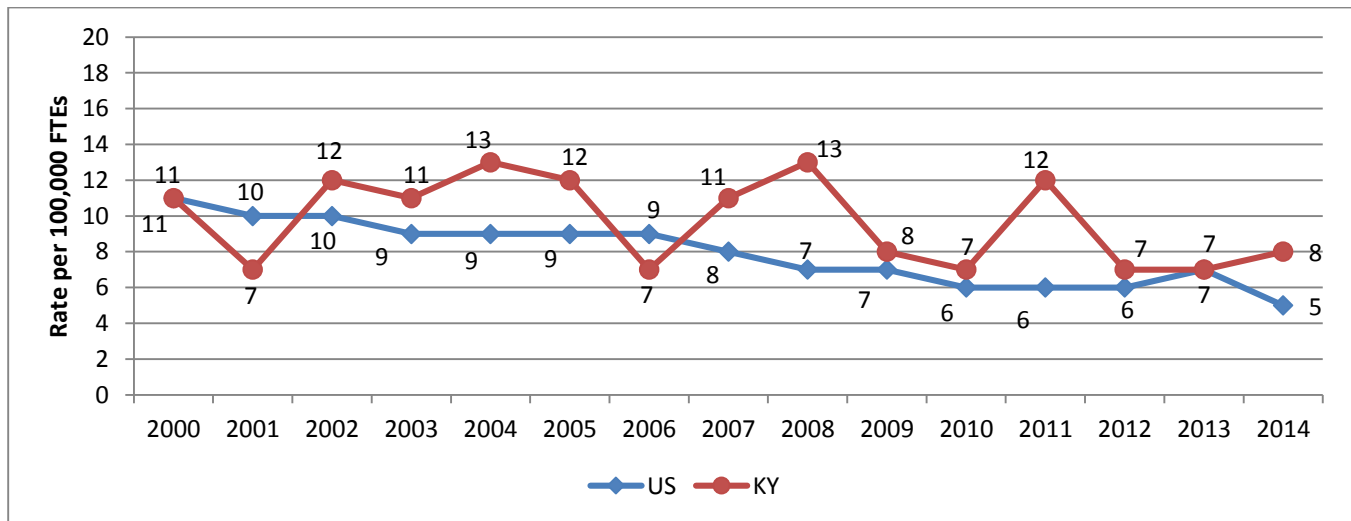


Data Source: Census of Fatal Occupational Injuries (CFOI).

Indicator #4: Work-Related Amputations with Days Away from Work

There were 100 amputation cases with days away from work in 2014, down 20 cases from the year 2013. The annual incidence rate of 8 cases per 100,000 FTEs was more than 50% higher than the national amputation incidence rate of 5/100,000 (BLS SOII) in 2014 (Figure 4).

Figure 4. Work-Related Amputation Rates, 2000-2014



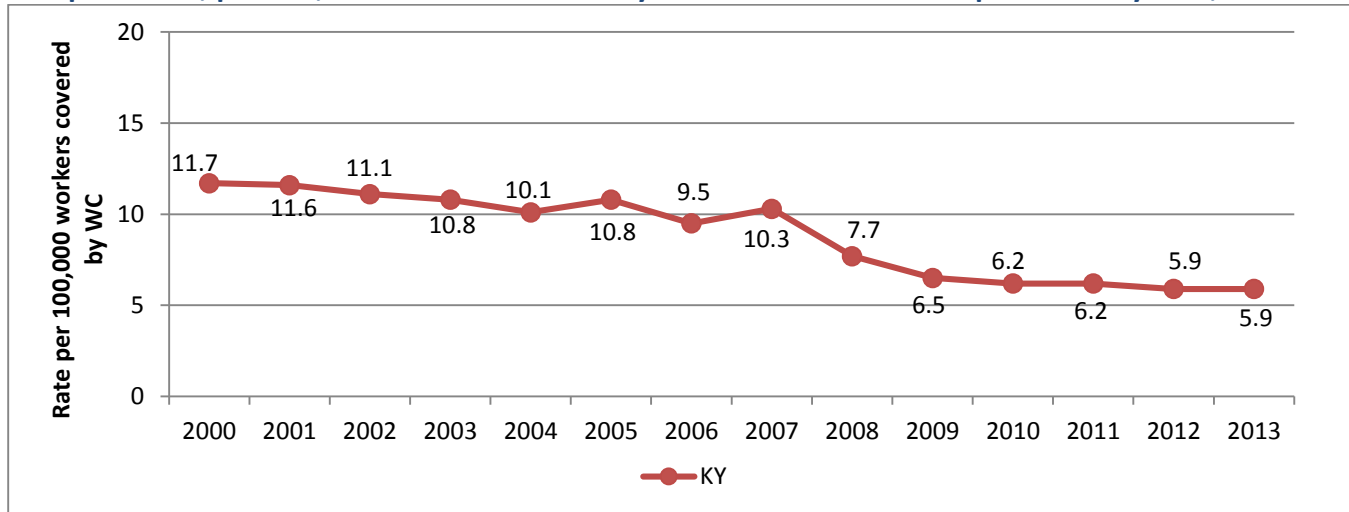
Source: Annual BLS Survey of Occupational Injuries and Illnesses (SOII).

Data

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

There were 103 amputations reported to the Kentucky Department of Workers' Compensation with injury occurring during 2013. The majority of these injuries occurred in the manufacturing industry (n=62). The 2013 incidence rate of 5.9 amputations per 100,000 workers covered by the state Workers' Compensation system was the same as the 2012 incidence rate (Figure 5).

Figure 5. Annual Incidence Rate of Amputation Cases with Lost Work-time Filed with State Workers' Compensation, per 100,000 Workers Covered by the State Workers' Compensation System, 2000-2013

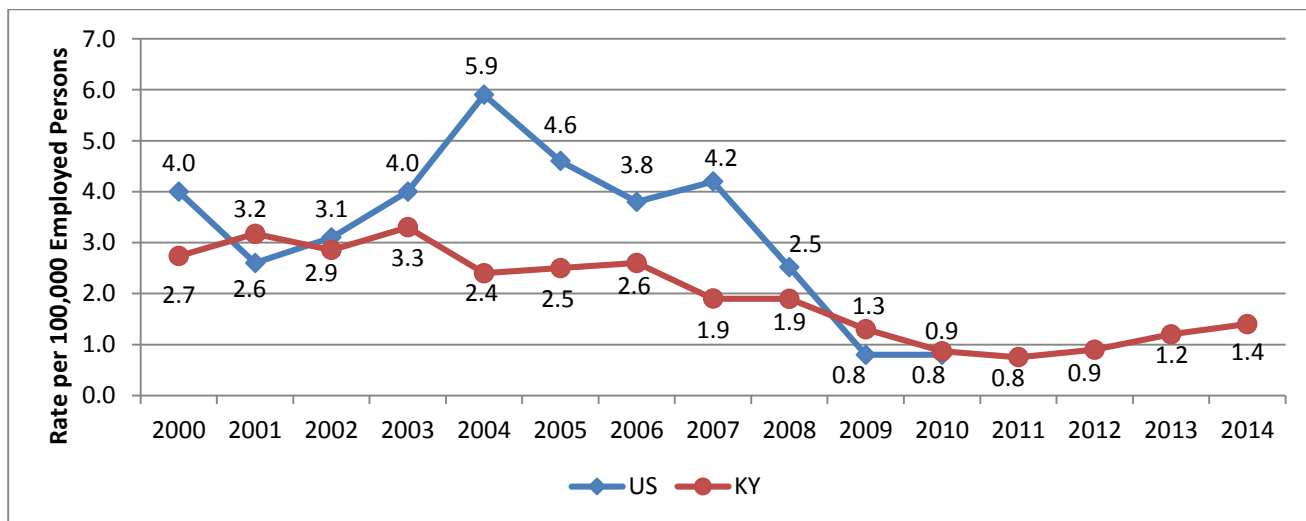


Data Source: Kentucky Department of Workers' Claims.

Indicator #6: Work-Related Burn Hospitalizations

There were 26 work-related burn hospitalizations in 2014 with an annual crude rate for work-related burn hospitalizations of 1.4/100,000 employed persons age 16 years or older. (Figure 6).

Figure 6. Burn Hospitalizations, 2000-2014

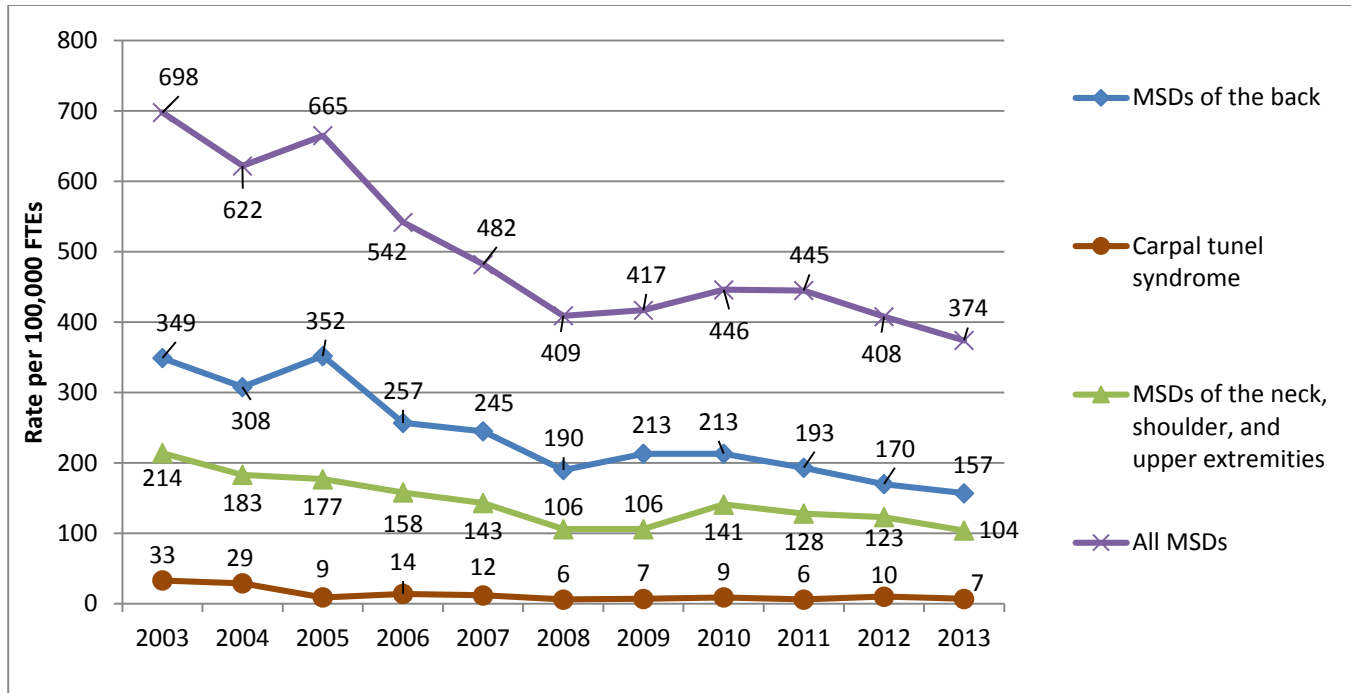


Data Source: Kentucky Inpatient Hospital Discharge Data, Office of Health Policy.

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

Kentucky had a total annual MSD incidence rate of 374 cases/100,000 FTEs in 2013 (Figure 7), due primarily to MSDs of the back (157/100,000).

Figure 7. Musculoskeletal Disorders Incidence Rates Involving Days Away from Work, 2003-2013

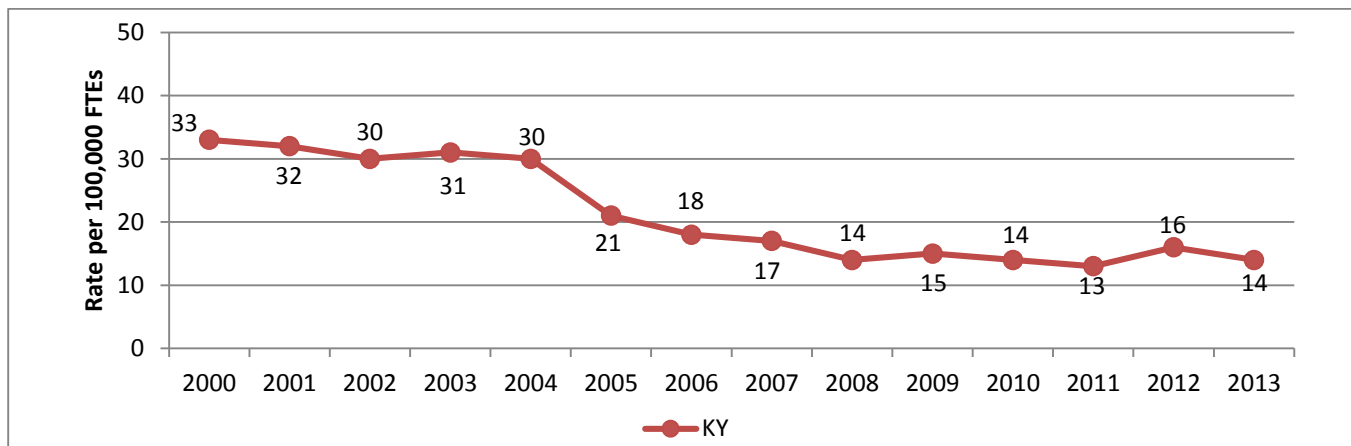


Data Source: Annual Bureau of Labor Statistics (BLS) Survey of Occupational Injuries and Illnesses (SOII).

Indicator #8: Carpal Tunnel Syndrome First Report of Injury Filed with the State Workers' Compensation System by Injury Year

There were 251 Carpal Tunnel Syndrome (CTS) cases reported in 2013, an incidence rate of 14/100,000.

Figure 8. Lost Work-Time Claim Rates for Carpal Tunnel Syndrome Cases Identified in State Workers' Compensation Systems, 2000-2013

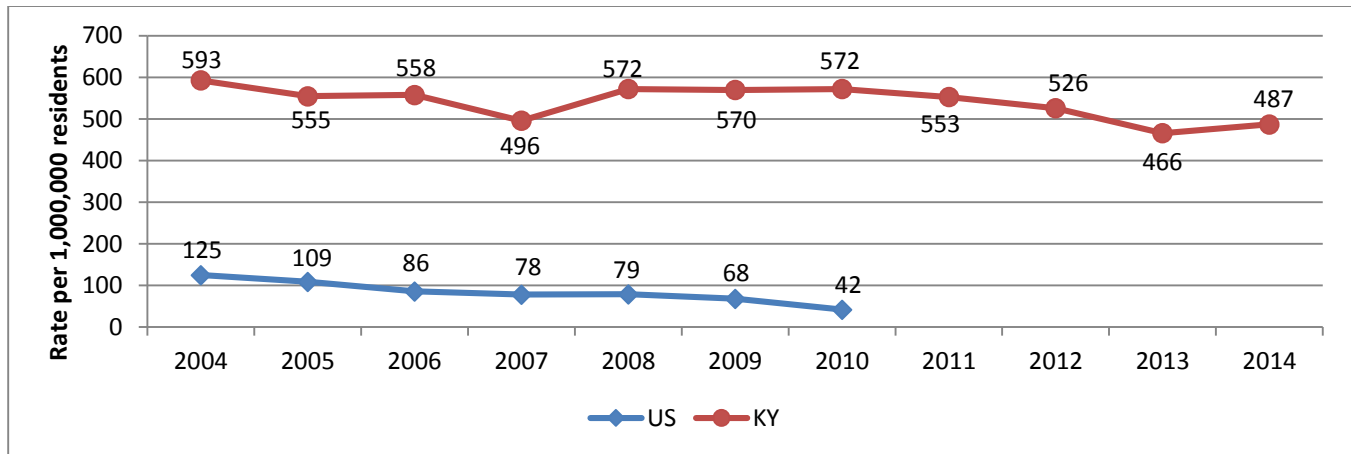


Data Source: Kentucky Department of Workers' Claims.

Indicator #9: Hospitalization from or with Pneumoconiosis

The annual age-standardized rate of pneumoconiosis hospitalizations per million residents in Kentucky increased 5% from 466/100,000 in 2013 to 487/100,000 in 2014. There were 2,036 total pneumoconiosis hospitalizations in 2014, including 1,695 coal workers’ pneumoconiosis hospitalizations (Figure 9).

Figure 9. Age-Standardized Hospitalization Rates from or with Total Pneumoconiosis, 2004-2014



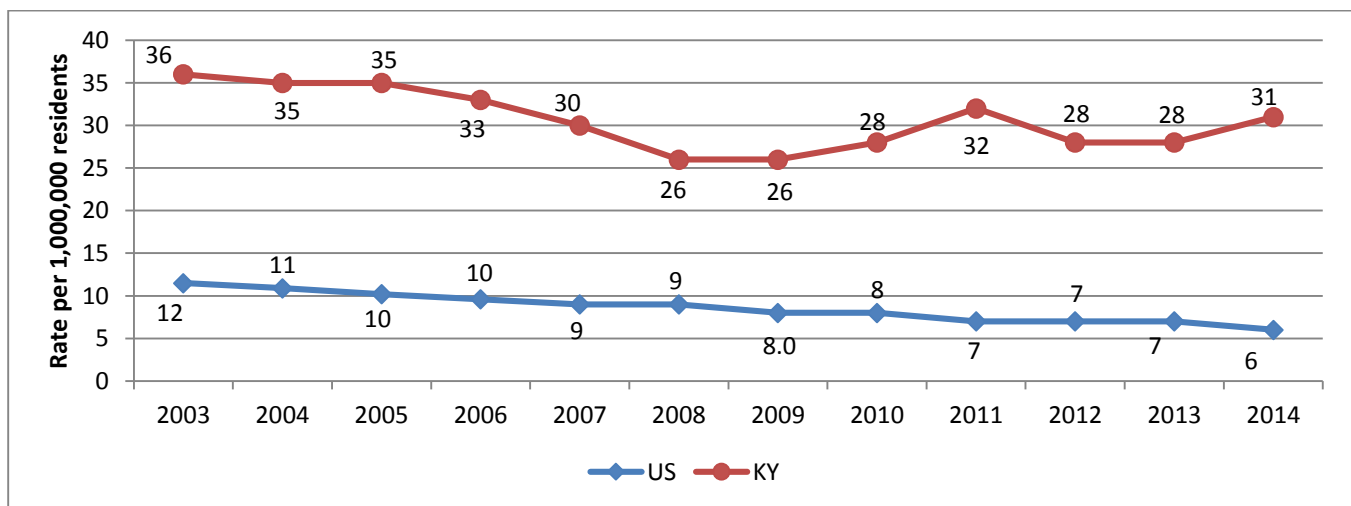
Note: U.S. rates are not available for years 2011 - 2014.

Data Source: Kentucky Inpatient Hospital Discharge Data, Office of Health Policy.

Indicator #10: Mortality from or with Pneumoconiosis

There were 121 deaths for Kentucky residents ages 16 years or older, who died from or with pneumoconiosis in 2014. The 2014 Kentucky age-adjusted death rate from or with pneumoconiosis for residents 16 years of age or older was 31 per one million, 417% above the U.S. rate (Figure 10).

Figure 10. Age-Standardized Mortality Rate from or with Pneumoconiosis, 2003-2014

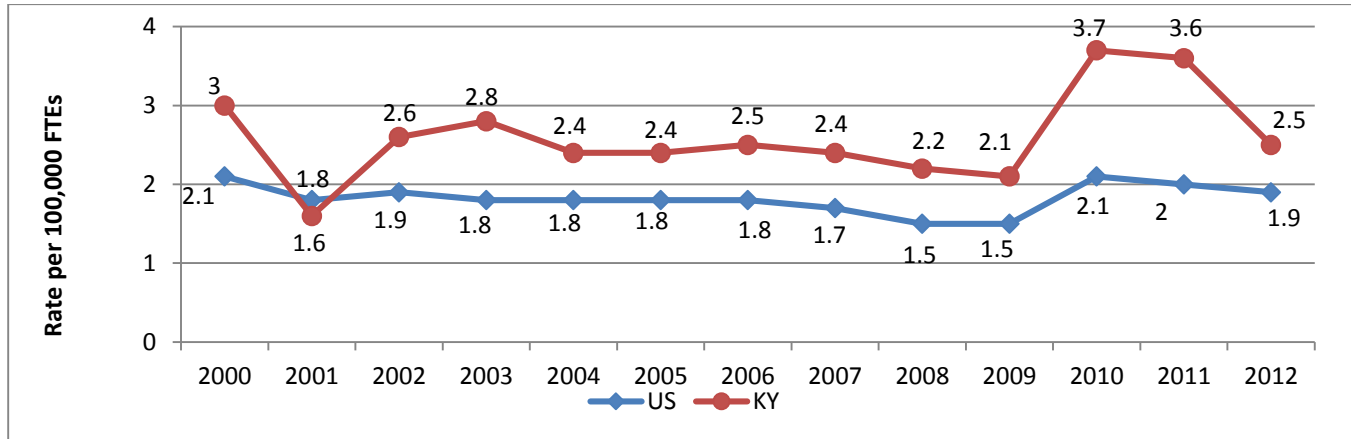


Data Source: Kentucky Death Certificates, Office of Vital Statistics and the U.S. multiple cause of death files, CDC WONDER query system.

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

The 2012 annual incidence rate of reported work-related pesticide poisonings in Kentucky was 2.5/100,000 FTEs, 32% above the national rate (Figure 11).

Figure 11. Work-Related Pesticide-Associated Poisoning Rates, 2000-2012

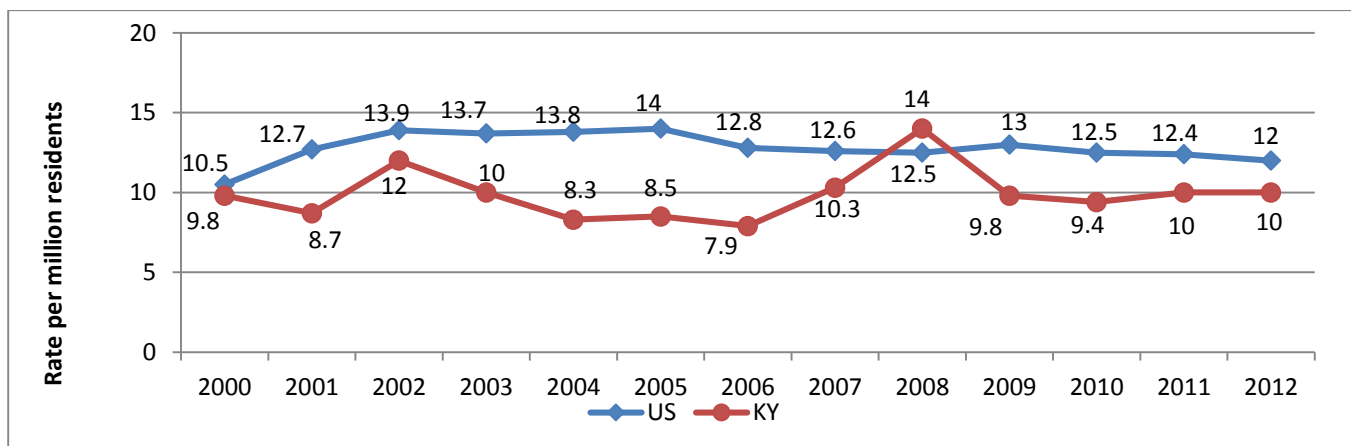


Data Source: American Association of Poison Control Centers.

Indicator #12: Incidence of Malignant Mesothelioma

The age-adjusted rate of malignant mesothelioma was 10.0 cases per million residents in 2012, about 16% below the U.S rate of 12 malignant mesothelioma cases per one million residents (Figure 12).

Figure 12. Age-Standardized Incidence Rate of Malignant Mesothelioma, 2000-2012

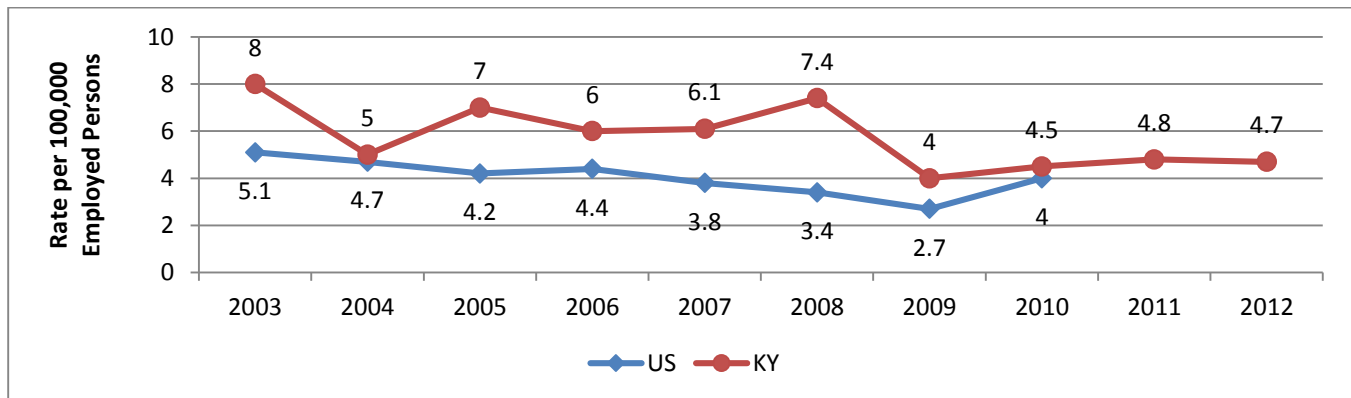


Data Source: Kentucky Cancer Registry. U.S. rate for 2011 was not available at the time of the publication.

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

The current surveillance case definition for an elevated BLL used by the Centers for Disease Control and Prevention (CDC) and National Institute for Occupational Safety and Health (NIOSH) includes workers aged 16 and older, with blood lead concentrations of 10 µg/dL or higher. There were 378 incident cases with BLL ≥ 10µg/dL in 2012. The Kentucky rate of incidence cases of persons age 16 years or older with elevated BLL ≥ 10µg/dL was 18.2/100,000 in 2012. The Kentucky annual incidence rate of persons aged 16 years or older with elevated BLL ≥ 25µg/dL was 4.7/100,000 in 2012 (89 cases), a slight decrease compared to the 2011 rate of 4.8/100,000.

Figure 13. Annual Incidence Rates of Elevated BLL ≥25 µg/dL Among Persons Age 16 Years and Older*

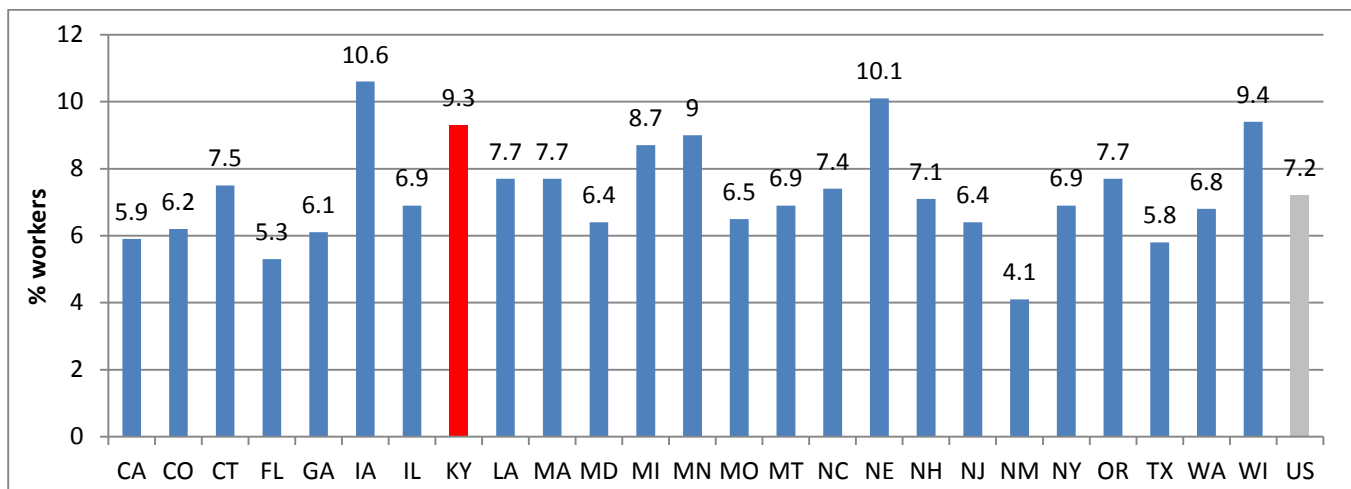


Data Source: Kentucky Lead Poisoning Prevention Program, Division of Adult and Child Health. U.S. rates were obtained from the NIOSH ABLES program. U.S. rates for 2011-2012 were not available at the time of the publication.

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 2012 was 9.3% (Figure 14), same as in 2011. Nationwide, the percentage of workers employed in industries at high risk for occupational morbidity in 2012 was 7.2% (Figure 14).

Figure 14. Percentage of Workers in High Risk Industries for Occupational Morbidity, 2012

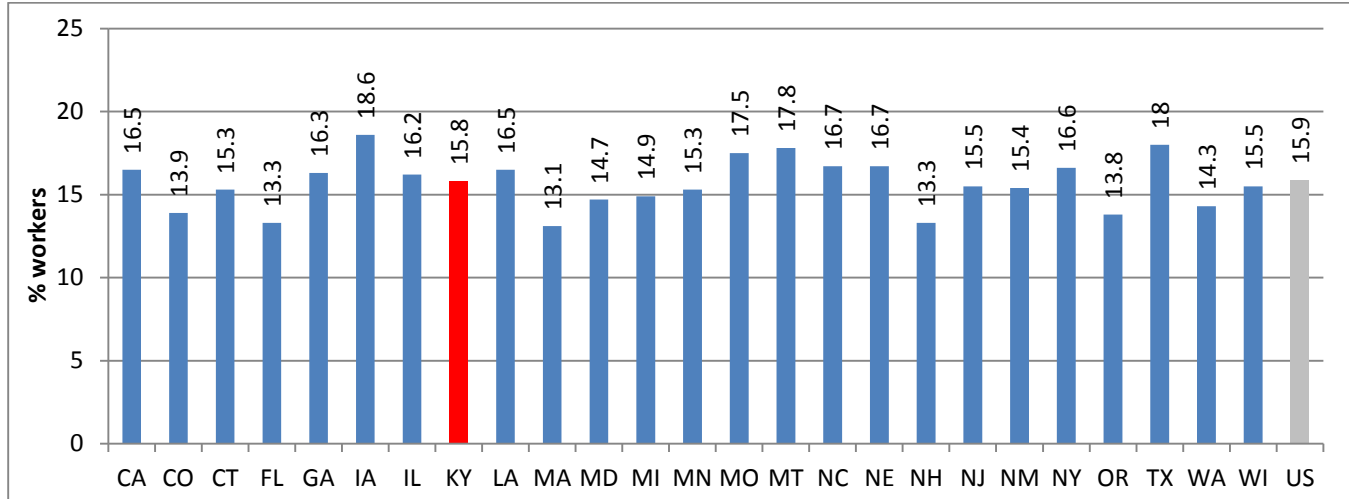


Data Source: Census Bureau County Business Patterns.

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

In 2012 there were 229,050 (15.8%) of Kentucky workers employed in occupations at high risk for occupational morbidity. The percentage of U.S. workers employed in occupations at high risk for occupational morbidity in 2012 was 15.9%.

Figure 15. Percentage of Ky Workers in Occupations with High Risk for Occupational Morbidity, 2012

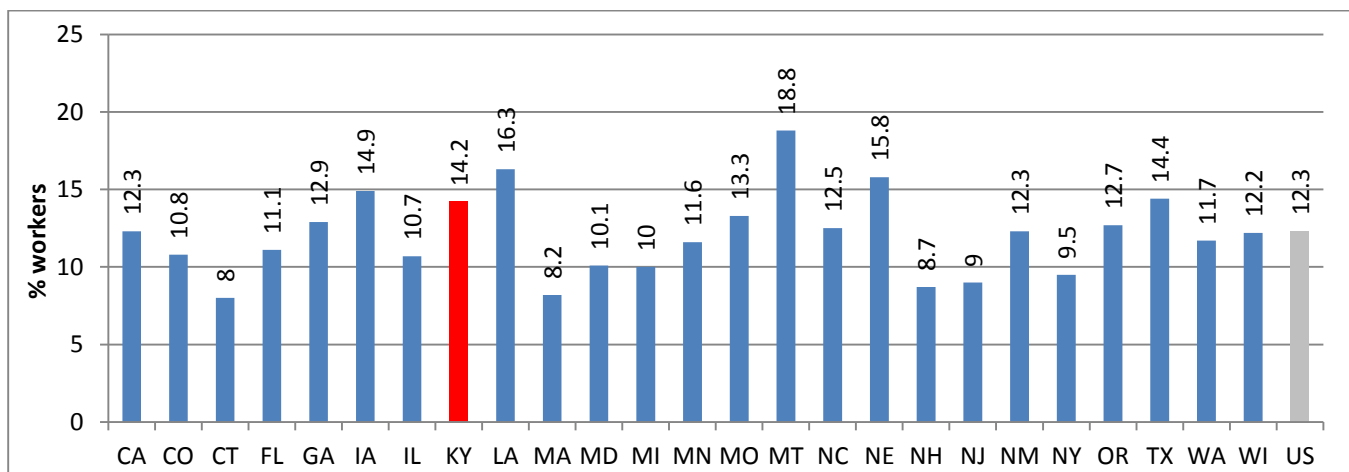


Data Source: Bureau of Labor Statistics (BLS) Current Population Survey (CPS).

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

In 2012, 227,238 (14.2%) of the Kentucky workers were employed in high-risk for occupational mortality occupations. The corresponding U.S. percentage was 12.3% (Figure 16). The percentage of Kentucky workers employed in high mortality risk industries was 16.2% in 2012, 10% above the U.S. (15.3%) (data not shown).

Figure 16. Percentage of Workers Employed in High Mortality Risk Occupations, 2012.



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

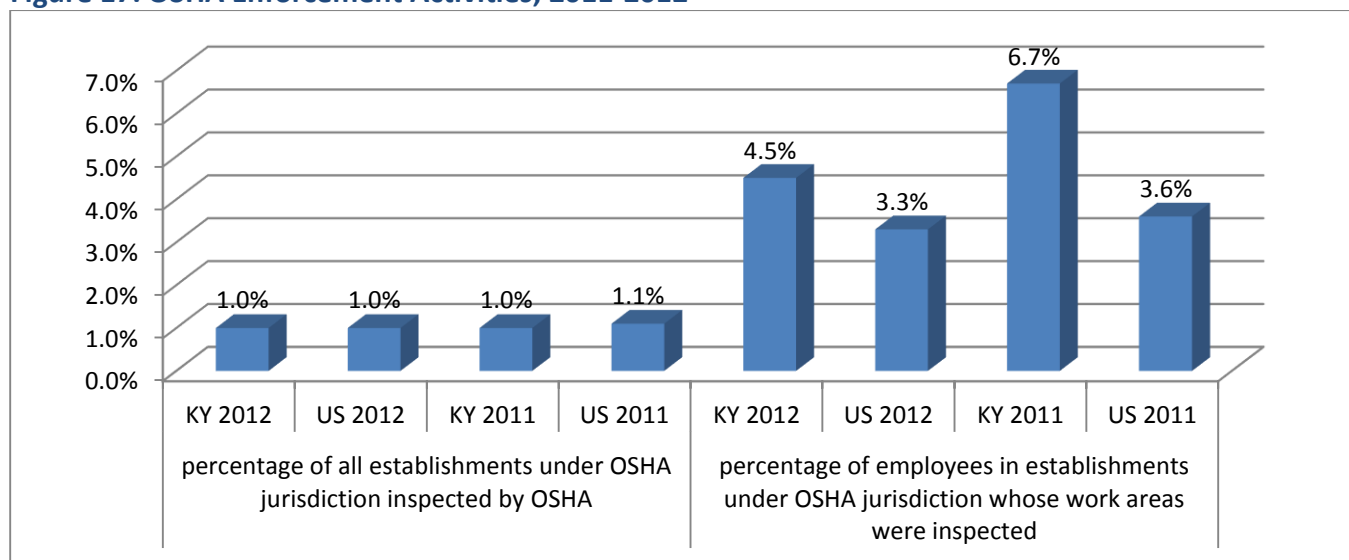
Indicator #17: Occupational Safety and Health Professionals**Table 1. Rates of Occupational Safety and Health Professionals in Kentucky and the U.S.**

Rate per 100,000 employees	KY 2010	US 2010	KY 2012	US 2012
Rate of board-certified occupational medicine physicians	1.5	2.1	1.5	2.1
Rate of American College of Occupational and Environmental Medicine (ACOEM) members	3.3	2.9	3.1	2.7
Rate of board-certified occupational health nurses	4.0	3.9	NA	NA
Rate of members of the American Association of Occupational Health Nurses (AAOHN)	NA	NA	3.8	3.3
Rate of board-certified industrial hygienists	3.6	5.2	3.0	3.3
Rate of American Industrial Hygiene Association (AIHA) members	4.4	5.6	5.8	6.0
Rate of board certified safety health professionals	8.6	8.8	9.7	9.2
Rate of American Society of Safety Engineers (ASSE) members	27.5	22.5	29.9	22.7

Data Sources: American Board of Preventive Medicine, ACOEM, American Board of Occupational Health Nurses Directory, AAOHN, American Board of Industrial Hygiene, AIHA, BCSP, ASSE, BLS Current Population Survey.

Indicator #18: OSHA Enforcement Activities

In 2012, there were 1,062 establishments inspected by KY OSHA. The percentage of establishments under OSHA jurisdiction inspected by KY OSHA in 2012 was 1.0% (Figure 17). The percentage of OSHA-covered employees whose work areas were inspected by OSHA in 2012 was 4.5%, a 33% decrease compared with year 2011.

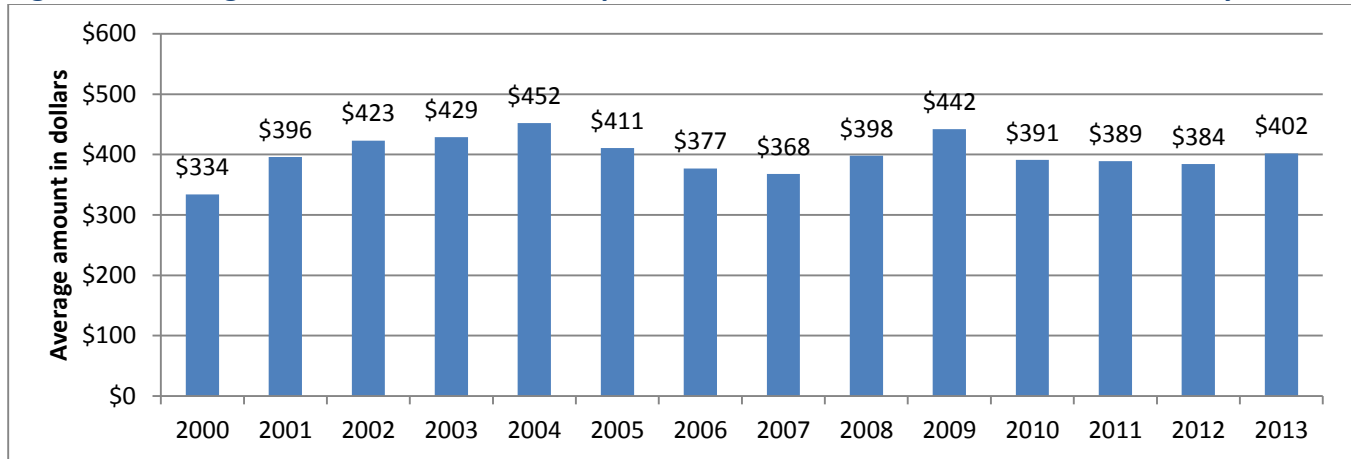
Figure 17. OSHA Enforcement Activities, 2011-2012

Data Sources: OSHA annual reports, BLS statistics on Covered Employers and Wages.

Indicator #19: Workers' Compensation Awards

The total amount of workers' compensation benefits paid in Kentucky in 2013 was \$698 million. The average amount of workers' compensation benefits paid per covered worker in Kentucky increased 5% from \$384 in 2012 to \$402 in 2013 (Figure 18).

Figure 18. Average Amount of Workers' Compensation Benefits Paid Per Worker in Kentucky, 2000-2013

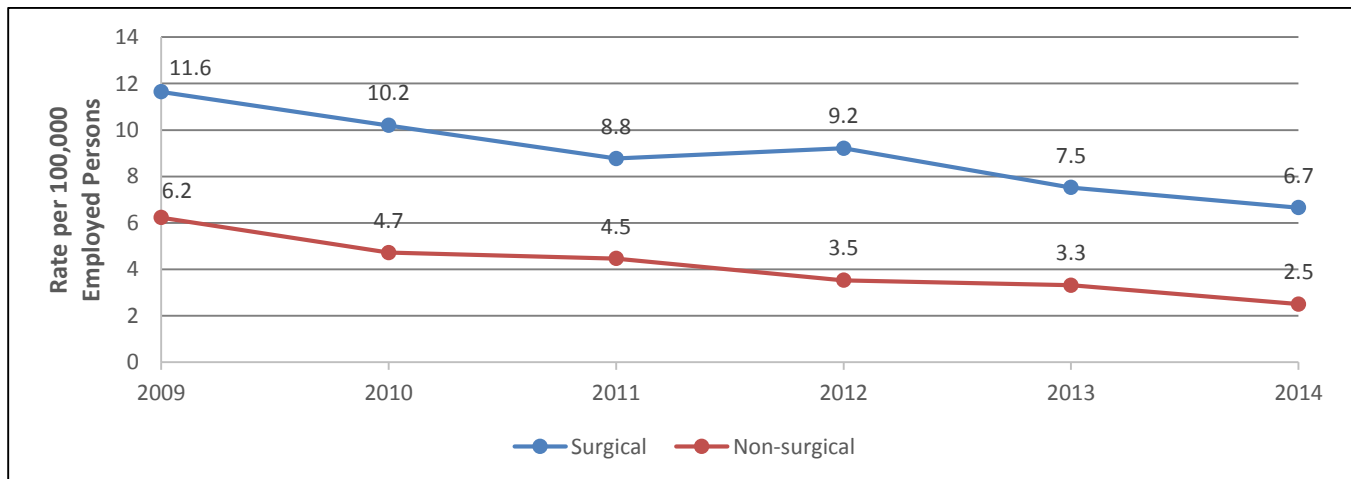


Data Source: National Academy of Social Insurance.

Indicator #20: Low Back Disorders

In 2014, the number of work-related surgical low back disorder hospitalizations for persons 16 years or older in Kentucky was 125, at an annual rate of 6.7/100,000 employees (Figure 19). There were 47 non-surgical work-related low back disorder hospitalizations for persons 16 years old and above, an annual rate of 2.5/100,000.

Figure 19. Kentucky Work-Related Surgical and Nonsurgical Low Back Disorder Hospitalization Rates Among Persons 16 Years and Older, 2009-2014



Data Source: Kentucky Department for Public Health, Office of Health Policy.

Indicator #21: Asthma Among Adults Caused or Made Worse by Work

Using data from the 2011 Asthma Call Back Survey conducted on Behavioral Risk Factor Surveillance System (BRFSS) respondents, it was estimated that 228,298 (63.5%) of ever-employed Kentucky adults with current asthma considered that their asthma was caused or made worse by exposures at work.

Indicator #22 (Kentucky-Specific): Fatal and Non-Fatal Occupational Motor Vehicle Collision Injuries

In 2014, there were 12,533 occupational motor vehicle collisions (MVCs) in Kentucky, a 10% increase from 11,332 in 2013; 77 drivers or occupants in the vehicles involved in these collisions were killed and 2,750 people were injured. Table 2 compares some characteristics of the commercial vehicles involved in collisions in Kentucky 2010-2014. In about two-thirds of the cases, the commercial vehicle was listed as unit one (usually, the unit at fault). There were 32 commercial vehicle fires in 2014 compared to 25 reported in 2013. The number of buses involved in motor vehicle collisions increased from 156 in 2013 to 171 in 2014.

Table 2. Kentucky Commercial Vehicle Collisions, 2010-2014

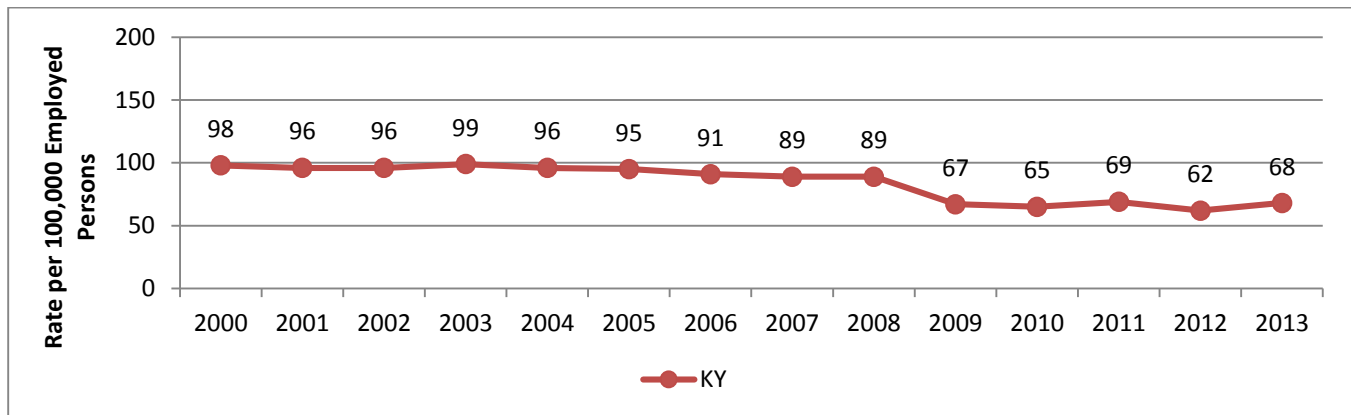
	Year				
	2010	2011	2012	2013	2014
Total number of commercial vehicles involved in collisions in Kentucky	5,984	6,395	6,122	6,296	7,281
Unit number 01 (usually, the unit at fault)	3,840	4,166	3,951	4,097	4,755
Driver's injury					
Fatal	9	13	10	9	8
Incapacitating	31	48	37	37	40
Non-incapacitating	145	116	110	125	142
Possible injury	139	143	150	139	155
Vehicle fire	33	20	31	25	32
KY license	3,466	3,080	2,848	2,909	3,323
Total number of fatalities in collisions involving a commercial vehicle	99	83	81	72	64
Total number of injuries in collisions involving a commercial vehicle	1,438	1,438	1,392	1,399	1,396
Single vehicle collision	1,316	1,475	1,407	1,440	1,614
Unit type					
Bus	148	136	143	156	171
School bus	59	75	69	71	82
Truck and trailer	1,018	1,125	1,083	1,094	1,313
Truck – single unit	1,498	1,385	1,419	1,484	1,697
Truck tractor & semi-trailer	3,111	3,491	3,279	3,358	3,884
Truck – other combination	122	138	109	106	110
Other	28	44	20	26	24
Hazard cargo present	171	151	133	136	180

Data Source: Kentucky State Police Collision Report Analysis for Safer Highways (CRASH) database.

Indicator #23: (Kentucky- Specific): Occupational Motor Vehicle Collisions- First Reports of Injury and Claims Filed with Workers’ Claims by Injury Year

There were 1,289 occupational motor vehicle collision claims or first reports of injury filed with the Kentucky Department for Workers’ Claims for injuries during 2013, with 68 injuries /100,000 workers (Figure 20).

Figure 20. Occupational Motor Vehicle Collision Injury Rates, 2000-2013

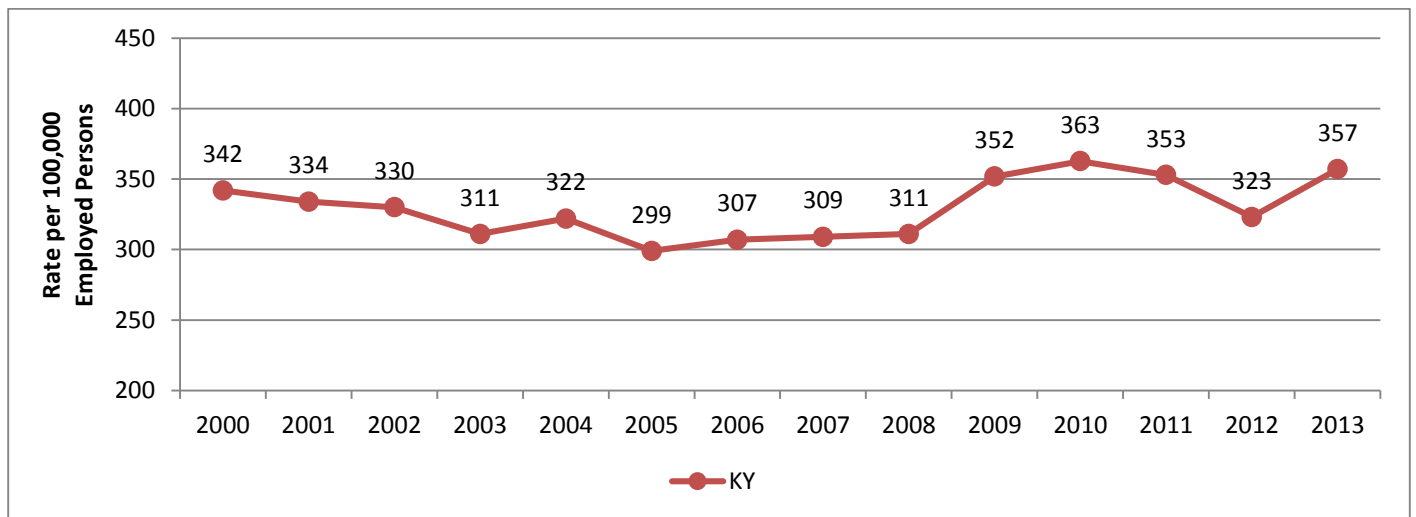


Data Source: Kentucky Department of Workers’ Claims.

Indicator #24 (Kentucky- Specific): Occupational Falls- First Reports of Injury and Claims Filed with Workers’ Claims by Injury Year

In 2013, there were 6,787 occupational fall claims and first reports of injuries filed with the Kentucky Department of Workers’ Claims; an associated injury incidence rate of 357/100,000 employed workers (Figure 21).

Figure 21. Occupational Fall Injury Incidence Rates, 2000-2013

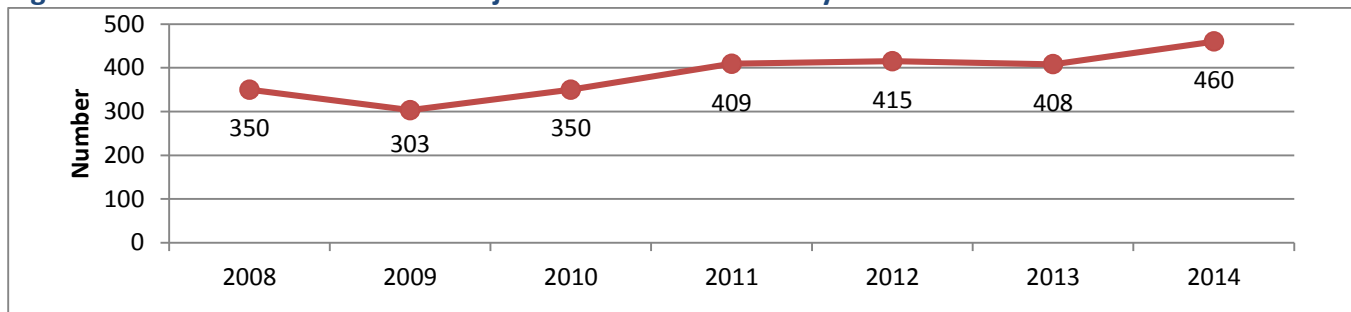


Data Source: Kentucky Department of Workers’ Claims.

Indicator #25 (Kentucky- Specific): Work-related Traumatic Injuries Treated in Kentucky Trauma Centers

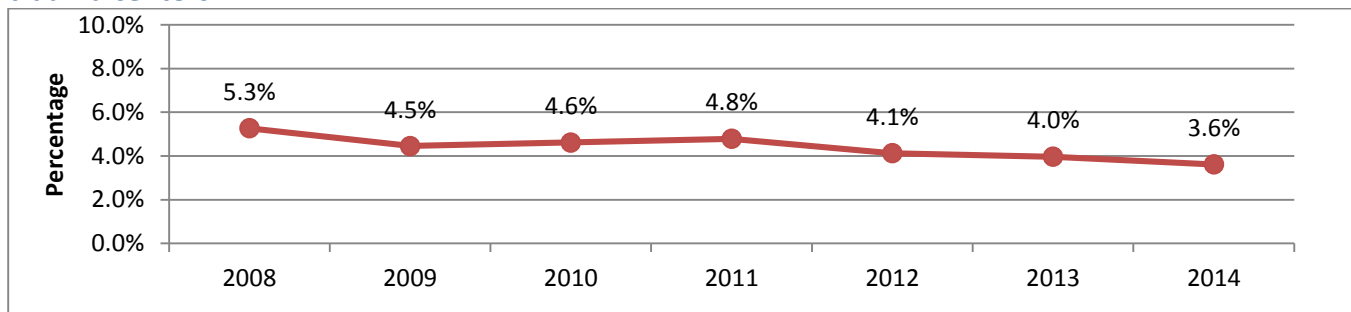
Kentucky Trauma System expanded from 5 trauma centers in 2008 to 28 trauma centers in 2014 that have been submitting data to the state Trauma Registry (TR) system. The number of work-related traumatic injury cases reported to the state TR increased from 350 in 2008 to 460 in 2014 but as a percentage of all traumatic injuries this is a decrease from 5.3% in 2008 to 3.6% in 2014 (Figures 22 and 23). The rate of work-related traumatic injuries reported to the TR increased from 16.4/100,000 employed persons in 2008 to 24.5/100,000 in 2014 (Figure 24). The majority of the 2014 injured workers were employed in *other services* industry (n=109, 24%), *construction* (n=61, 13%), and *transportation and public utilities* (n=33, 7%).

Figure 22. Work-related traumatic injuries treated in Kentucky trauma centers



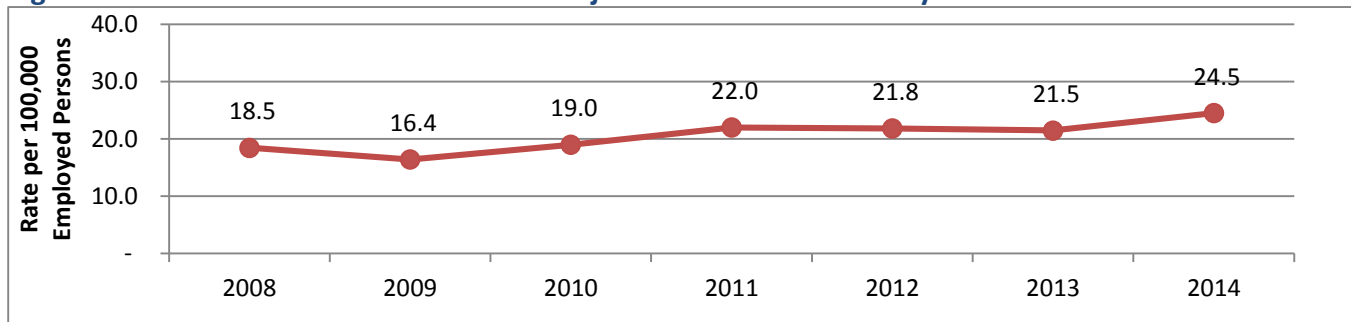
Data Source: Kentucky Trauma Registry.

Figure 23. Work-related traumatic injuries as a percentage of all traumatic injuries treated in Kentucky trauma centers



Data Source: Kentucky Trauma Registry.

Figure 24. Rate of work-related traumatic injuries treated in Kentucky trauma cent

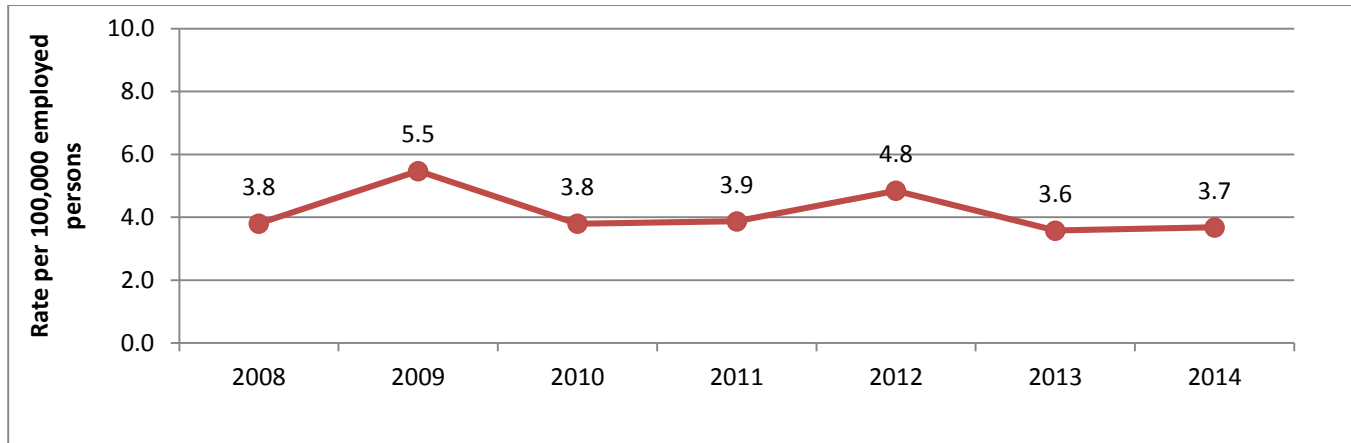


Data Source: Kentucky Trauma Registry.

Indicator #26 (Kentucky- Specific): Work-related Traumatic Brain Injury (TBI) Hospitalizations

In 2014, there were 69 work-related TBI hospitalizations; an associated rate of 3.7/100,000 employed persons (Figure 25).

Figure 25. Rate of work-related TBI hospitalizations, 2008-2014

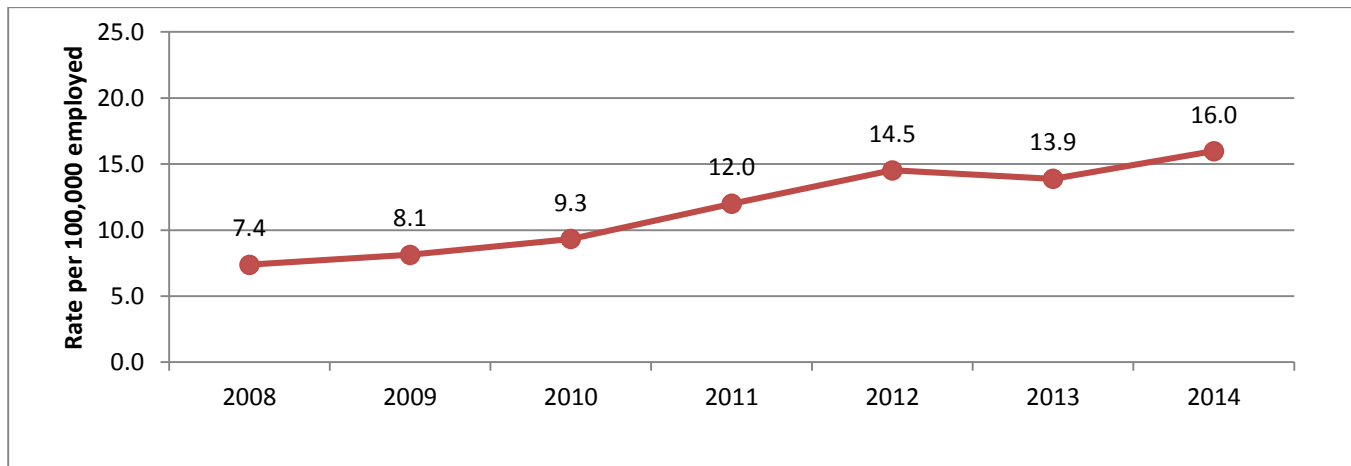


Data Source: Kentucky Inpatient Hospital Discharge Data, Office of Health Policy.

Indicator #27 (Kentucky- Specific): Occupational Concussion- First Reports of Injury and Claims Filed with Workers’ Claims by Injury Year

In 2014, there were 300 occupational concussion claims and first reports of injuries filed with the Kentucky Department of Workers’ Claims; an associated injury incidence rate of 16/100,000 employed workers (Figure 21). The number of concussion injuries reported to WC steady increased over the last 7 years which could be partially due to the increased awareness and better recognition of concussion injuries.

Figure 21. Occupational Fall Injury Incidence Rates, 2000-2013



Data Source: Kentucky Department of Workers’ Claims.



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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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