Kentucky Occupational Safety & Health Surveillance (KOSHS) Program Report 2007

KENTUCKY INJURY PREVENTION AND RESEARCH CENTER
Cooperative Agreement Number 1U60/OH008483-01

The Kentucky KOSHS Program is an occupational injury and illness surveillance project of the Kentucky Injury Prevention and Research Center (KIPRC)*. The objectives of KOSHS 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 and in the nation. For more detailed information concerning KOSHS, or to obtain additional copies of this report, contact:

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*Organizationally, KIPRC is part of the University of Kentucky College of Public Health. It maintains a contractual relationship with the Kentucky Department for Public Health (KDPH).

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

- Kentucky's *nonfatal* work-related injury and illness rate (6,200/100,000 full-time equivalents (FTEs)) was 35% above the national rate (4,600/100,000 FTEs) in 2005. The highest injury incidence rate was in the nursing and residential care facilities industry.

- Kentucky's *fatal* work-related injury rate (7 deaths/100,000 workers) was 75% above the national fatality rate of 4/100,000 with the highest rates in the mining and agriculture/forestry/fishing/hunting industries. The primary external cause of death was motor vehicle collisions.

- Kentucky's work-related amputation rate was 22% higher than the national rate in the year 2003 (latest data available for national statistics). According to Workers' Claims data, the highest number of amputations was reported in the manufacturing industry (n=424 for period 2000-2005).

- In 2004, Kentucky had the 11th highest musculoskeletal disease (MSD) case rate in the nation involving days away from work. Kentucky's MSD incidence rate was 41% above the national incidence rate. The highest number of cases was in the transportation and warehousing industry and in the transportation and materials moving occupation.

- Kentucky's pneumoconiosis hospitalization rate per million residents was 7-fold higher than the US rate in the year 2003.

- The acute work-related pesticide-associated injury and illness rate for Kentucky was 56% higher than the US rate in the year 2003. Occupational pesticide exposures were due primarily to disinfectant industrial cleaners.

- Driver distraction/inattention was the primary contributing human factor for occupational motor vehicle collisions. The most common cause of injury in occupational motor vehicle collision Workers' Claims first reports of injury and claims was a collision or sideswipe with another vehicle. Workers' compensation claims were most frequently filed in the truck driver and sales worker occupations. The median workers' claim award for occupational motor vehicle collisions was $10,785.

- The Kentucky adult blood lead level (>25µg/dL) prevalence rate was 11.4 cases per 100,000 employed persons, 58% above the average state rate of 7.2µg/dL in 2005. Major lead exposures occurred in the battery manufacturing industry.

- The Kentucky industries at greatest risk for occupational injury were nursing care facilities, scheduled air transportation, and motor vehicle manufacturing. The occupations at highest risk for occupational injuries and illnesses in Kentucky for 2005 were driver/sales workers and truck drivers. The construction industry had the highest mortality risk.

- Occupational falls occurred primarily in eating places and in elementary and secondary schools. Laborers, except construction, and truck drivers were the occupations recorded most frequently in worker claims and first reports of injury.

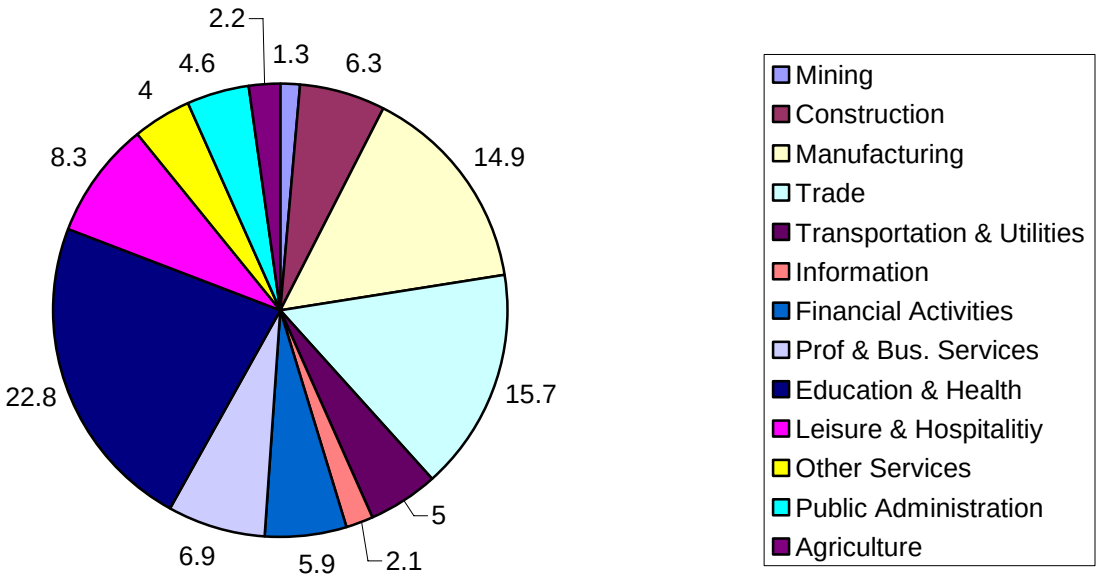
QUANTITATIVE ANALYSIS

Demographics

Profile: Employment Demographics

In 2003, 23% of Kentucky workers were employed in education and health, 16% in trade, 15% in manufacturing, 8% in leisure and hospitality, and 7% in professional and business services (Figure 1).

Figure 1. Kentucky Employment by Industry (By Percentage), 2003.



The most commonly employed occupations were professional and related (19%), service (16%), office and administrative support (14%), management, business and financial operation (13%), sales (11%), and transportation and material moving (7%).

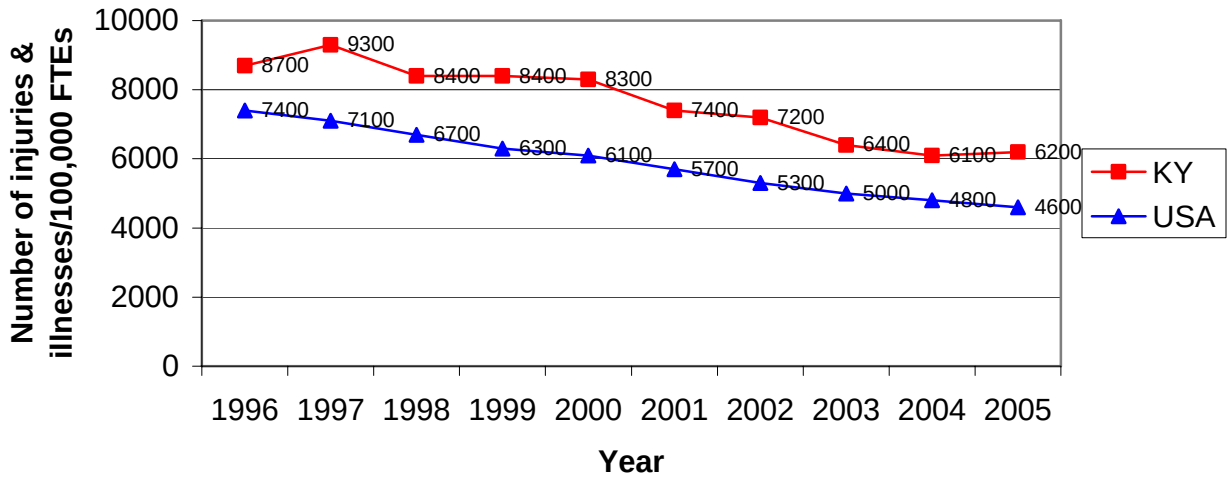
Data Source: Bureau of Labor Statistics (BLS) Geographic Profiles of Employment and Unemployment

Occupational Injuries and Illnesses Combined

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

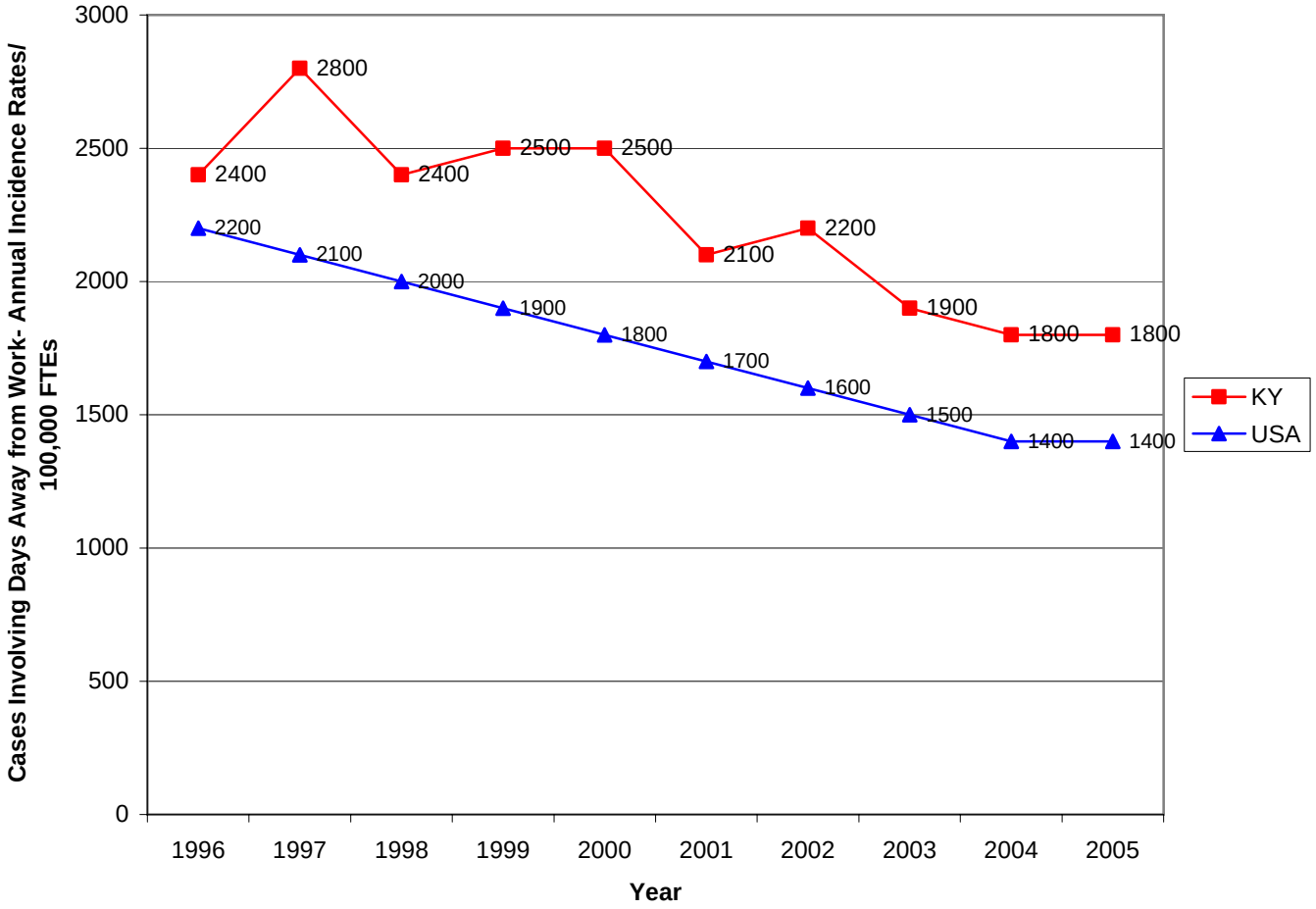
In 2005, there were 75,900 nonfatal work-related injuries and illnesses in Kentucky, an incidence rate of 6,200 per 100,000 full-time equivalent employees (FTEs). Although this rate is down 40% from the incidence rate of 8,700/100,000 recorded in 1996 (Figure 2), Kentucky is 35% above the national incidence rate of 4,600/100,000 FTEs. The estimated annual total number of cases involving more than 10 days away from work was 9,350.

Figure 2. Estimated Annual Total Work-Related Injury And Illness Incidence Rates In Kentucky (1996-2005).



The estimated annual total number of cases involving days away from work in the year 2005 was 21,900 cases with an estimated annual total incidence rate of 1800/100,000 FTEs (Figure 3), 29% above the national incidence rate.

Figure 3. Annual Incidence Rates for Cases Involving Days Away From Work in Kentucky.



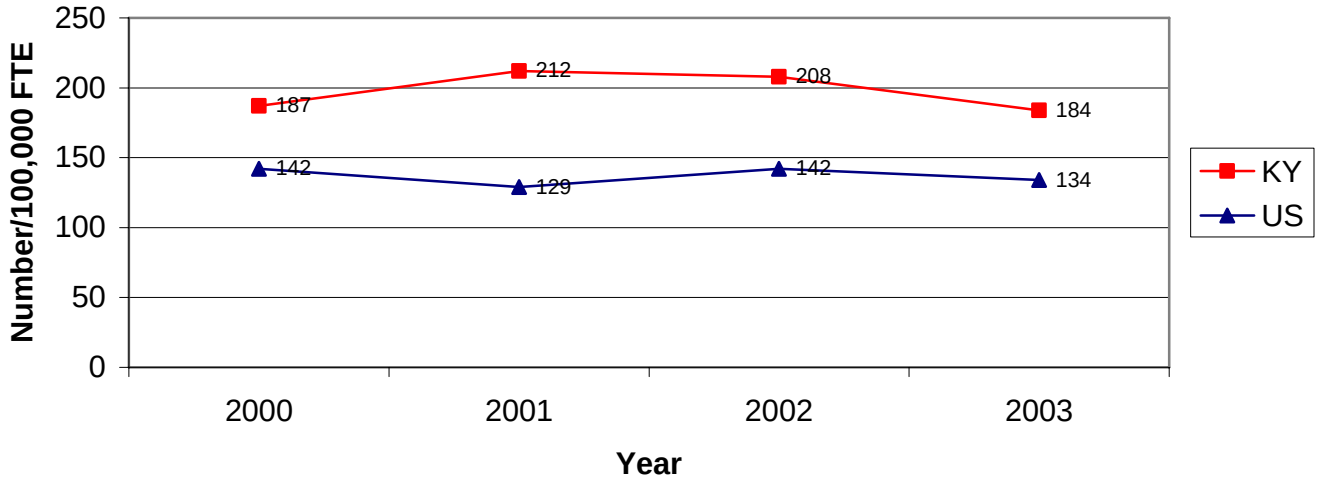
Industries with the highest nonfatal injury incidence rates in 2004 were nursing and residential care facilities (19.4 cases/100 FTE), other fabricated metal product manufacturing (19.1 cases/100 FTE), office furniture (including fixtures) manufacturing (17.5 cases/100 FTE), forging and stamping (17.5 cases/100 FTE), hospitals (17.0 cases/FTE), and motor vehicle metal stamping (15.9 cases/100 FTE).

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

Indicator #2: Work-Related Hospitalizations

In 2005, there were 3,928 work-related hospitalizations with an annual crude rate of 209 per 100,000 employed persons age 16 years and older, an increase by 12% from 187/100,000 in 2000. Kentucky work-related hospitalization rates have been consistently higher than the US work-related hospitalization rates (Figure 4).

Figure 4. Work-Related Hospitalization Rates In Kentucky Compared To U.S. Rates, 2000-2003.



Data Source: Numerator data for work-related hospitalizations was obtained from the Kentucky Department for Public Health UB92 hospital discharge data set. Denominator data was obtained from BLS Current Population Survey data. Diagnosis coding of hospitalization data was performed according to the *International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)* coding standards.

Acute and Cumulative Occupational Injuries

Indicator #3: Fatal Work-Related Injuries

Fatal occupational injuries are reported to the National Census of Fatal Occupational Injuries (CFOI) program, which records all worker deaths that occurred in Kentucky, regardless of the state where the injury occurred. The Fatality Assessment and Control Evaluation (FACE) program, a fatal occupational injury surveillance program funded by the National Institute for Occupational Safety and Health (NIOSH), records all fatal work-related injuries that occur within Kentucky's boundaries. The fatality rate for Kentucky occupational injuries increased from 7 deaths/100,000 employed in the year 2000 to 7.6/100,000 in 2004 (CFOI data). Figure 5 compares 2000-2005 fatality rates with the U.S. using FACE data. Kentucky had an occupational fatality rate 60% higher than the national occupational fatality rate in 2005. In 2005, 122 worker deaths were recorded by CFOI and 121 worker deaths were recorded by the FACE program, a fatality rate of 6.4 deaths per 100,000 workers (Table 1). Most of the worker fatalities occurred in the transportation industry and in the operators/fabricators/laborers occupational category. Motor vehicle collisions were the primary external cause of death for Kentucky workers (Figure 6).

Figure 5. Rate of Fatal Work-Related Injuries in Kentucky and U.S., 2000-2005.

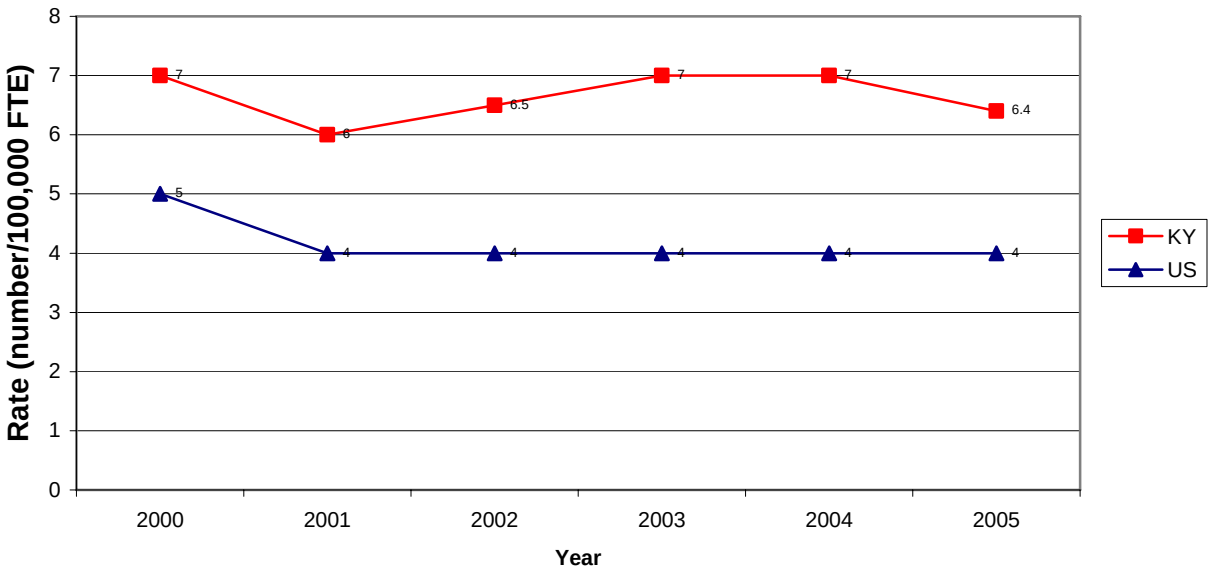


Table 1. Occupational Fatalities by Major Industry Sectors (NAICS code) – 2005. (Rates calculated per 100,000 workers[a]).

Industry[b]	# of KY Deaths[d]	KY Employment	2005 KY Fatality Rate	# of US Fatalities	US Employment	2005 US Fatality Rate[c]
Professional and Business Services	5	579,268	0.9	481	16,882,000	2.8
Agric/Forest/Fish/Hunt	21	47,811	46.0	714	2,196,923	32.5
Construction	17	83,207	20.4	1,186	7,277,000	16.3
Manufacturing	11	263,695	4.2	393	14,232,000	2.8
Mining	13	19,105	68.0	159	625,000	25.6
Other Services	7	10,771	65.0	208	5,386,000	3.9
Government	11	253,183	4.3	514	21,803,000	2.4
Trade, Transportation, and Utilities	30	368,860	8.1	1512	25,909,000	5.8
Total	121	1,878,341	6.4	5702	142,550,000	4.0

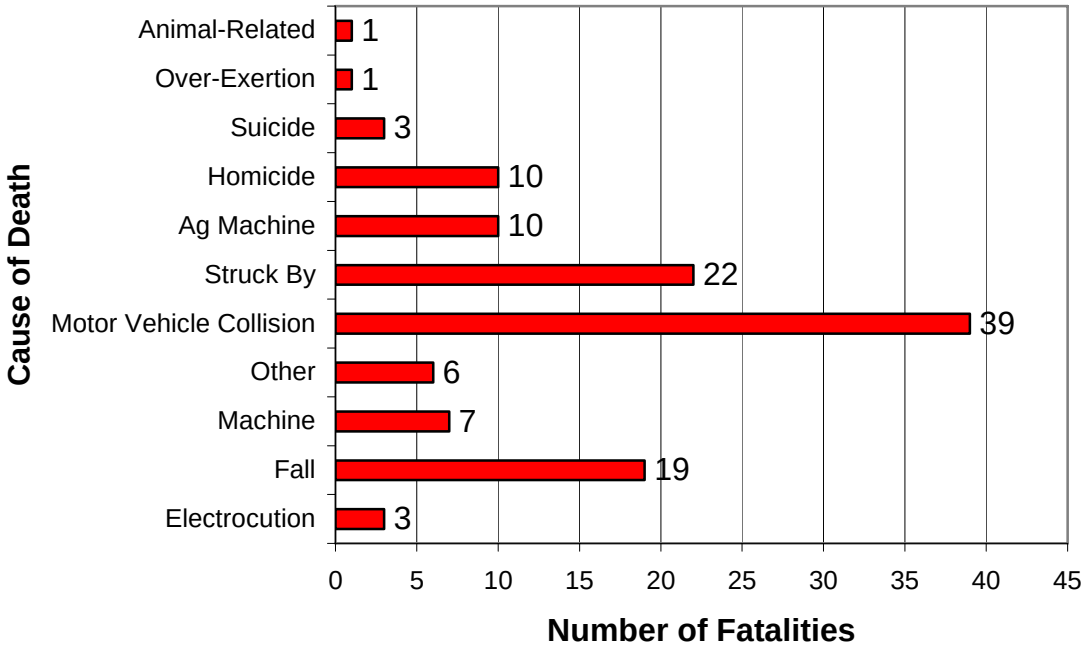
[a]Number of employed persons obtained from the Bureau of Labor Statistics and Kentucky Deskbook of Economic Statistics.

[b]Office of Management and Budget. North America Industry Classification System. 2002. Bernam Press. Lanham, MD.

[c]Census of Fatal Occupational Injuries Summary. US Dept. of Labor, Bureau of Labor Statistics, National Census of Fatal Occupational Injuries in 2005.

[d] All industries with less than 5 deaths were not included in the table.

Figure 6. Occupational Fatalities by Incident Type-2005.



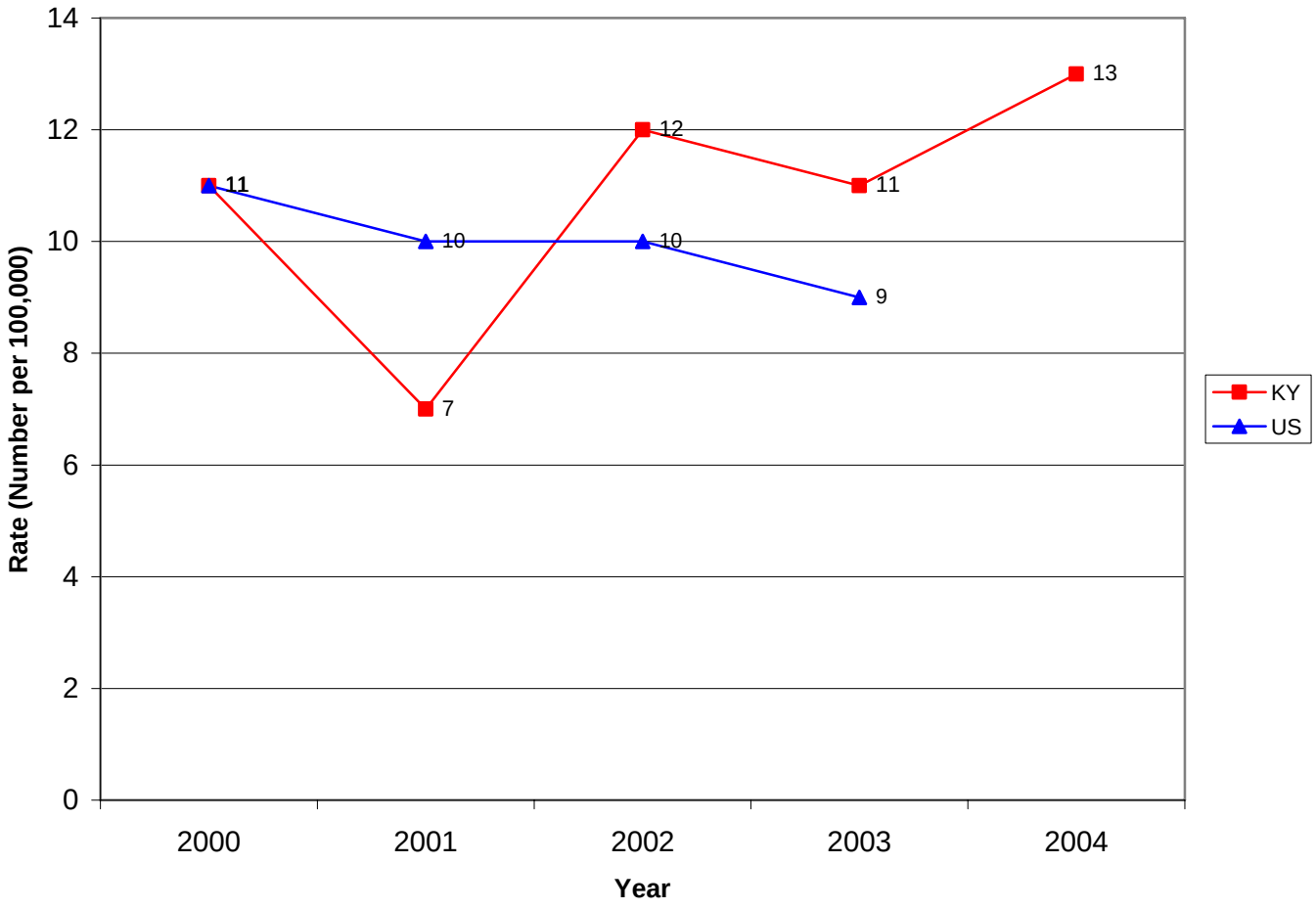
Data Source: Census of Fatal Occupational Injuries (numerator), Kentucky FACE program data (numerator), BLS Current Population Survey data (denominator).

Indicator #4: Work-Related Amputations with Days Away From Work Reported By Employers

There were 160 amputation cases with days away from work in 2004, an increase from 130 in 2003. The annual incidence rate of 13 cases per 100,000 FTEs is greater than the national amputation incidence rate of 9/100,000 (BLS SOII) in 2003 (latest available rate) (Figure 7).

The industries where most of the amputations occurred were manufacturing (28/100,000) and service (7/100,000).

Figure 7. Rate of Work-Related Amputations Involving Days Away From Work Reported by Private Sector Employers for Kentucky and U.S., 2000-2004[a].



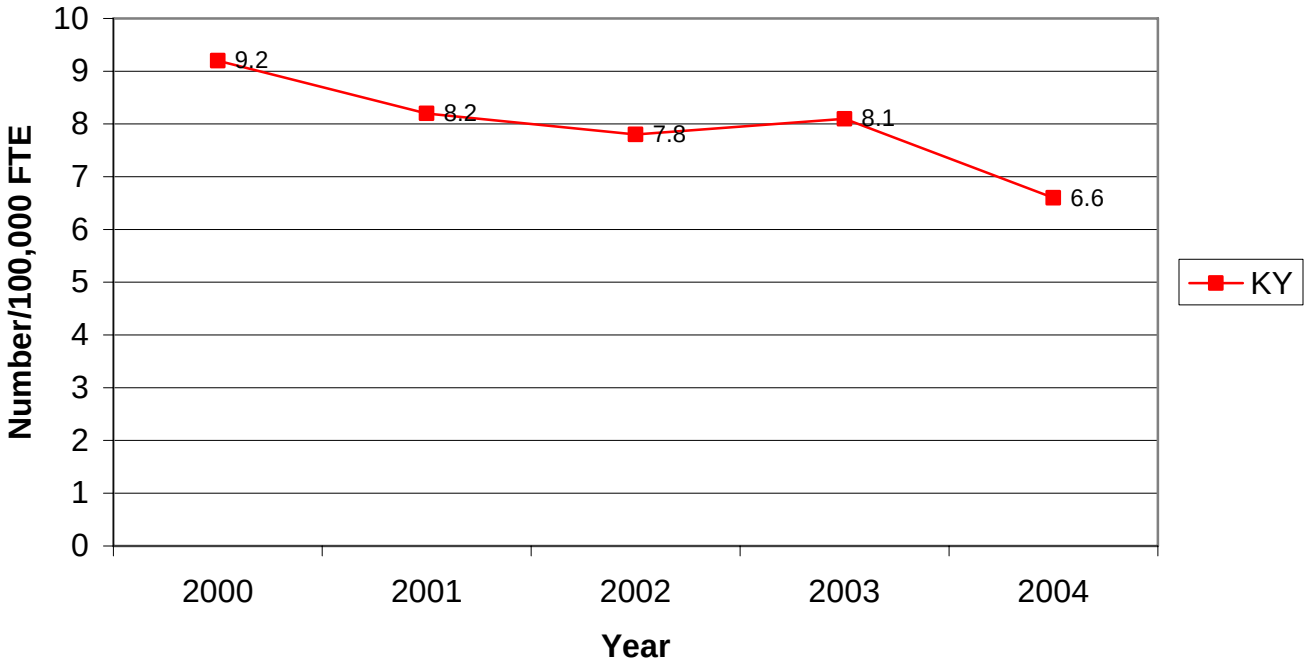
[a]U.S. rate is not available for year 2004.

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

Indicator #5: Amputation Claims Filed With the State Workers' Compensation System by Injury Year

The number of amputation injury claims filed with the Kentucky Office of Workers' Claims was lower than the number reported in the BLS SOII. In the year 2000, there were 158 claims filed with the Office of Workers' Claims and the number has decreased nearly every year: 139 claims in 2001, 130 claims in 2002, 135 claims in 2003, and 111 claims in 2004. The annual incidence rate for amputation claims decreased from 9.19 cases per 100,000 employees in 2000 to 6.58 cases/100,000 workers in 2004 (Figure 8).

Figure 8. Rate of Lost Work Time Claims for Amputations Identified in Workers' Compensation Systems for Kentucky, 2000-2004.



Using 2000-2005 data, the majority of the amputations occurred in the manufacturing (n=424), services industry (n=81), construction (n=58), retail trade (n=42), and mining industries (n= 55).

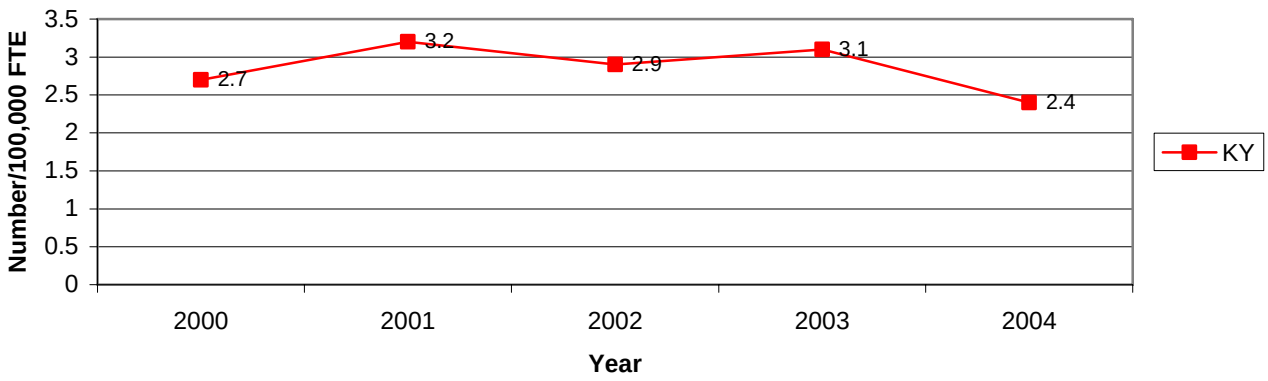
Data Source: Work-related amputation surveillance data was provided by the Kentucky Office of Workers' Claims, Frankfort, KY.

Indicator #6: Hospitalization for Work-Related Burns

There were 47 work-related burn hospitalization cases in 2005, up from 44 in 2004. The annual crude rate for work-related burn hospitalizations per 100,000 employed persons ages 16 and older was 2.35 in 2004.

Kentucky work-related burn hospitalization rates have remained steady and are shown in Figure 9.

Figure 9. Rate of Hospitalizations for Work-Related Burns for Kentucky, 2000- 2004.



Data Source: Kentucky Department for Public Health UB92 hospital discharge data.

Indicator #7: Work-Related Musculoskeletal Disorders (MSDs) with Days Away From Work Reported By Employers

In 2004, Kentucky had the 11th highest MSD injury incidence rate in the nation. Kentucky had a total annual MSD incidence rate of 622 cases/100,000 FTEs in 2004 (Table 2) compared to 452/100,000 for the US.

Table 2. Numbers and Incidence Rates for Musculoskeletal Disorders (MSDs) in Kentucky Involving Days Away From Work.

	All Musculo-skeletal Disorders		MSDS of the Neck, Shoulder and Upper Extremities		Carpal Tunnel Syndrome Cases		MSDs of the Back	
Year	*Number*	*Rate*[a]	*Number*	*Rate*	*Number*	*Rate*	*Number*	*Rate*
2004	7,490	622	2210	183	350	29	1550	129
2003	8,460	698	2600	214	400	33	4230	349
2002	10,089	850	2,407	203	275	23	5,481	462
2001	9,912	814	3,011	247	407	33	4,982	409
2000	12,732	1026	3,460	279	331	27	7,053	568

[a]Incidence rates were calculated as the number of cases per 100,000 full-time equivalents (FTEs).

Musculoskeletal disorder incidence rates and numbers were calculated according to the OSHA definition including nature-of-injury codes: 1) sprains, strains, and tears; 2) back pain and hurt back; 3) soreness, pain, hurt, except the back; 4) carpal tunnel syndrome; 5) hernia; 6) musculoskeletal system and connective tissue diseases and disorders and event codes: 1) bending, climbing, crawling, reaching, twisting; 2) overexertion and; 3) repetitive motion.

The number of nonfatal MSDs involving days away from work was calculated by age and gender (Table 3).

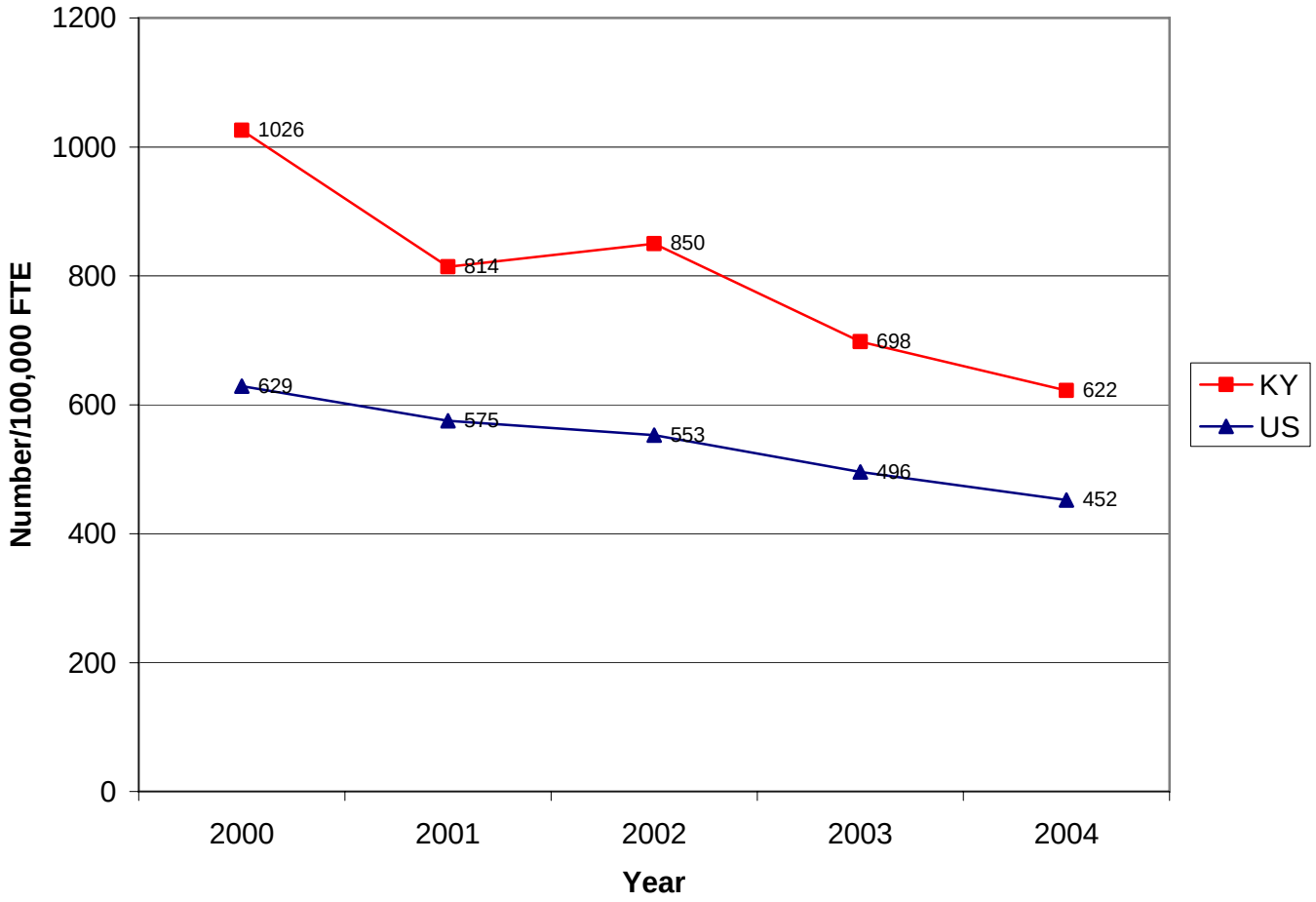
The most frequent carpal tunnel syndrome cases were in females 55-44 years old employed in production in the manufacturing industry. MSDs involving the back occurred most often in males, 25-34 years of age, employed in transportation and material moving occupations and in the transportation and warehousing industry.

Table 3. Age and Gender of Kentucky MSD Cases Involving Days Away From Work, 2005.

	# of MSDs (code 17xxxx)	# of Carpal Tunnel Syndrome Cases (code 1241XX)	# of MSDS of the Back (code 0972XX)
Gender:			
Male	60	40	210
Female	100	80	70
Age:			
20-24	-	-	30
25-34	40	-	100
35-44	70	20	80
45-54	30	30	30
55-64	-	40	30
Occupation:			
Service	-		60
Sales	-		20
Office & Admin. Support	20	20	
Construction	--		20
Installation, Maintenance, Repair	-		20
Production	100	70	50
Transportation & Material Moving	20	20	110
Industry:			
Natural Resources & Mining	-		20
Construction	-		20
Manufacturing	120	80	60
Transportation & Warehousing	-		120
Healthcare & Social Assistance	-		40

Kentucky MSD incidence rate was 38% above the national rate (Figure 10) in 2004.

Figure 10. Rate of all Work-Related Musculoskeletal Disorders Involving Days Away From Work Reported by Private Sector Employers for Kentucky and U.S., 2000-2004.



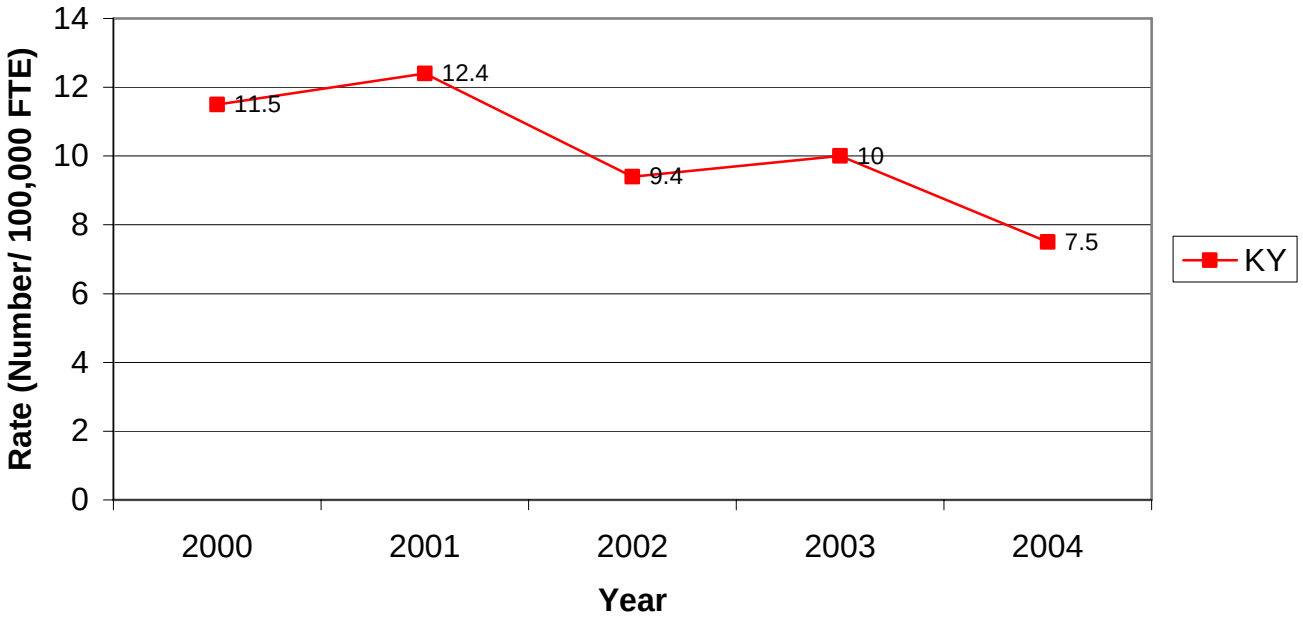
*__NOTE__: Indicator values were developed using the revised OSHA definition of Musculoskeletal Disorders.

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

In 2004, there were 126 claims filed with an annual incidence rate of 7.5 CTS cases per 100,000 workers; rates have declined since the year 2000 (Figure 11).

Figure 11. Rate of Lost Work-Time Claims for Carpal Tunnel Syndrome Cases Identified in State Workers' Compensation Systems for Kentucky, 2000-2004.



CTS claims occurred primarily in motor vehicle parts and accessories (n= 37), plastic products, NEC (n= 24), elementary and secondary schools (n=23), eating places (n= 21), and motor vehicles and car bodies (n=19) industries for the years 2000-2005. Most of the CTS cases were reported in miscellaneous machine operators (n=119), assemblers (n=70), laborers except construction (n=63), textile sewing machine operators (n=41), and administrative support occupations NEC (n=21) for the same time period. The majority of the cases were caused by repetitive motion (n=879).

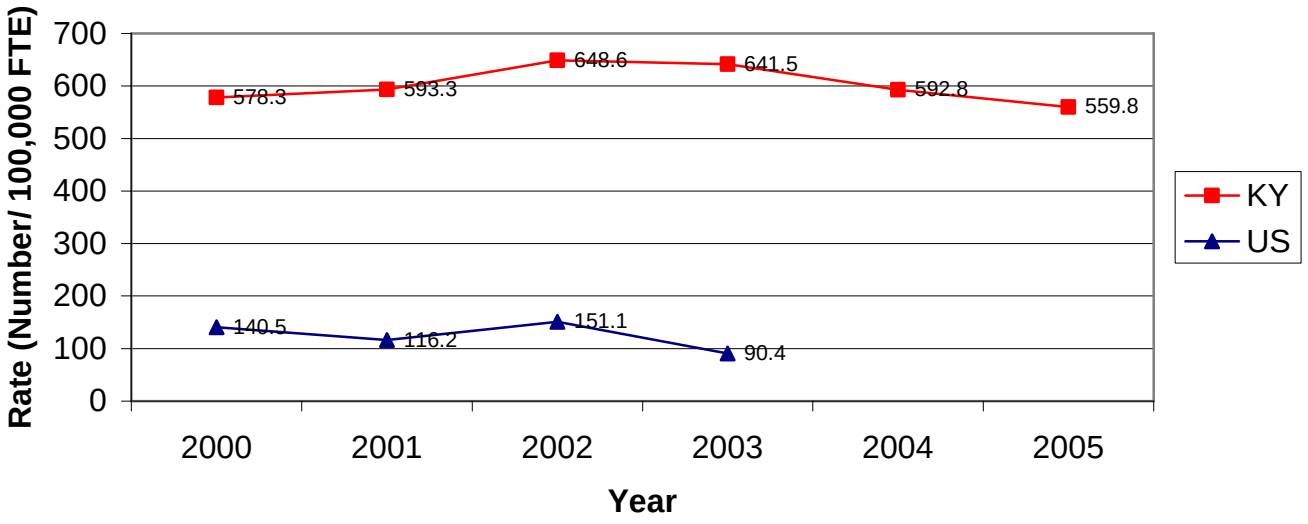
Data Source: Carpal tunnel syndrome claims data was provided by the Kentucky Office of Workers' Claims, Frankfort, KY.

Occupational Illnesses

Indicator #9: Hospitalization From or With Pneumoconiosis

The annual rate of pneumoconiosis hospitalizations per million residents in Kentucky decreased from an age-standardized rate of 578/million residents in 2000 to a rate of 560/million residents in 2005 (Figure 12). Kentucky's pneumoconiosis hospitalization rate is 7-fold higher than the U.S. rate.

Figure 12. Age-Standardized Rate of Hospitalizations From or With Total Pneumoconiosis for Kentucky and the U.S., 2000-2005[ab].



[a] The above rates are based on the number of hospitalizations and not the number of people who were hospitalized. The actual number of people hospitalized would be expected to be less.
[b]U.S. rates are not yet available for years 2004-2005.

Coal Workers' Pneumoconiosis

Table 4 shows the number of hospitalizations and the annual age-adjusted coal workers' pneumoconiosis hospitalization rate per million residents in 2005. The age-adjusted rate was 475 hospitalizations/million residents, the lowest rate recorded since the year 2000. This rate is more than 15 times the national rate of 30.3 and reflects the morbidity associated with the state's coal mining industry.

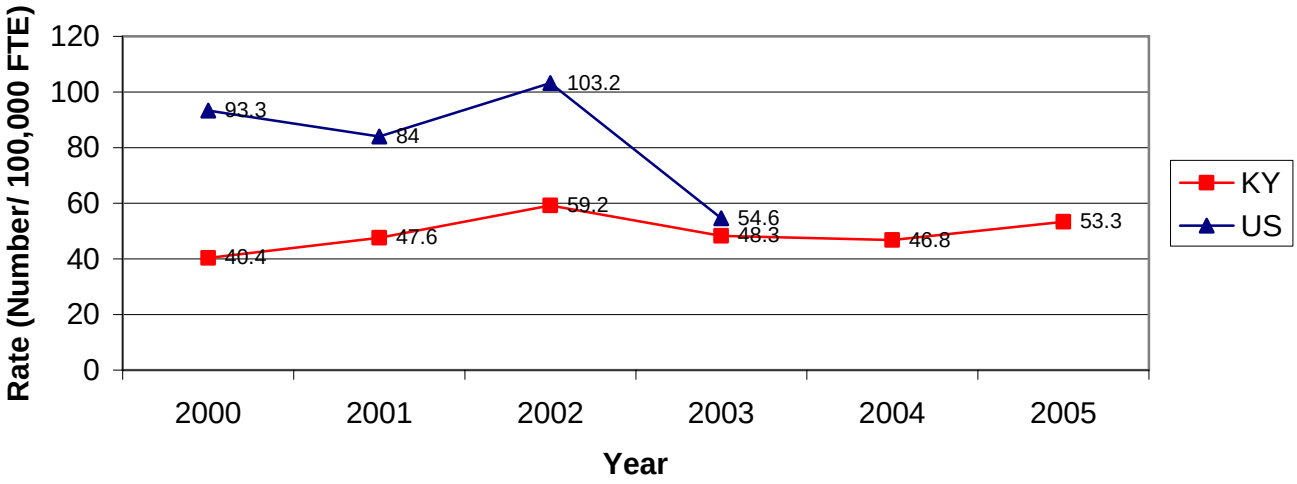
Table 4. Annual Age-Adjusted Coal Workers' Pneumoconiosis Hospitalization Rates per Million Residents in Kentucky (2000-2004).

Year	Age-Adjusted Rate
2000	**486**
2001	**494**
2002	**541**
2003	**555**
2004	**516**
2005	**472**

Asbestosis

The age-adjusted asbestosis hospitalization rate was lower than the national rate (48.3 per million residents in Kentucky compared to 55 per million for the U.S.) in 2003 (Figure 13).

Figure 13. Age-Standardized Rate of Hospitalizations from or with Asbestosis for Kentucky and the U.S., 2000-2005[a].



[a]U.S. rates are not yet available for years 2004-2005.

Silicosis

When compared to national rates for 2003 (latest year available), Kentucky's crude silicosis hospitalization rate (14/million) was more than 3 times than the national rate (4.1/million). Table 5 shows the age-adjusted rates for silicosis hospitalizations in 2005.

Table 5. Annual Age-Adjusted Silicosis Hospitalization Rates per Million Residents in Kentucky (2000-2005).

Year	Age-Adjusted Rate
2000	**15**
2001	**12**
2002	**16**
2003	**14**
2004	**11**
2005	**11**

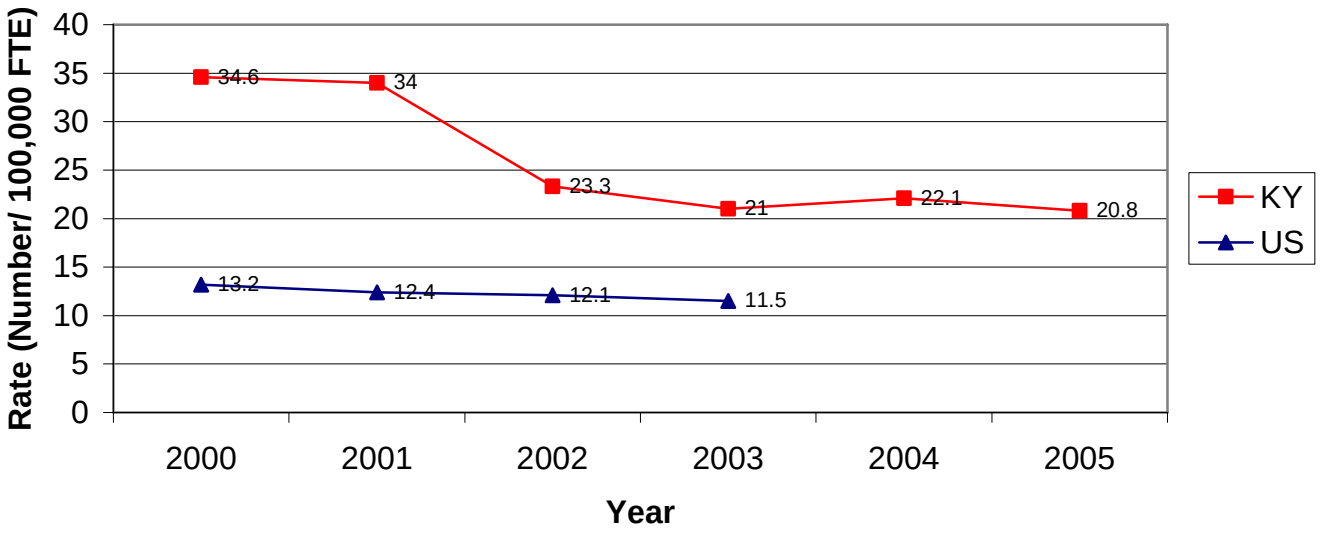
Data Source: Kentucky Department for Public Health UB92 hospital discharge data.

Indicator #10: Mortality From or With Pneumoconiosis

Deaths from pneumoconiosis numbered 68 in 2005, down from 107 in the year 2000. The age-adjusted total death rate for pneumoconiosis was 20.8 per million residents in 2005. Most of the decedents were > 75 years of age. Kentucky's total pneumoconiosis death rate was 82% higher than the U.S. in 2003 (Figure 14).

Figure 14. Age-Standardized Mortality Rate From or With Total Pneumoconiosis for Kentucky and

U.S., 2000-2005[a].



[a]U.S. rates are not yet available for years 2004 and 2005.

Coal Workers' Pneumoconiosis Deaths

In 2005, coal workers' pneumoconiosis accounted for 46 occupational deaths (age-adjusted rate of 14.2/million); most deaths were in the 84+ year old range. This rate is decreased from the 73 deaths reported in 2000 (age-adjusted death rate of 23.6 per million residents).

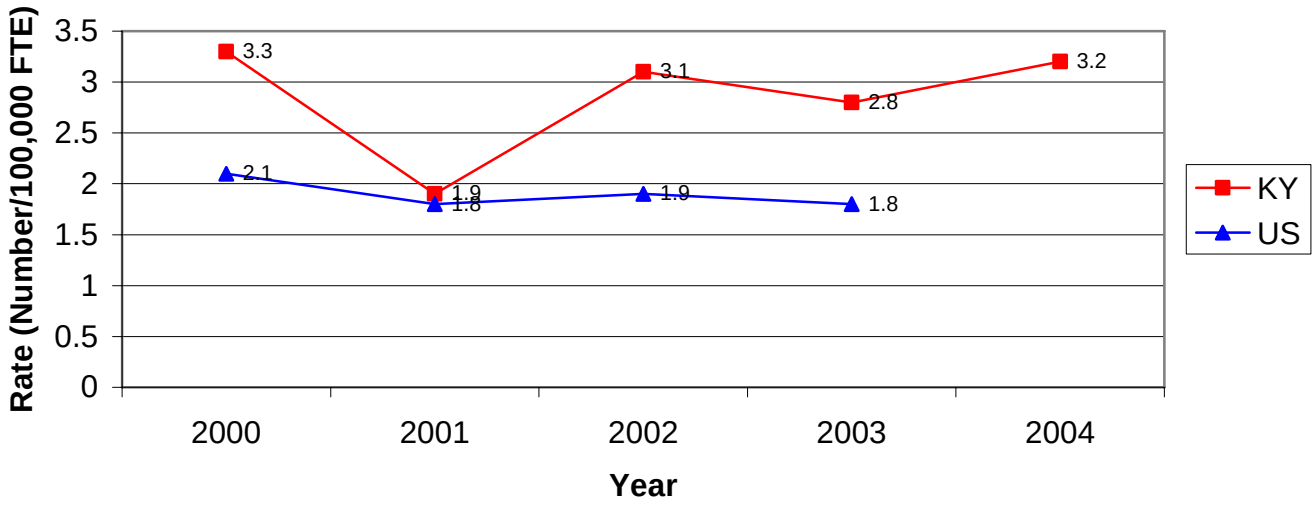
Data Source: Pneumoconiosis mortality data was obtained from the Kentucky Department for Public Health Office of Vital Statistics.

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

In 2005, 45 pesticide poisoning cases were reported to the Kentucky Regional Poison Control Center compared to 59 cases in 2004, 51 in 2003, 57 in 2002, 36 in 2001 and 63 cases in 2000. The annual incidence rate of reported work-related pesticide poisonings per 100,000 employed persons age 16 years or older in 2004 was 3.2, increased from 3.1/100,000 in the year 2002. When examining 2005 reports, the primary pesticide exposures were to disinfectant industrial cleaners (n=13, 29%), hypochlorite disinfectant (n= 5, 11%), and other/unknown disinfectants (n=7, 16%). Sixty-two percent of the acute work-related pesticide-associated illnesses and injuries were in women. Most of the exposed workers were 20-29 years of age (n=9). Many of the pesticide-related illnesses and injuries resulted in a minor effect (n=31) when medical outcomes were determined. Five people had moderate effects. Twenty-four people were medically treated and released for pesticide-related illnesses and injuries.

When compared to the national rate for the year 2003, Kentucky's work-related pesticide-associated poisoning rate is 56% greater than the national rate of 1.8 cases per 100,000 (Figure 15).

Figure 15. Rate of Work-Related Pesticide-Associated Poisonings for Kentucky and U.S., 2000-2004[a].



[a]U.S. rate is not yet available for the year 2004.

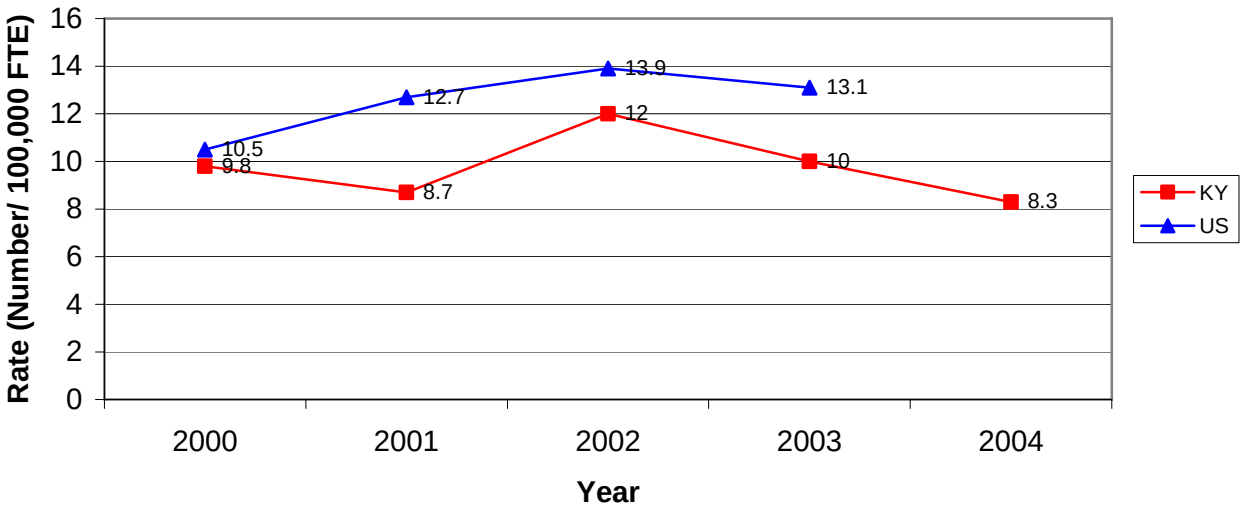
The numbers reported by the Kentucky Regional Poison Control Center (KRPCC) differ from the numbers reported by the American Association of Poison Control Centers. The KRPCC numbers exclude cases when the exposure reason is suspected suicide, intentional abuse, intentional action but specific intention unknown, malicious, or unknown.

Data Source: Work-related pesticide poisoning data was obtained from the Kentucky Regional Poison Control Center, Louisville, KY.

Indicator #12: Incidence of Malignant Mesothelioma

Malignant mesothelioma annual incidence rates were determined for 2004. Sixty-four percent of the cases were in males. The age-adjusted rate was 8.3 cases per million residents (28 cases) in 2004, compared to 10.0 cases per million in 2003. The 2003 rate was below the national rate of 13.1 cases per million residents (Figure 16).

Figure 16. Age-Standardized Incidence Rate of Malignant Mesothelioma for Kentucky and the U.S., 2000-2004[a].



[a]U.S. rate is not yet available for the year 2004.

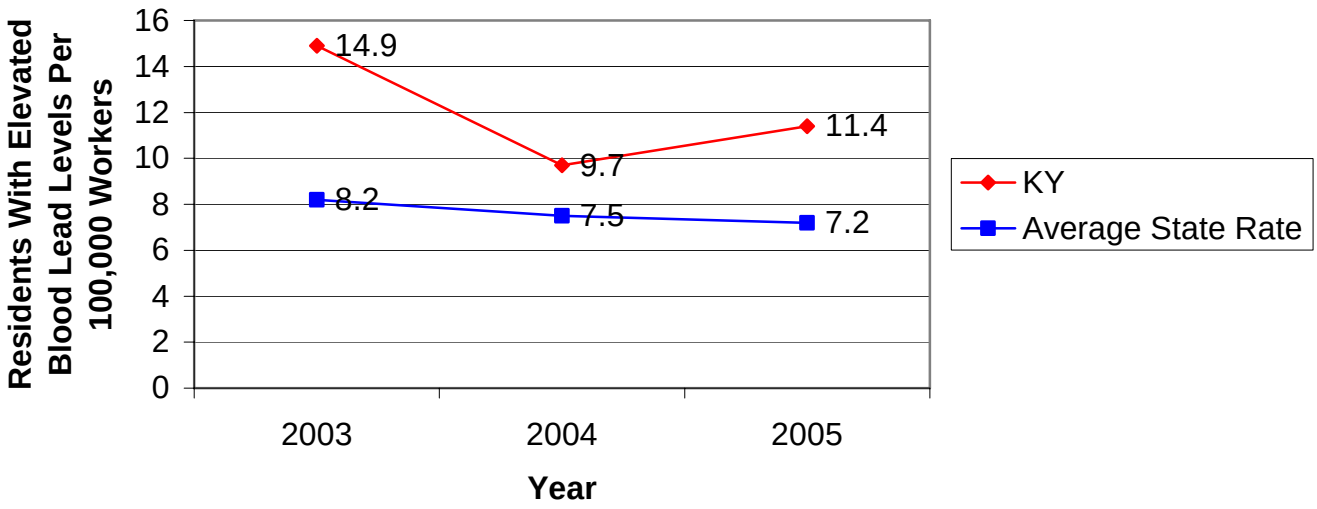
Data Source: Malignant mesothelioma case data was provided by the Kentucky Cancer Registry.

Occupational Exposures

Indicator # 13: Elevated Blood Lead Levels among Adults

Exposure of adults to lead is primarily through occupational contact, such as in bridge painting and battery manufacturing. Lead exposure is considered elevated in the adult when it reaches 25 µg/dL. In 2005, Kentucky's prevalence rate of persons with blood lead levels ≥ 25µg/dL was 11.4 cases per 100,000 workers; there were 1.5 cases per 100,000 workers with 40µg/dL blood lead levels. Figure 17 shows Kentucky's blood lead level rates in relation to the average state rate. The Kentucky adult elevated blood lead level (>25µg/dL) prevalence rate was 11.4 cases per 100,000 employed persons, 58% above the average state rate of 7.2µg/dL.

Figure 17. Prevalence Rate of Persons with Blood Lead Levels ≥ 25µg/dl of Persons Age 16 Years or Older for Kentucky and the Average State Rate, 2003-2005.



Lead exposures occurred primarily in the battery manufacturing (98%) (n=153) industry in the year 2005.

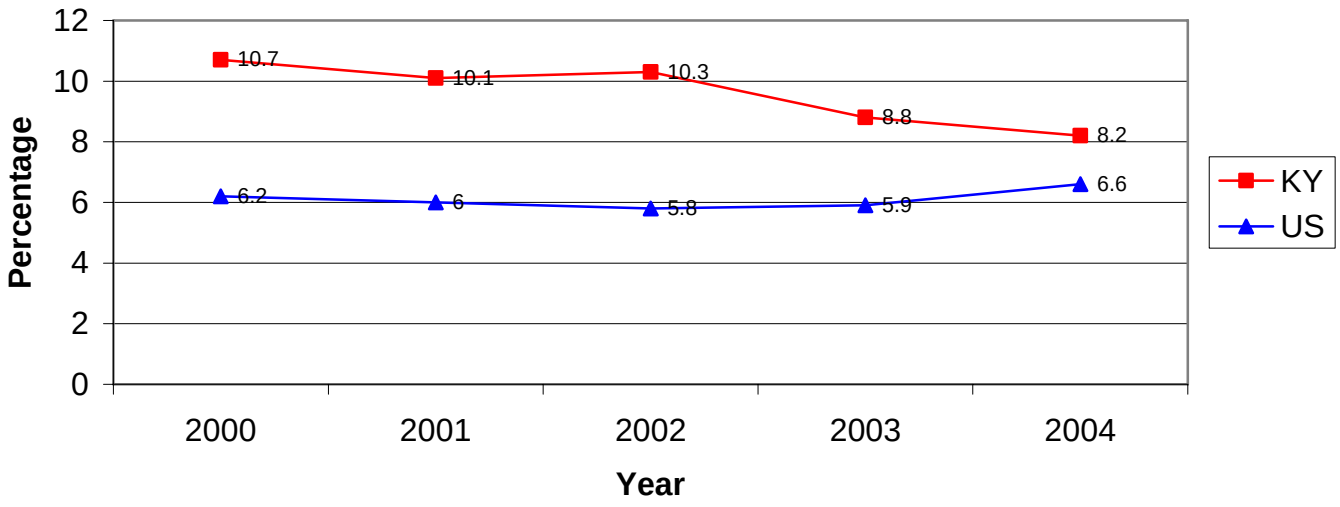
Data Source: Adult blood lead level data was obtained from the Kentucky Adult Blood Lead Epidemiology and Surveillance (ABLES) program located in the Kentucky Lead Poisoning Prevention Program, Division of Adult and Child Health, Frankfort, KY. US rates were obtained from "Adult Blood Lead Epidemiology and Surveillance --- United States, 2003—2004", MMWR August 18, 2006 / 55(32); 876-87, and Robert Roscoe, personal communication.

Occupational Hazards

Indicator #14: Percentage of Workers Employed in Industries at High Risk for Occupational Morbidity

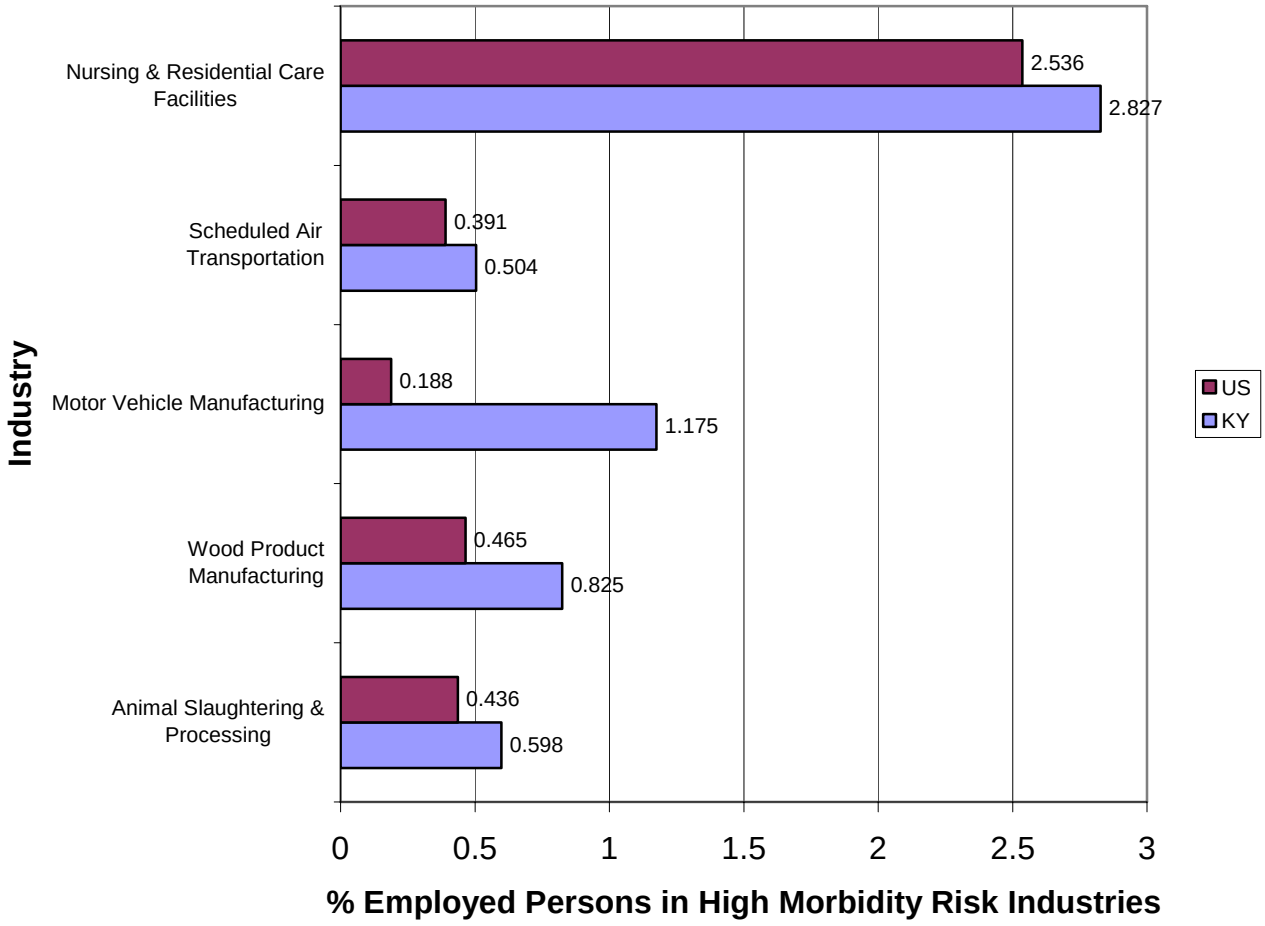
The percentage of Kentucky workers employed in high-risk industries for the years 2000-2004 was higher than the percentage of US workers employed in such industries (Figure 18).

Figure 18. Percentage of Workers in Industries with High Risk for Occupational Morbidity for Kentucky and the US, 2000-2004.



The Kentucky industries at greatest risk for occupational injury were nursing care facilities, scheduled air transportation, and motor vehicle manufacturing (Table 20). Figure 19 shows the percentage of workers employed in the highest morbidity risk industries in KY compared to the US.

Figure 19. Percentage of Workers in Highest Morbidity Risk Industries in Kentucky and US, 2004.

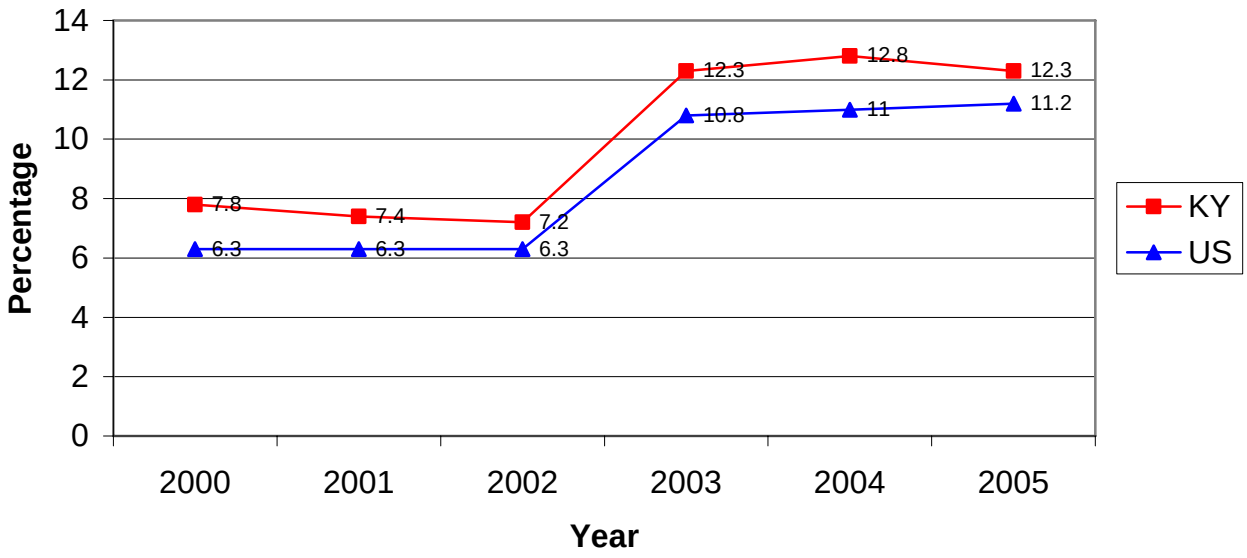


Data Source: Bureau of the Census County Business Patterns (CBP)

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

The proportion of Kentucky workers employed in occupations at increased risk for occupational injury and/or illness in 2005 was 12.3%, 10% above the national percentage in high risk occupations (Figure 20).

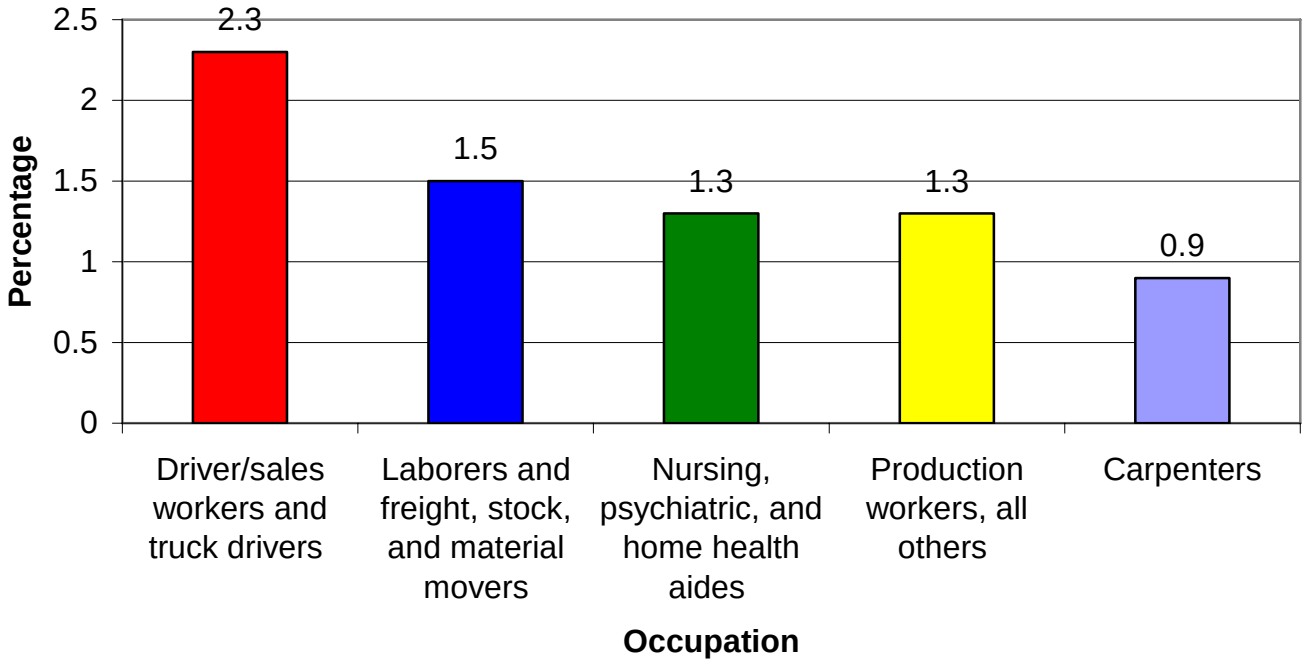
Figure 20. Percentage of Workers in Occupations with High Risk for Occupational Morbidity by State and U.S., 2003[a].



[a] Selected high-risk occupations changed in 2003. The same definitions were used for both Kentucky and the US.

The occupations at highest risk for occupational injuries and illnesses in Kentucky in 2005 were 1) driver/sales workers and truck drivers (2.33%); 2) laborers and freight, stock, and material movers (1.52%); 3) nursing, psychiatric, and home health aides (1.31%); 4) production workers, all others (1.25%); and 5) carpenters (0.94%) (Figure 21). The list of high-risk occupations can be found at the following website: http://www.kiprc.uky.edu/projects/KOSHS/index.html

Figure 21. Occupations at High Risk for Occupational Injuries and Illnesses in Kentucky, 2005.



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

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

Almost 15% of Kentucky's workers were employed in high mortality-risk industries and 11.5% were employed in high mortality risk occupations in 2005. The percentage of Kentucky workers employed in industries at high risk for occupation mortality was 4% higher than the national percentage in 2005 (Figure 22). Additionally, the percentage of Kentucky workers employed in occupations at high risk for occupational mortality was 10% higher than the national percentage (Figure 23). The industries at highest risk for occupational mortality in 2005 were 1) construction (7.5%); 2) animal production (1.7%); 3) truck transportation (1.2%); coal mining (0.8%); and 5) crop production (0.6%).

Figure 22. Percentage of Workers Employed in Industries with High Risk for Occupational Mortality in Kentucky, 2000-2005.

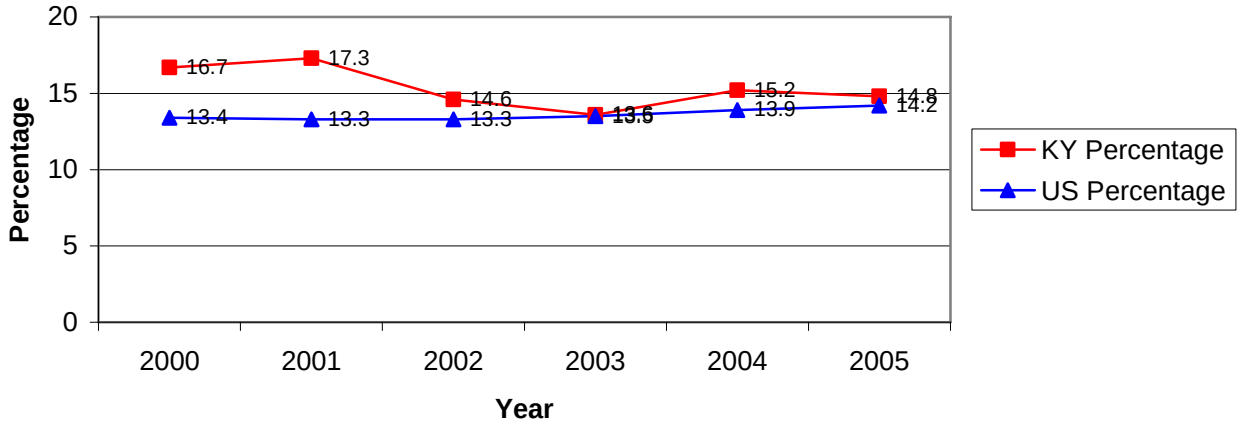
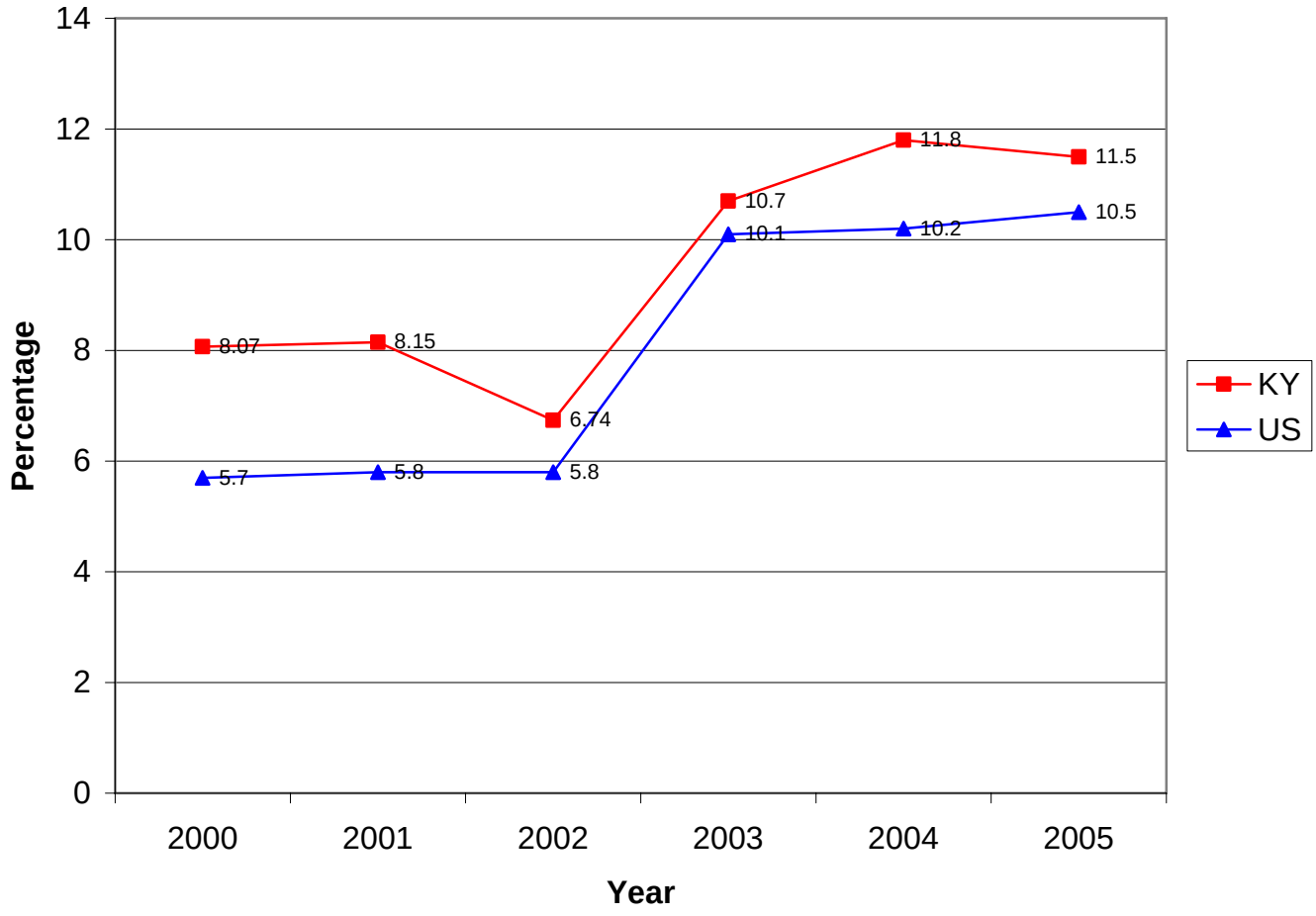


Figure 23. Percentage of Workers Employed in Occupations with High Risk for Occupational Mortality in Kentucky, 2000-2005.



In 2005, the occupations at highest risk for occupational mortality were 1) driver/sales workers and truck drivers (2.33%); 2) farmers and ranchers (1.31%); 3) construction laborers (0.85%); 4) first-line supervisors/ managers of construction trades and extraction workers (0.76%); and 5) electricians (0.73%).

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

Indicator #17: Occupational Safety and Health Professionals

Appropriately trained professionals are necessary for the development of interventions in the workplace to reduce occupational injuries and illnesses. Safety professionals include occupational medicine physicians, occupational health nurses, industrial hygienists, and safety professionals. The rates of occupational safety and health professionals in Kentucky are shown for the year 2003 (Table 6).

Table 6. Rates of Occupational Safety and Health Professionals in Kentucky, 2003.

	ABPM	ACOEM	ABOHN	AAOHN	ABIH	AIHA	BCSP	ASSE
KY rate of occupational safety and health professionals per 100,000 employed persons age 16 years or older	1.03	4.25	4.79	6.05	3.32	6.37	4.96	28.65

ABPM- American Board of Preventive Medicine
ACOEM- American College of Occupational and Environmental Medicine
ABOHN- American Board of Occupational Health Nurses
AAOHN- American Association of Occupational Health Nurses
ABIH- American Board of Industrial Hygiene
AIHA- American Industrial Hygiene Association
BCSP- Board Certified Safety Health Professionals
ASSE- American Society of Safety Engineers

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 the Private Sector

This indicator is an estimate of the level of OSHA enforcement activities in the state, including numbers of workers and the number of establishments investigated.

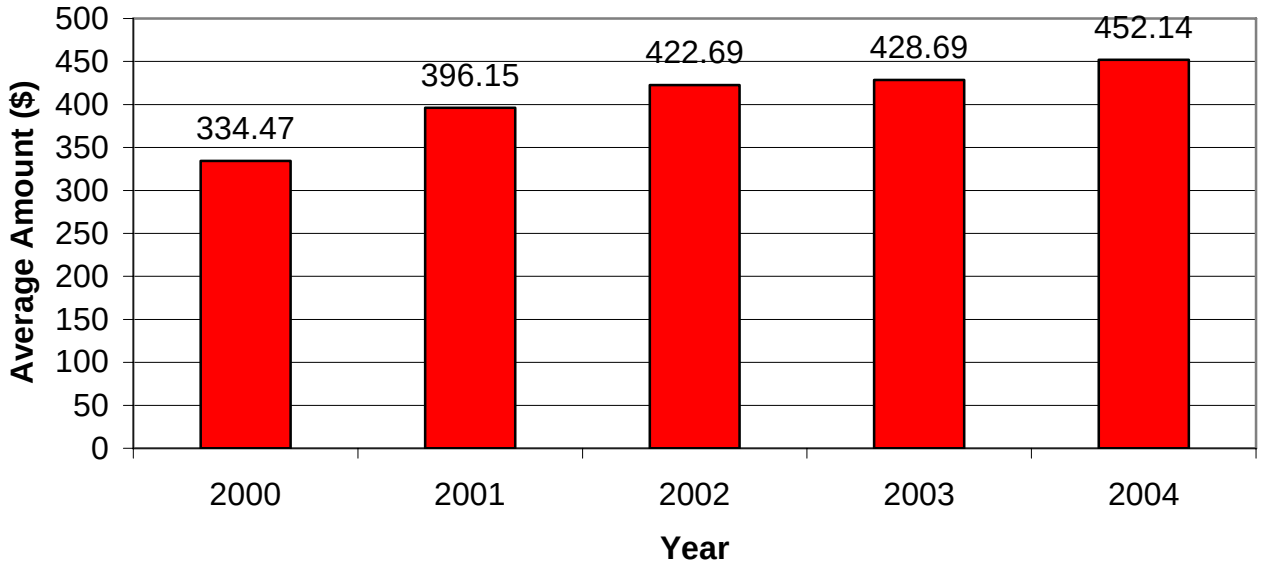
In 2004, there were 1,792 establishments inspected, a decrease from 1,827 in the year 2003. The percentage of establishments under OSHA jurisdiction inspected by OHS in 2004 was 1.72%, compared to 1.74% in the year 2003. The percentage of workers in establishments under OSHA jurisdiction whose work areas were inspected by OSHA was 5.63% in 2004, increased from 5.6% in 2003.

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

Indicator #19: Workers' Compensation Awards

Workers' compensation benefits are awarded to covered workers who suffer an occupational injury and/or occupational illness. Lost wages and medical benefits are paid through workers' compensation insurance. This indicator represents a crude estimate of the burden of occupational injuries and illnesses since not everyone is covered through workers' compensation insurance. Employee groups not covered include informal laborers, self- employed individuals, domestic and agricultural workers, federal employees, railroad workers, and longshore and maritime workers. The total amount of workers' compensation benefits paid in Kentucky in 2000 was $575,292,000; this figure has increased in every subsequent year. In 2004, the total amount of workers' compensation benefits paid was $763,050,000. The average amount of workers' compensation benefits paid per covered worker has also increased from 2000-2004 and is shown in figure 24. When comparing the average amount of workers' compensation benefits paid per worker in the US and in Kentucky, Kentucky's average amount was slightly lower ($428.7) than for the US ($438) in the year 2003.

Figure 24. Average Amount of Workers' Compensation Benefits Paid Per Worker in Kentucky, 2000-2004.



Data Source: National Academy of Social Insurance

Indicator #20 (Kentucky-Specific): Fatal and Non-Fatal Occupational Motor Vehicle Collision Injuries

In 2005, there were 13,034 occupational motor vehicle collisions (MVCs) in Kentucky, a decrease from the 13,389 occupational MVCs in 2004. Data for the years 2000-2005 are shown in Table 7.

Table 7. Unit Type Involved in Occupational Driver Motor Vehicle Collisions, 2000-2005.

Vehicle Type	2005	2004	2003	2002	2001	2000
Bus	614	600	508	459	493	531
Emergency Vehicle - In response	323	366	348	316	353	322
Emergency Vehicle - Non-response	857	851	785	789	753	735
Light truck	14	20	41	23	21	66
Military Vehicle	78	67	88	90	63	56
Other Publicly Owned Vehicle	348	523	374	311	294	540
Passenger Car	7	5	17	19	17	30
Railroad Train	*	*	*	*	0	0
School Bus	992	1014	963	977	1011	1019
Taxicab	208	218	224	267	281	322
Truck & Trailer	1459	1533	1150	1026	979	1166
Truck-Single	3334	3328	3124	3127	3334	3401
Truck Tractor & Semi-Trailer	4496	4567	4268	4077	4276	4684
Truck - Other Combination	302	295	215	215	217	306
Total Number of Vehicles	**13034**	**13389**	**12106**	**11696**	**12092**	**13178**

*: Value was suppressed because it was less than five.

There were 135 people (drivers or occupants) killed and 3,133 people injured in work-related MVCs in 2005 (Tables 8 and 9). The occupational driver motor vehicle fatality rate was 1.06/100,000 employed persons in 2005. Occupational driver motor vehicle fatality rates for 2000-2005 are shown in figure 25.

Figure 25. Occupational Motor Vehicle Fatality Rates- 2000-2005.

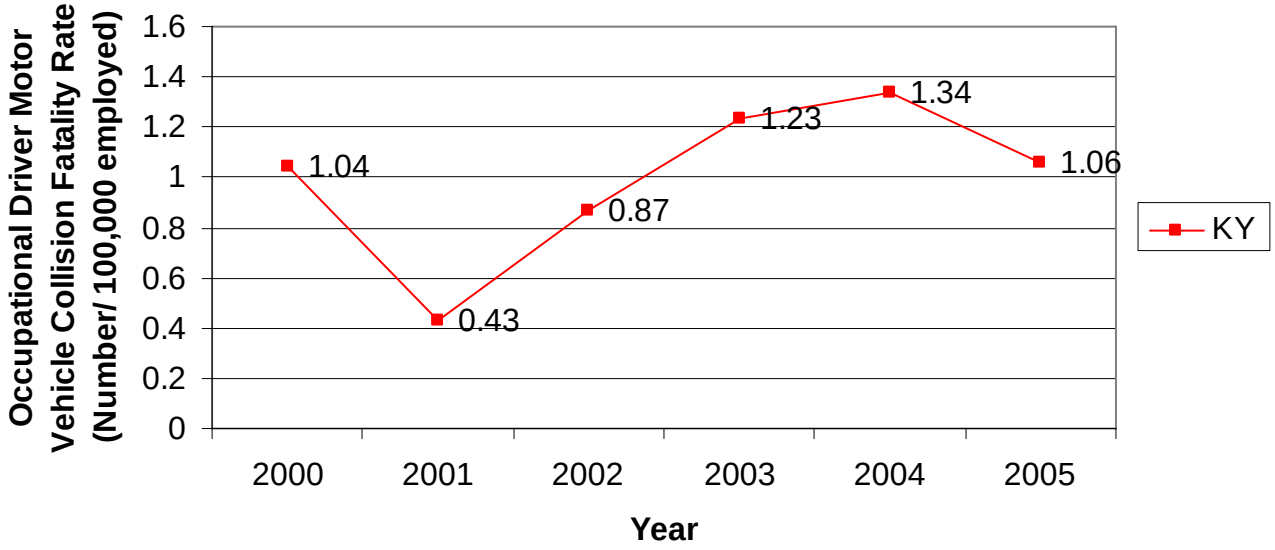


Table 8. Number Killed in Occupational Motor Vehicle Collisions, 2000-2004.

# of People Killed Per MVC	# of MVCs in 2005	Total	# of MVCs in 2004	Total
1	103	103	108	108
2	14	28	10	20
3	0	0	1	3
4	1	4	1	4
Total		**135**		**135**

Table 9. Number Injured in Occupational Motor Vehicle Collisions, 2000-2004.

Number of People Injured Per MVC	# of MVCs in 2005	2005 Total	# of MVCs in 2004	2004 Total
1	1449	1449	1540	1540
2	423	846	418	836
3	121	363	115	354
4	58	232	43	172
5	18	90	14	70
6	4	24	8	48
7	3	21	5	35
8	2	16	1	8
9	1	9	2	18
10	1	10	0	0
11	0	0	0	0
12	1	12	0	0
13	1	13	0	0
17	0	0	0	0
18	0	0	1	18
19	0	0	2	38
20	0	0	0	0
22	0	0	1	22
24	0	0	0	0
27	0	0	0	0
44	0	0	1	44
48	1	48	0	0
Total		**3133**		**3194**

Regarding the severity of occupationally-related driver injury, there were 20 deaths and 99 incapacitating injuries (Table 10) in 2005.

Table 10. Injury Severity of Occupational Driver Motor Vehicle Collisions, 2000-2004.

Injury Severity	2005	2004	2003	2002	2001	2000
Fatal	20	25	23	16	8	20
Incapacitating	99	106	103	102	121	138
Non-Incapacitating	305	343	331	335	374	399
Possible Injury	302	337	317	308	316	381
None Detected	12,242	12,509	11,264	10,620	11,038	11,485

Distraction/inattention was the primary contributing human factor in occupational motor vehicle collisions for both the working and nonworking driver (Table 13). Distraction/inattention (n=3029), misjudging clearance (n=1576), failure to yield right of way (n=528), not maintaining proper control (n=517), and following too close (n=237) were the human factors reported more often for occupational drivers involved in MVCs (Figures 26 and 27) compared with nonoccupational drivers involved in occupational motor vehicle collisions. Nonuse of safety belts was recorded in approximately 4% of the collision reports for occupational drivers and in 7% of the collision reports for the nonoccupational drivers.

Figure 26. Human Factors Involved in Occupational Motor Vehicle Collisions, 2005.

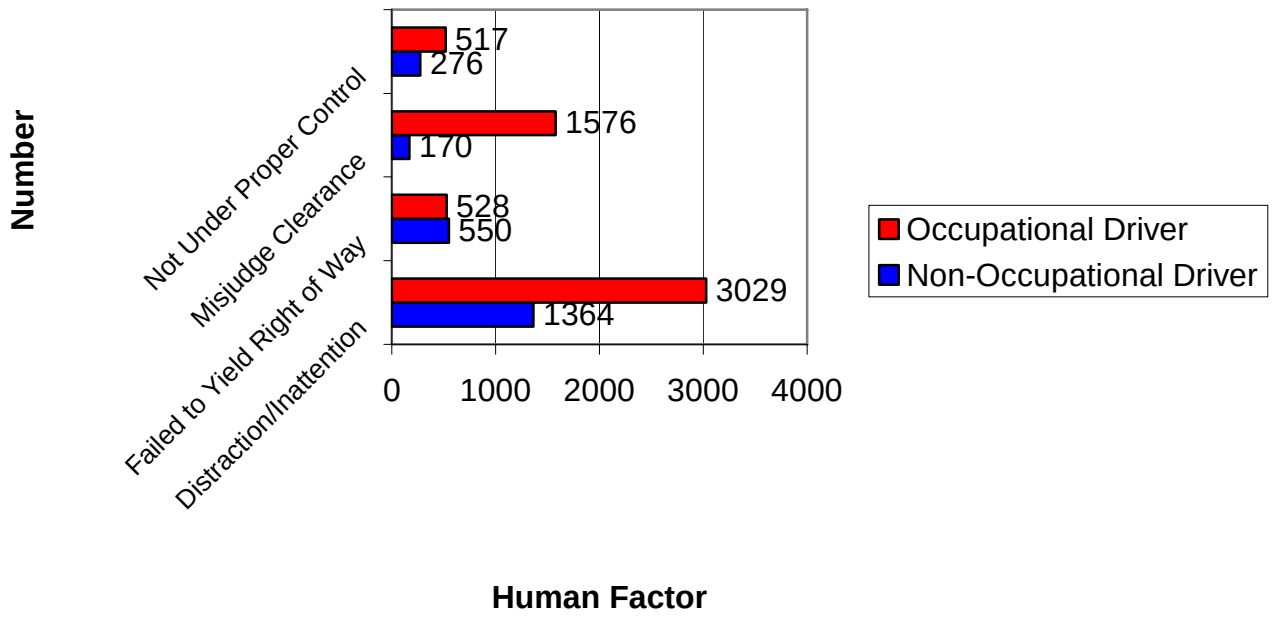
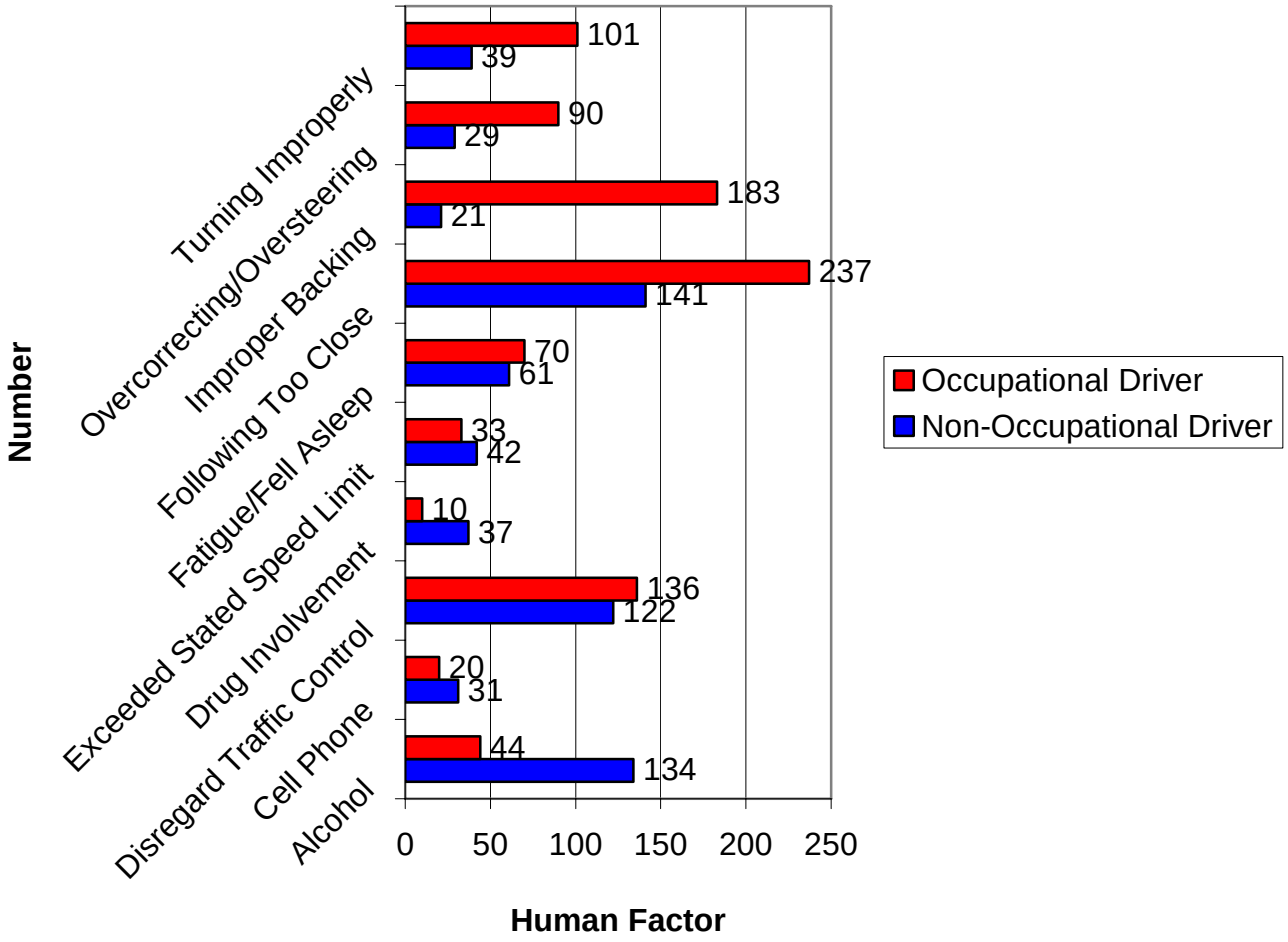


Figure 27. Other Human Factors Involved in Occupational Motor Vehicle Collisions, 2005.



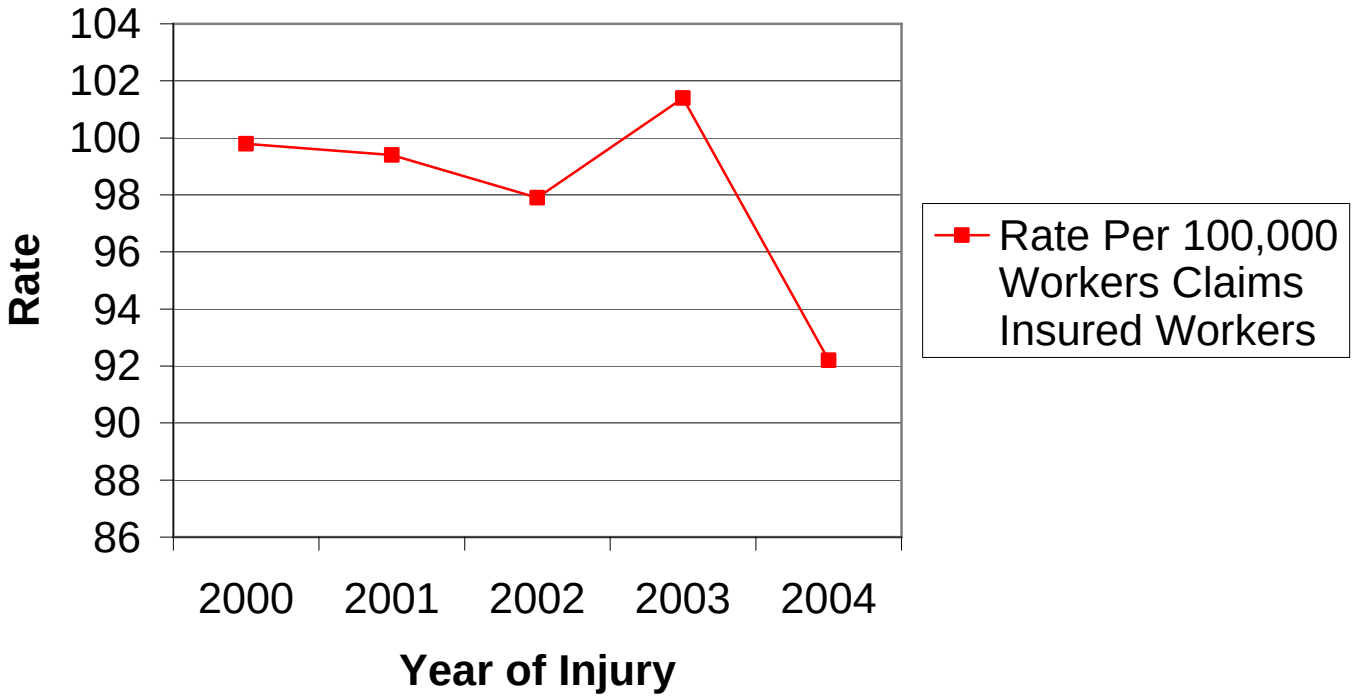
Data Source: Motor vehicle collision surveillance data was obtained from the Collision Report Analysis for Safer Highways (CRASH) database established and maintained by the Kentucky State Police.

SPECIAL TOPICS

Indicator #21 (Kentucky- Specific): Occupational Motor Vehicle Collisions- First Reports of Injury and Claims Filed With Workers' Claims by Injury Year

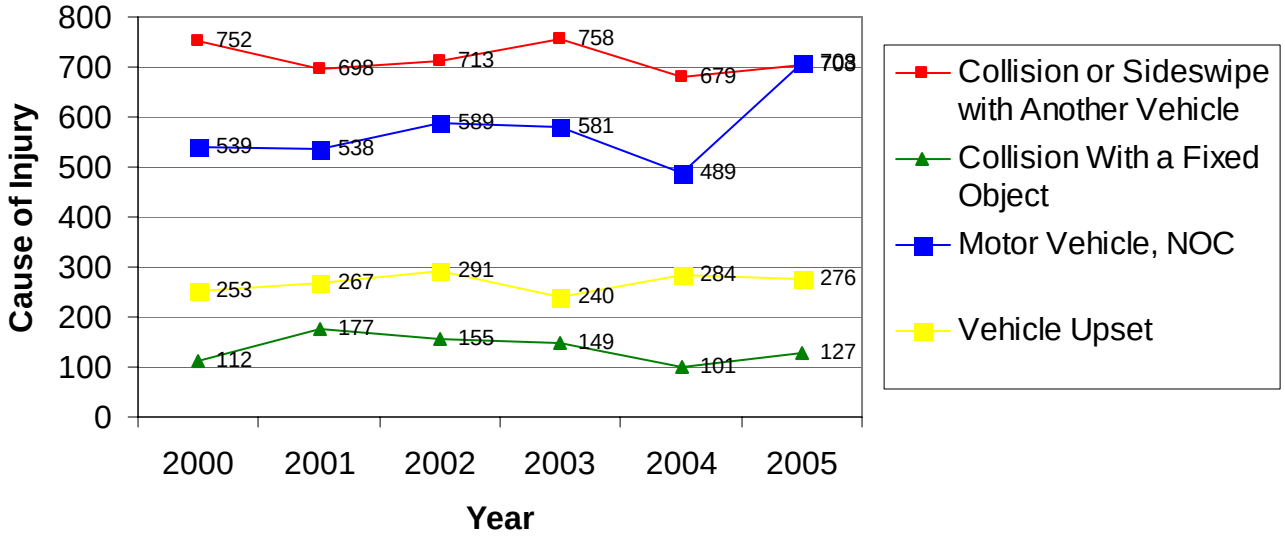
In the year 2000, the occupational motor vehicle collision driver injury rate was 99.8/100,000 workers' claim- insured workers. In the year 2004, the rate decreased to 92.2/100,000 workers' claim- insured workers (figure 28).

Figure 28. Occupational Motor Vehicle Collision Driver Injury Rates, 2000-2004.



The cause of injury in occupational motor vehicle collision reports and claims was primarily a collision or sideswipe with another vehicle (Figure 29).

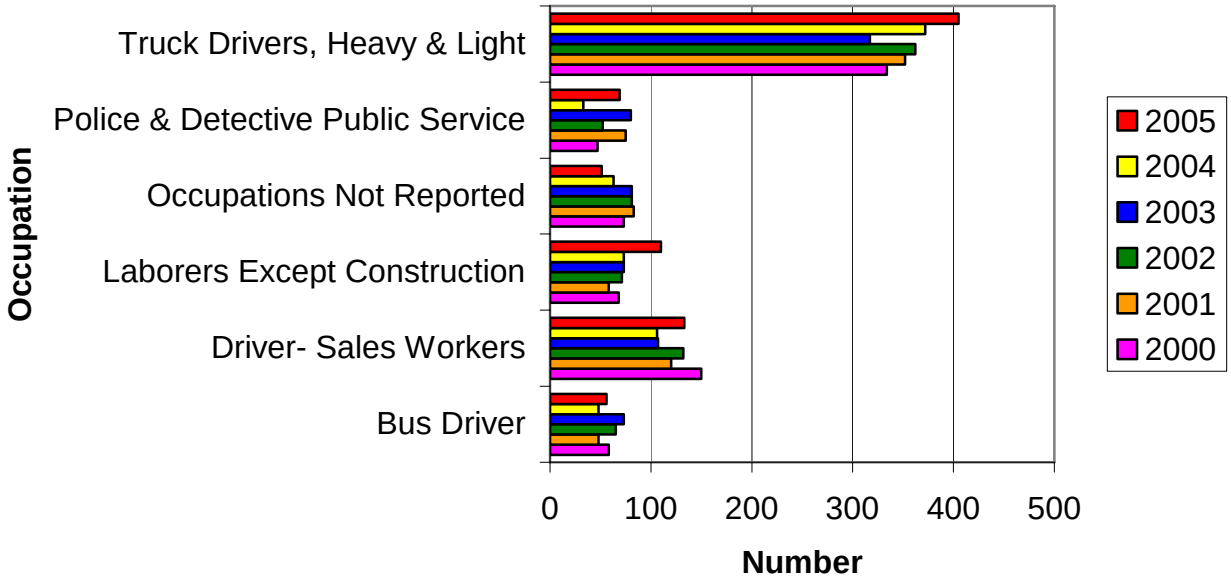
Figure 29. Cause of Injury in Occupational Motor Vehicle Collisions, 2000-2005[a].



[a] "Vehicle upset" refers to a vehicle that overturns or jack-knifes

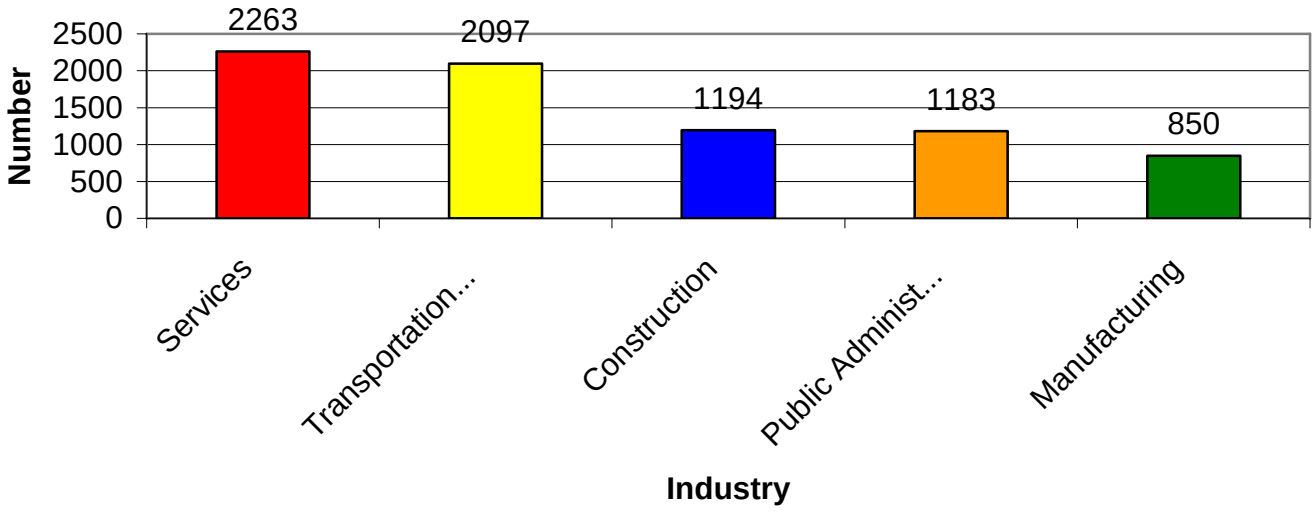
The top ten occupations for which motor vehicle collision workers' first reports of injury and claims were filed from 2000-2005 are shown in Figure 30. The primary occupations were truck drivers (heavy and light) (n= 2142), driver- sales worker (n=748), and laborers, except construction (n=453). The number of claims filed has increased every year for heavy and light truck drivers.

Figure 30. Occupational Motor Vehicle Collision First Reports of Injury and Claims Filed With Workers' Claims by Occupation, 2000-2005.



The industries by Standard Industrial Classification (SIC) code where most of the occupational motor vehicle collisions occurred were services, transportation/ public utilities, and construction (Figure 31).

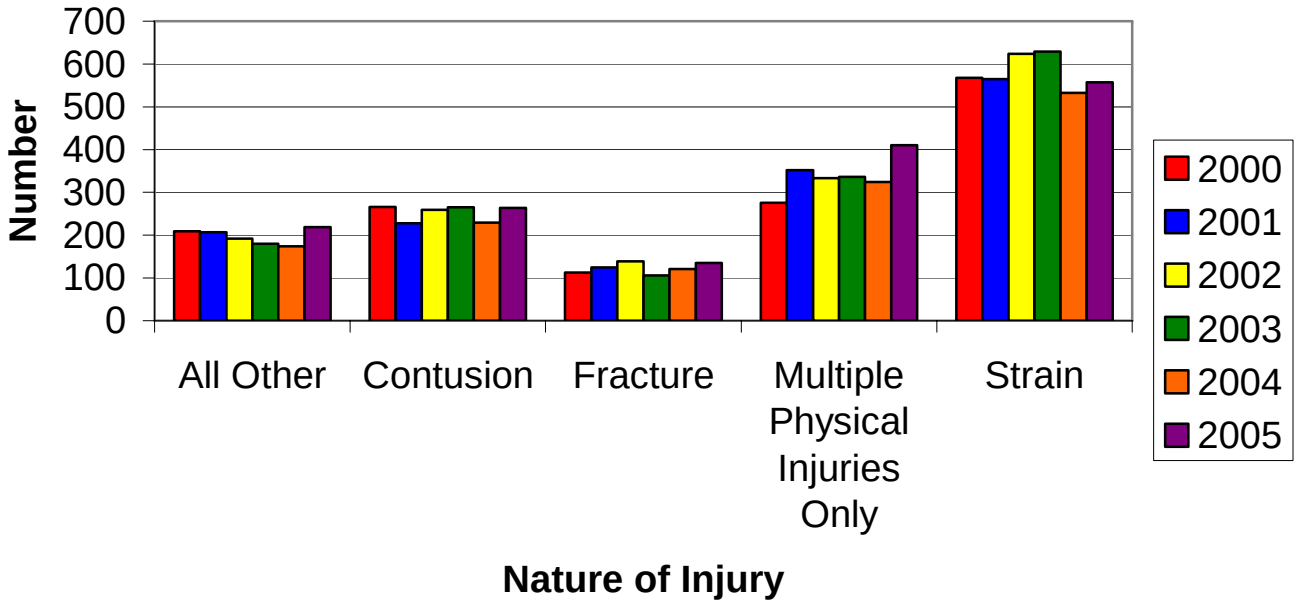
Figure 31. Occupational Motor Vehicle Collision First Reports of Injury and Claims Filed With Workers' Claims by Industry, 2000-2005.



Strains, multiple physical injuries, and contusions were frequently suffered by workers involved in motor

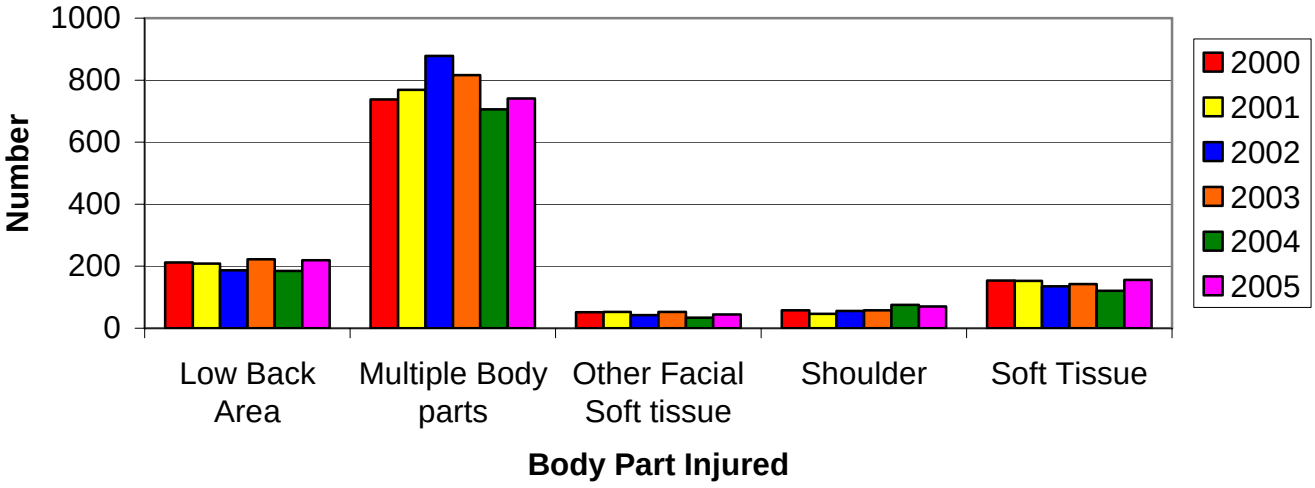
vehicle collisions (Figure 32).

Figure 32. Occupational Motor Vehicle Collision First Reports of Injury and Claims Filed With Workers Claims by Nature of Injury, 2000-2005.



Workers injured multiple body parts and the low back area most frequently when involved in motor vehicle collisions. The numbers for the most common body parts injured remained steady over the years 2000-2005 (Figure 33).

Figure 33. Common Body Parts Injured in First Reports of Injury and Claims Filed with the Office of Workers' Claims, 2000-2005.



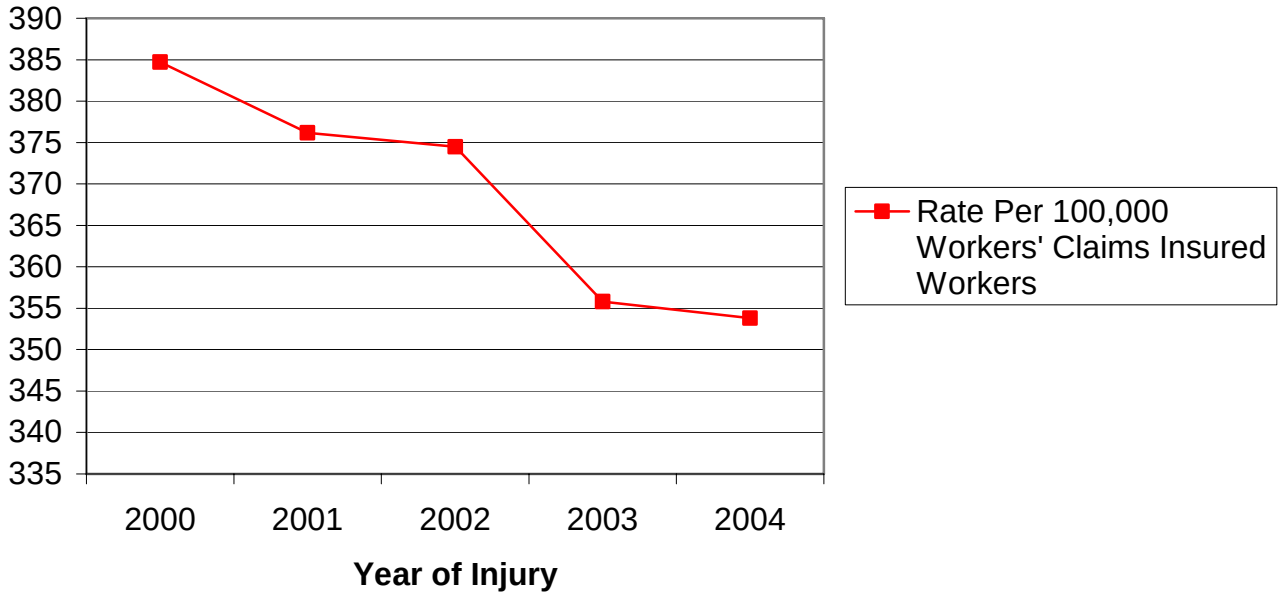
Regarding the disposition of the workers' claims awards for occupational motor vehicle collisions, 1153

agreements were approved, 723 lump sum agreements were awarded on the first report, 297 agreements were approved on the first report, 279 awards were approved by the administrative law judge, and 146 cases were dismissed. The median workers' claims charge for occupational motor vehicle collisions was $10,785 in 2005, a decrease from $11,450 in the year 2004.

Indicator #22 (Kentucky- Specific): Occupational Falls- First Reports of Injury and Claims Filed With Workers' Claims by Injury Year

From 2000-2004, there were 31,197 occupational falls claims and first reports, decreasing from 6,616 claims and first reports filed with the Office of Workers Claims in the year 2000 to the 5,972 falls claims filed in the year 2004. The occupational fall injury incidence rate was 384.7/100,000 insured workers in the year 2000 and decreased to 353.8/100,000 in 2004. The fall injury incidence rates are shown in figure 34.

Figure 34. Occupational Fall Injury Incidence Rates, 2000-2004.



Occupational falls occurred most frequently in eating places. The top 10 industries for occupational falls are shown in Table 11.

Table 11. Top Ten Industries Where Occupational Falls Occurred, 2000-2005.

Industry	Frequency (n)
Eating Places	3642
Elementary and Secondary Schools	1823
General Medical and Surgical Hospitals	1305
Executive Offices	1253
Department Stores	912
Grocery Stores	870
Skilled Nursing Care Facilities	797
Help Supply Services	764
Bituminous Coal Underground Mining	695
Trucking, Except Local	601

Work-related falls occurred most frequently in non-construction laborer occupations (Table 12).

Table 12. Top Ten Occupations Where Occupational Falls Occurred, 2000-2005.

Occupation	Frequency (n)
Laborers, Except Construction	2587
Truck Drivers- Heavy and Light	1881
Sales Workers, Retail and Personal	1818
Miscellaneous Food Preparation Occupations	1383
Nursing Aides or Orderlies and Attendants	1129
Miscellaneous Machine Operators, NEC	1091
Construction Laborers	983
Cooks	864
Janitors and Cleaners	864
Carpenters and Apprentices	831

Strains were the nature of injury most frequently reported when workers fell (n=9393) for the period 2000-2005. Other types of injuries were contusions (n= 7271), fractures (n= 5833), sprains (n= 4312), and multiple physical injuries (n= 2868). The body parts most frequently affected in work-related falls were multiple parts (n= 7052), knees (n= 5603), ankles (n=3449), low back area (lumbar and lower sacral) (n= 3249), and shoulders (n 1704).

When dispositions were examined, 27,844 of the cases were first reports of injury, 2870 of claimants received a lump sum agreement on the first report, 2280 claims were approved by the administrative law judge (ALJ), 518 awards were administered by the ALJ, 114 were held in abeyance, 106 claimants received a consolidated ALJ award, and 224 claimants had their case dismissed.

CONCLUSIONS

Kentucky has made significant advances in the identification and characterization of high risk occupational work groups, industries, and occupations. Development of targeted prevention strategies and interventions should be focused on transportation and occupational driver injuries and fatalities, battery manufacturing facilities for the reduction of adult blood lead levels, disinfectant industrial cleaners as the exposure source of work-related pesticide injuries and illnesses, and the coal mining industry for the prevention of coal workers' pneumoconiosis.