Seeing “I” to “I”: Injuries and Illnesses at Work

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KY Occupational Injuries and Illnesses Surveillance Program

- 13 states funded by CDC/NIOSH to conduct surveillance of 13 indicators of occupational injuries and illnesses
- State-specific indicator for occupational motor vehicle collision injuries

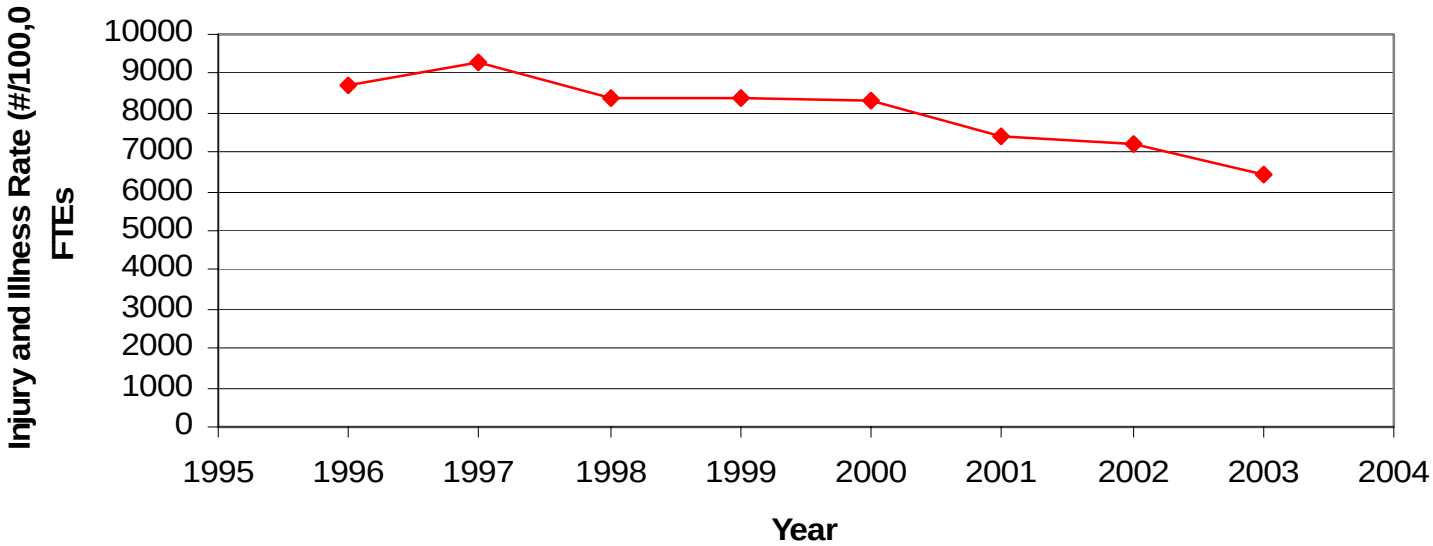
- Goal:
  - Target and unite resources from existing health surveillance systems to establish a state-wide population-based occupational safety and health surveillance program

- Objectives:
  - Identify worker populations and environments at risk for nonfatal and fatal worker injuries and illnesses
  - Identify risk factors for an occupational injury
  - Develop strategies for dissemination of state occupational health data

Public Resources	Authorized Resources
BLS Survey of Occupational Injuries and Illnesses	Kentucky Hospital Discharge Data
BLS Current Population Survey	Vital Statistics data (death certificates)
YEAR 2000 US Standard Population	Workers' Compensation system
US Census State Population Data	Kentucky Adult Blood Lead Epidemiology Surveillance (ABLES)
National Academy of Social Insurance Worker (NASI) estimate	FACE data
CFOI	CRASH data
	Kentucky Cancer Registry data
	Poison Control Center data

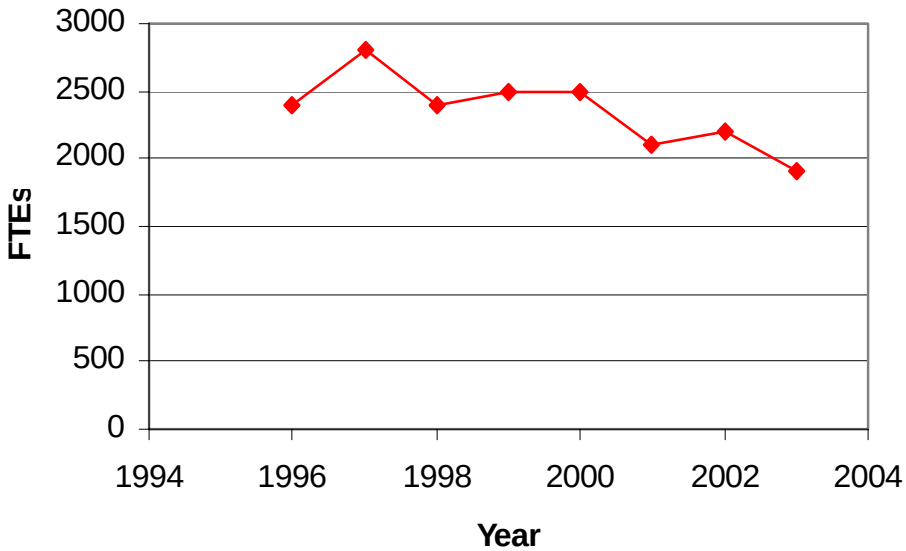
Indicator #1: Non-fatal Work-related Injuries and Illnesses Reported by Employers

Estimated Annual Total Work-related Injury and Illness Incidence Rates (1996-2003)



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

Annual Incidence Rates for Cases Involving Days Away From Work



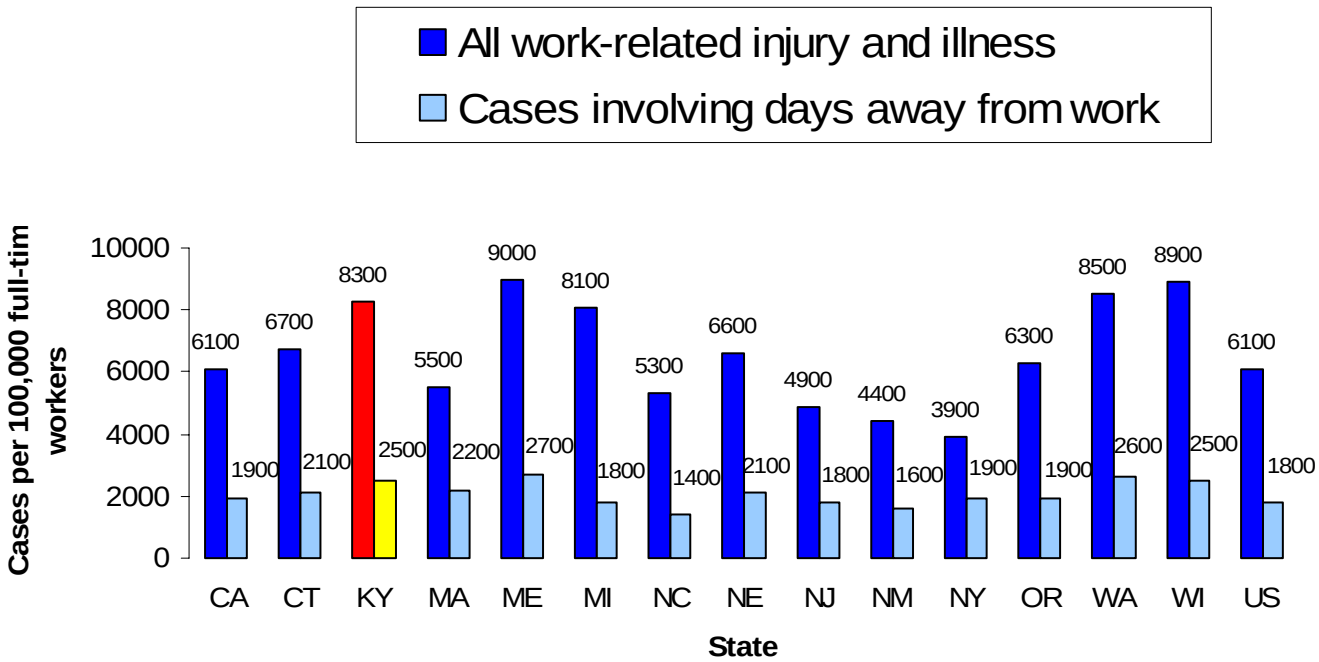
Data Source: Annual BLS Survey of Occupational Injuries and Illnesses (SOII)

Lost Wages Due to Nonfatal Occupational Injuries and Illnesses Involving Days Away From Work by Industry Division in Year 2002.

Industry Division (SIC Code)	Average Salary for 2002	Salary Per Day	Number Of Cases With Days Away From Work	Median Days Away From Work	Median Earnings Lost Per Worker
Construction	$33,271.00	$91.15	2522	9	$820
Manufacturing	$26,393.00	$72.31	6402	8	$578
Transportation/Commun-ications/ Public Utilities	$38,691.00	$106.00	2567	10	$1,060
Retail Trade	$19,713.00	$54.01	4050	5	$270
Services	$21,808.00	$59.75	6316	6	$358
Agriculture/Forestry/Fishing	$30,727.00	$84.18	484	5	$421
Wholesale Trade	$57,478.00	$157.47	2673	7	$1,102
Mining	$22,171.00	$60.74	1096	33	$2,005

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

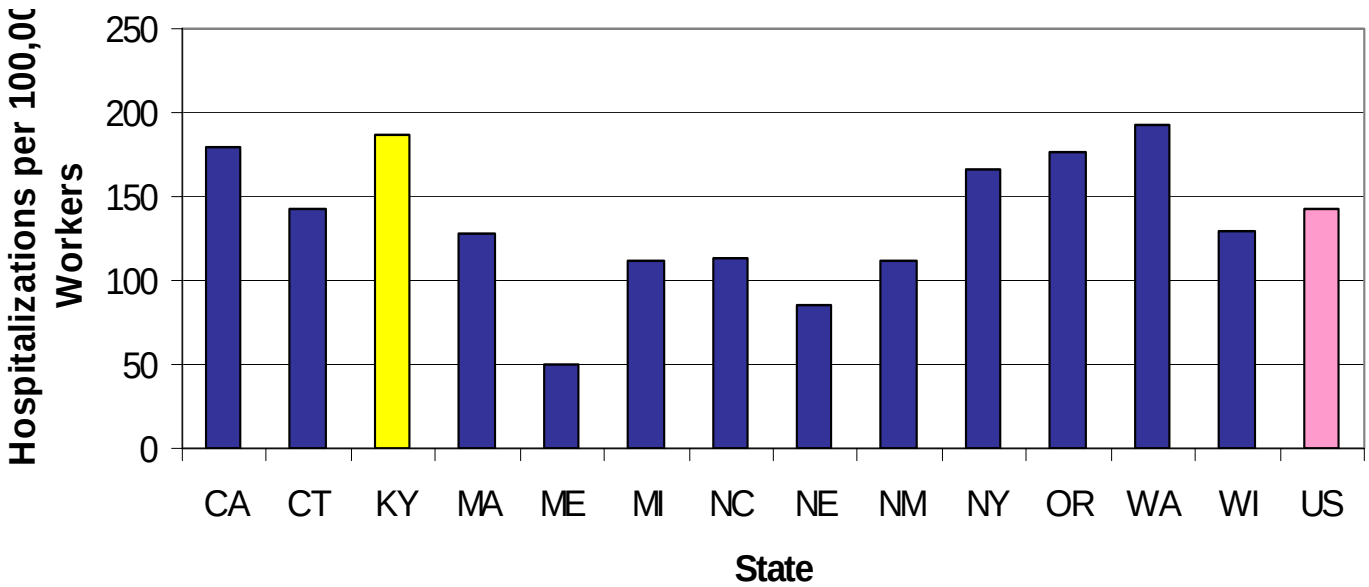
Rate of Non-fatal Work-related Injuries and Illnesses Reported by Private Sector Employers by State and US, 2000.



Indicator 2: Work-related Hospitalizations

- 3858 work-related hospitalizations in 2002
- Annual hospitalization rate of 208/100,000
  - ↑ from 187/100,000 in year 2000

Rate of Work-related Hospitalizations by State and US, 2000.



Most Common Primary Diagnoses

- Intervertebral Disc Disorders- 454 cases
- Cellulitis and Abscess- 105 cases
- Unspecified Disorders of Back- 98 cases
- Osteoarthritis- 76 cases
- Fractures of Tibia, Fibula, or Ankle- 73 cases

Hospitalization Costs in Year 2004

- Highest total costs were for male workers with intervertebral disc disorders- $8,184,032
- Highest average costs were for 16-24 year old male workers with cellulitis and/or abscesses- $31,474

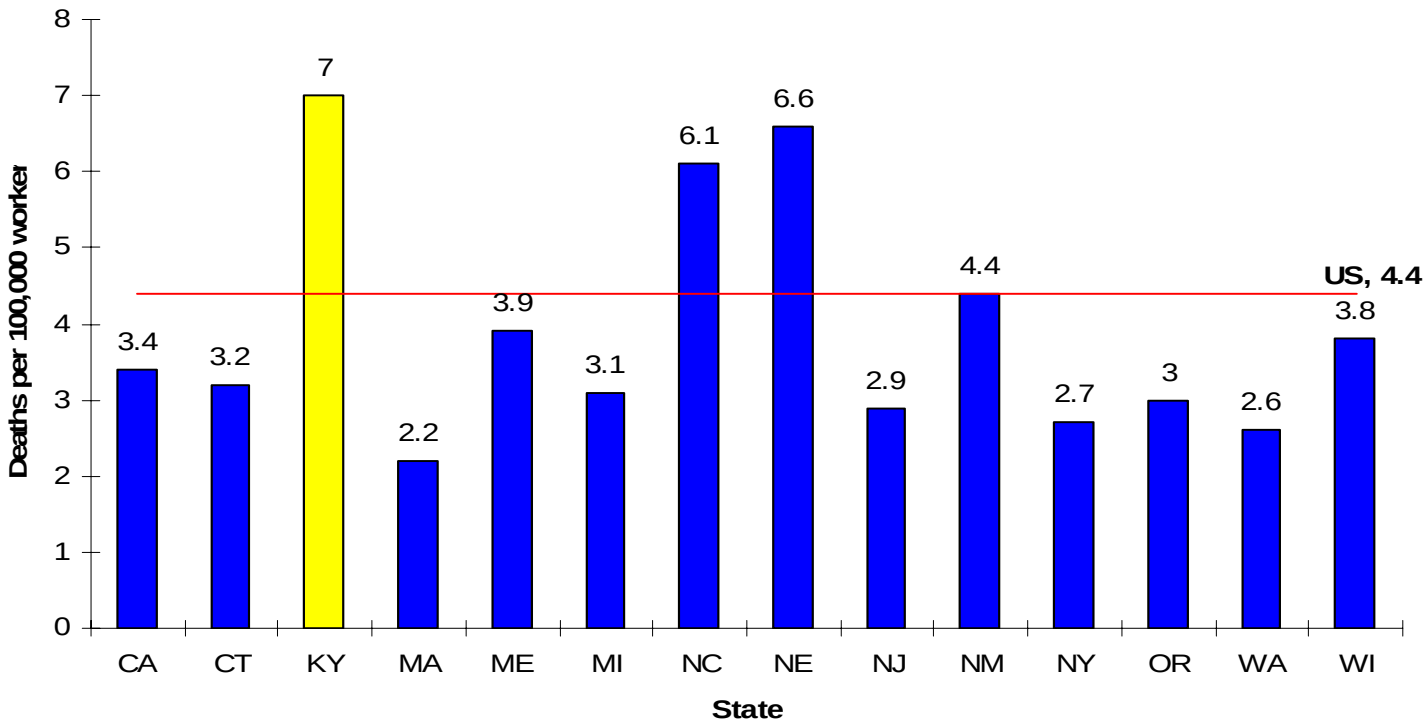
Primary External Cause of Work-related Hospitalizations

- Falls- 289 cases
- Motor Vehicle Collisions- 112 cases
- Struck By/Against- 77 cases

Indicator #3- Fatal Work-Related Injuries

- 128 work-related fatalities in 2004

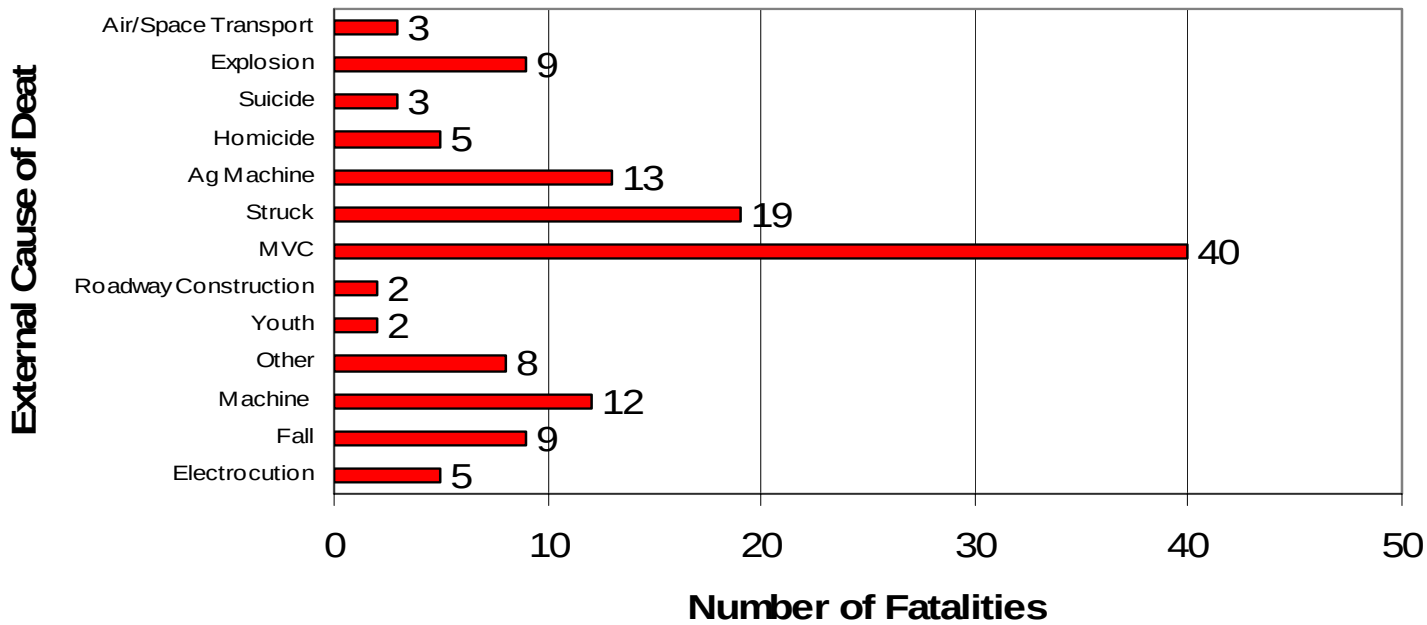
Rate of Fatal Work-Related Injuries by State and U.S., 2000.



Occupational Fatality Rates[a] by Industry (per 100,000 workers[b]) in Year 2003.

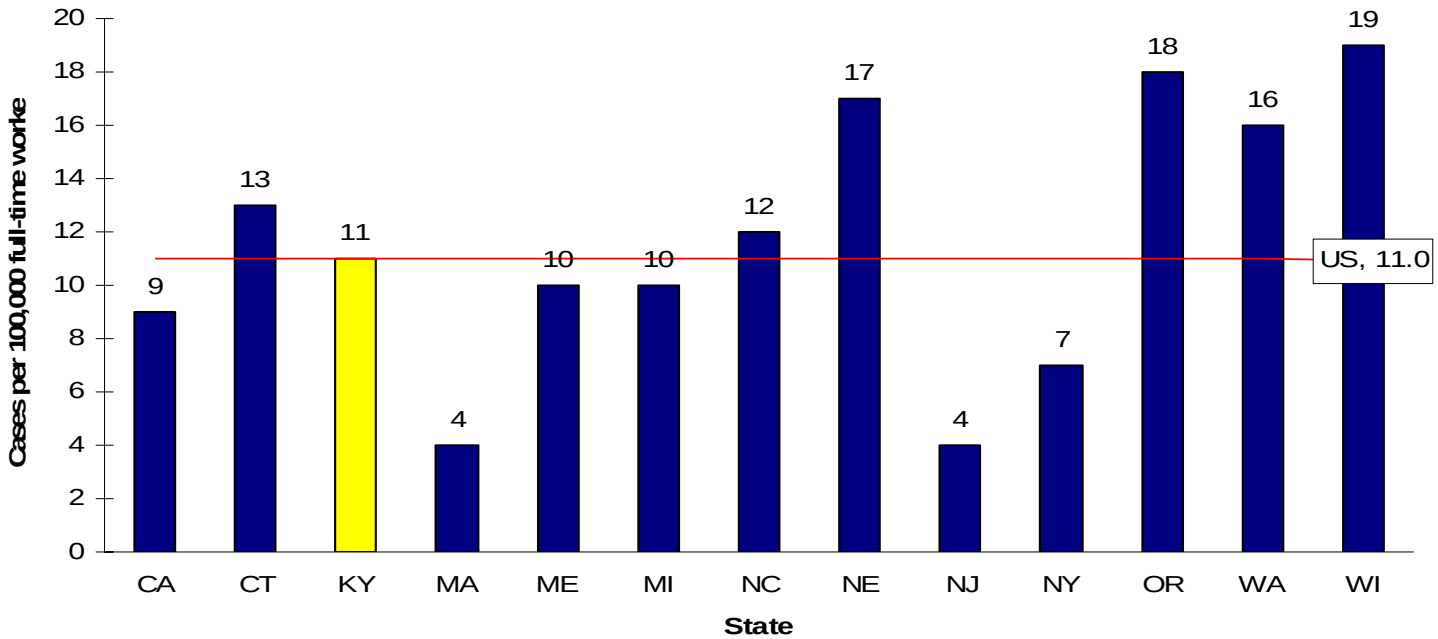
Industry[c]	Number of Fatalities	2001 KY Rate[d]	2002 KY Rate	2003 KY Rate	US Rate[e]
Agriculture/Forestry/Fishing	24	51	40	46	22.7
TCPU*	26	19	17	24	11.3
Construction	25	16	23	31	12.2
Mining	12	65	59	70	23.5
Manufacturing	18	3	5	7	3.1
Services	11	2	4	2	1.7
Public Administration	7	3	2	2	2.7
Retail/Wholesale Trade	8	2	4	2	2.5
Finance	0	2	1	-	1.0
Totals	131	6.0	6.5	7.0	4.0

Occupational Fatalities by External Cause of Death- 2003



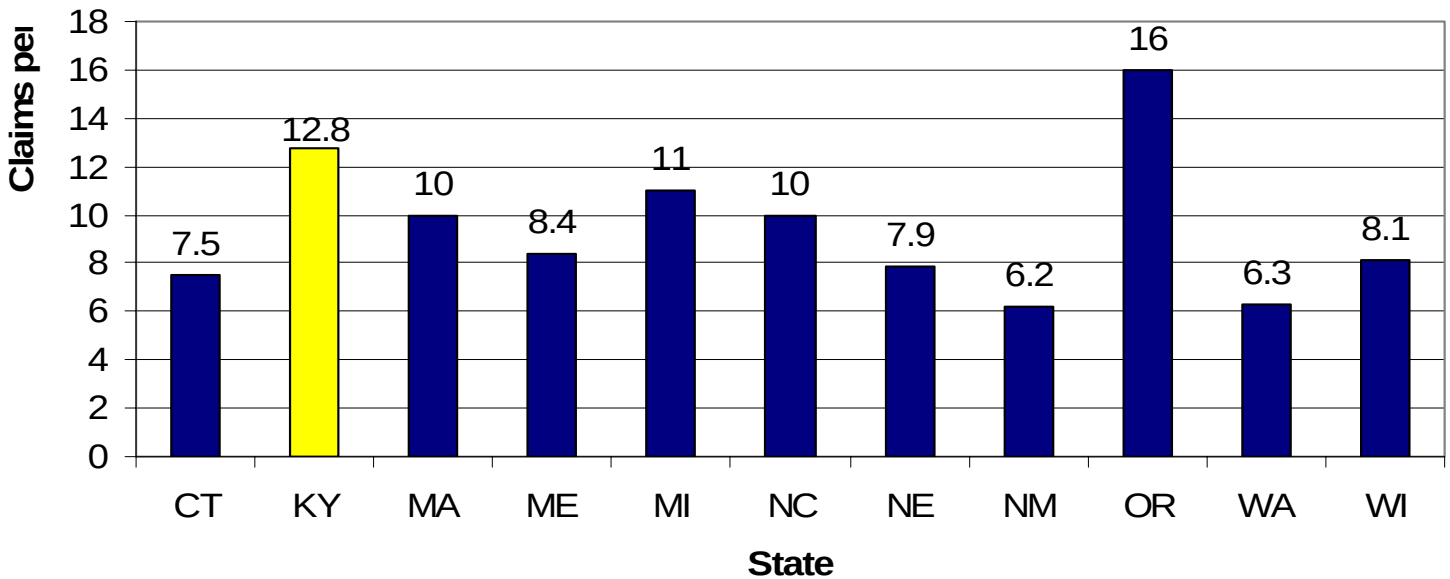
Indicator # 4: Work-related Amputations With Days Away From Work Reported by Employers

Rate of Work-related Amputations Involving Days Away From Work Reported By Private Sector Employers by State and U.S., 2000.



Indicator #5: Amputations Filed With the State Workers' Compensation System

Rate of Lost Work Time Claims for Amputations Identified in Workers' Compensation Systems by State, 2000.



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

Major Industries With Amputations

- Bituminous coal underground mining (n=50)
- Help supply service (n=48)
- Motor vehicle parts and accessories (n=35)
- Sawmills and planing mills (n=25)
- Plastic products (n=22)

Major Occupations with Amputations

- Machine operators (n=177)
- Assemblers (n=32)
- Freight stock material handlers (n=22)
- Mechanics and Repairers (n=22)
- Truck drivers (n=21)

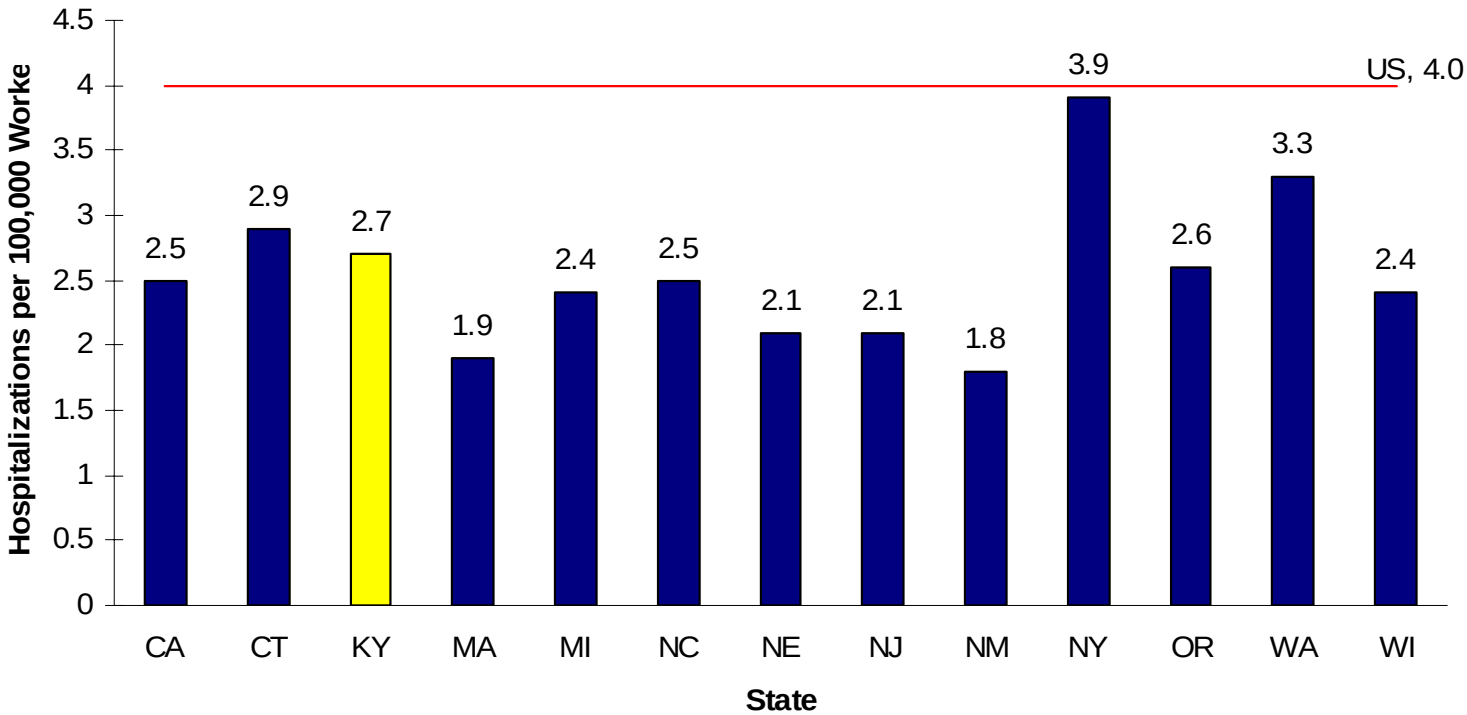
Most Common Amputations

- Fingers (n=768)
- Thumbs (n=116)

Indicator #6: Hospitalization for Work-Related Burns

44 cases in 2004

Rate of Hospitalizations for Work-Related Burns by State and U.S.,2000.



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

Numbers and Incidence Rates for 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*
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

High-Risk Occupations for MSDs

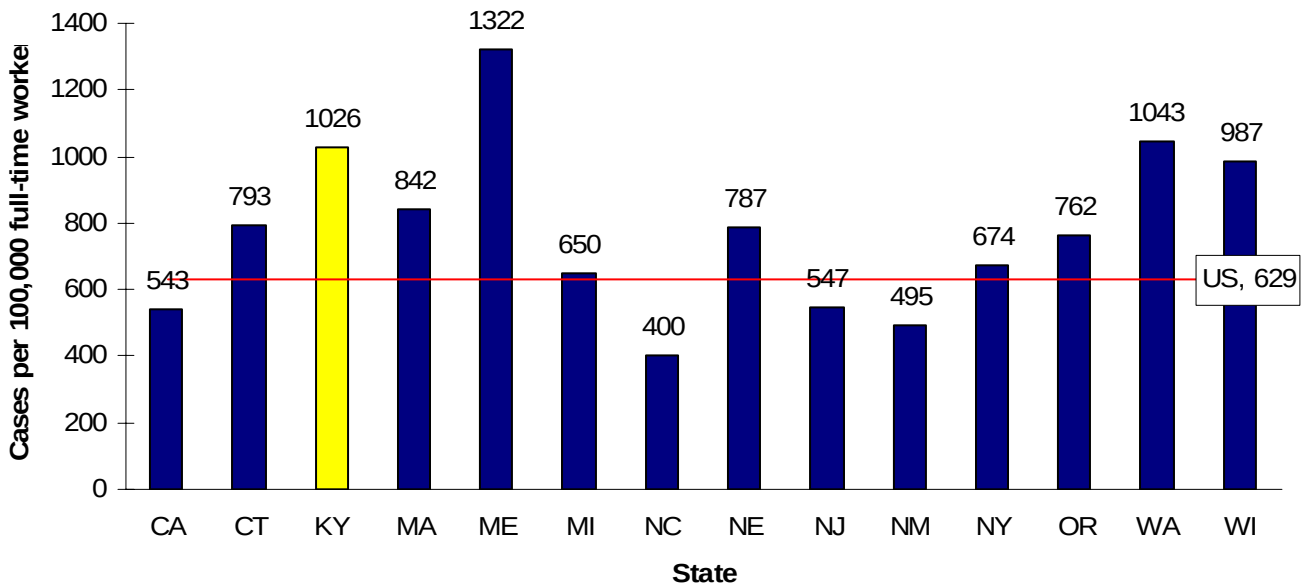
- Operators, Fabricators, Laborers
- Service

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

High-Risk Industries For MSDs

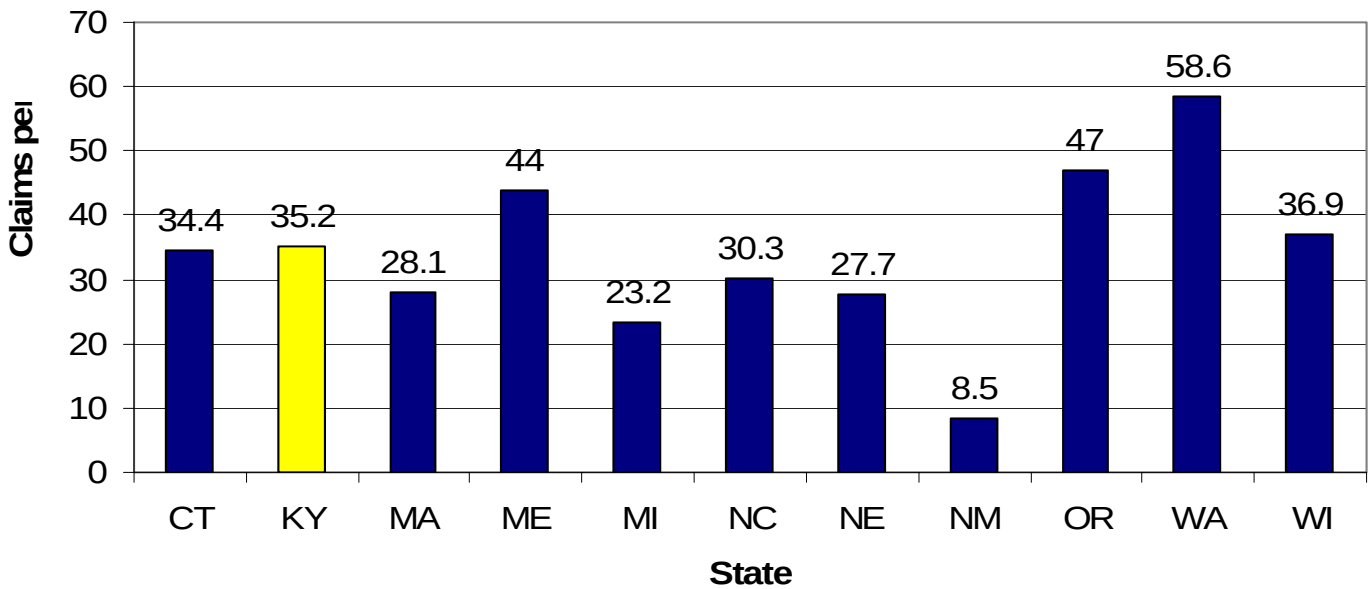
- Manufacturing
- Services

Rate of All Work-Related MSDs Involving Days Away From Work Reported by Private Sector Employers by State and U.S., 2000.

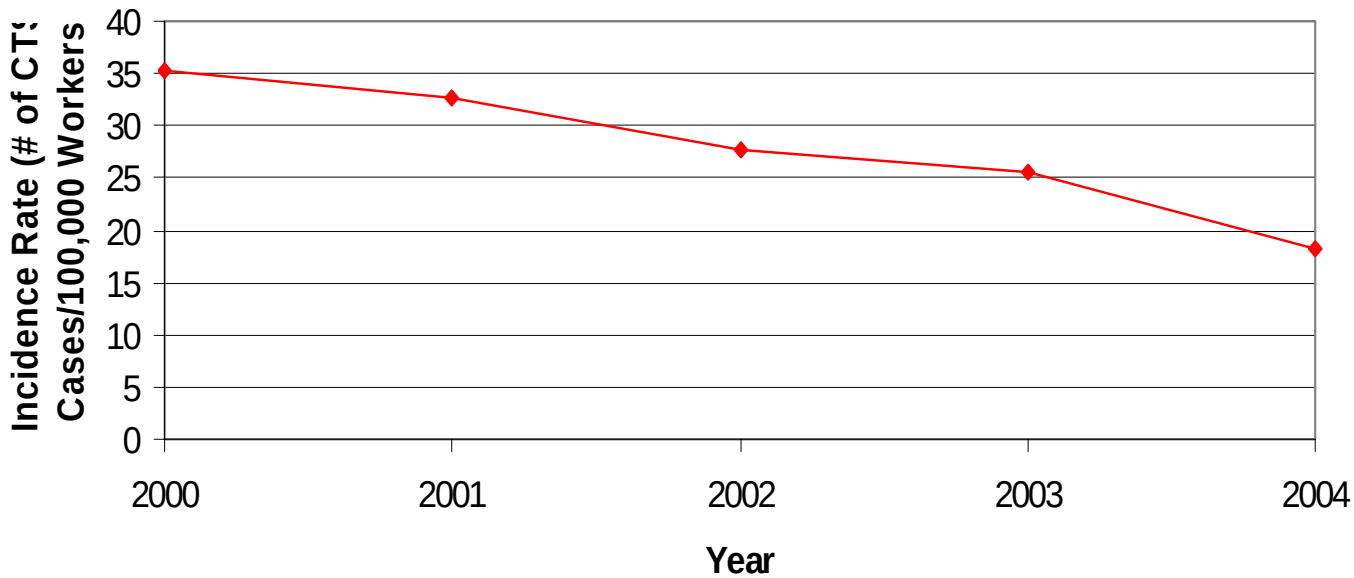


Indicator #8: Carpal Tunnel Syndrome Cases Filed with the State Workers' Compensation System

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



Kentucky Carpal Tunnel Syndrome Incidence Rates for Years 2000-2004.



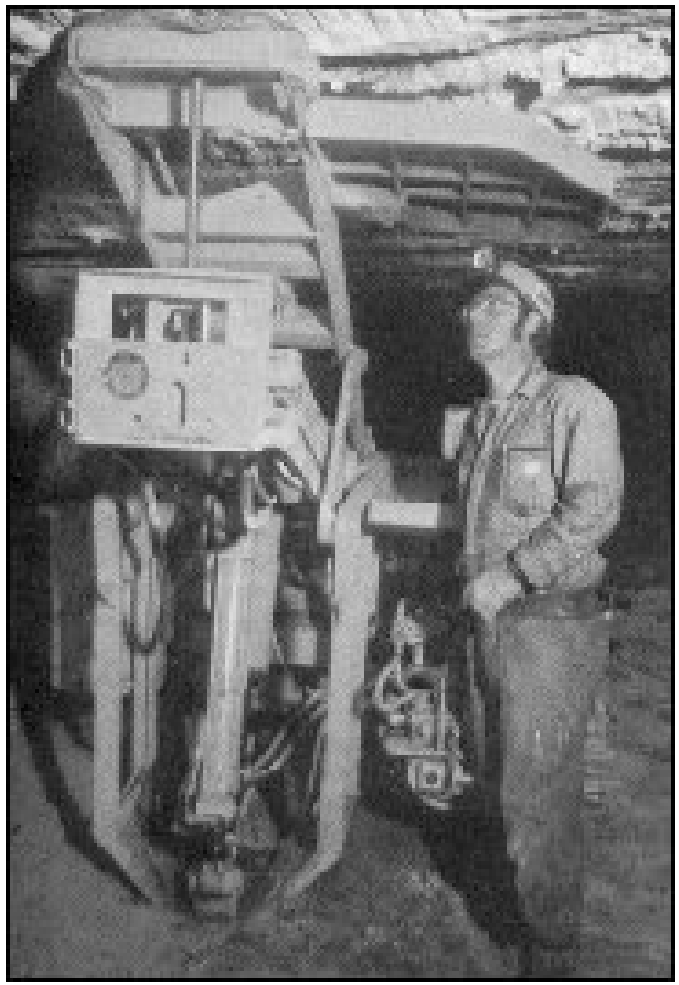
Data Source: Carpal tunnel syndrome case data was provided by the Kentucky Office of Workers' Claims, Frankfort, KY.

Major Industries with Carpal Tunnel Syndrome

- Elementary and secondary schools (n=89)
- General medical and surgical hospitals (n=105)
- Grocery stores (n=77)
- Motor vehicle parts and accessories (n=119)
- Motor vehicles and car bodies (n=81)

Major Occupations with Carpal Tunnel Syndrome

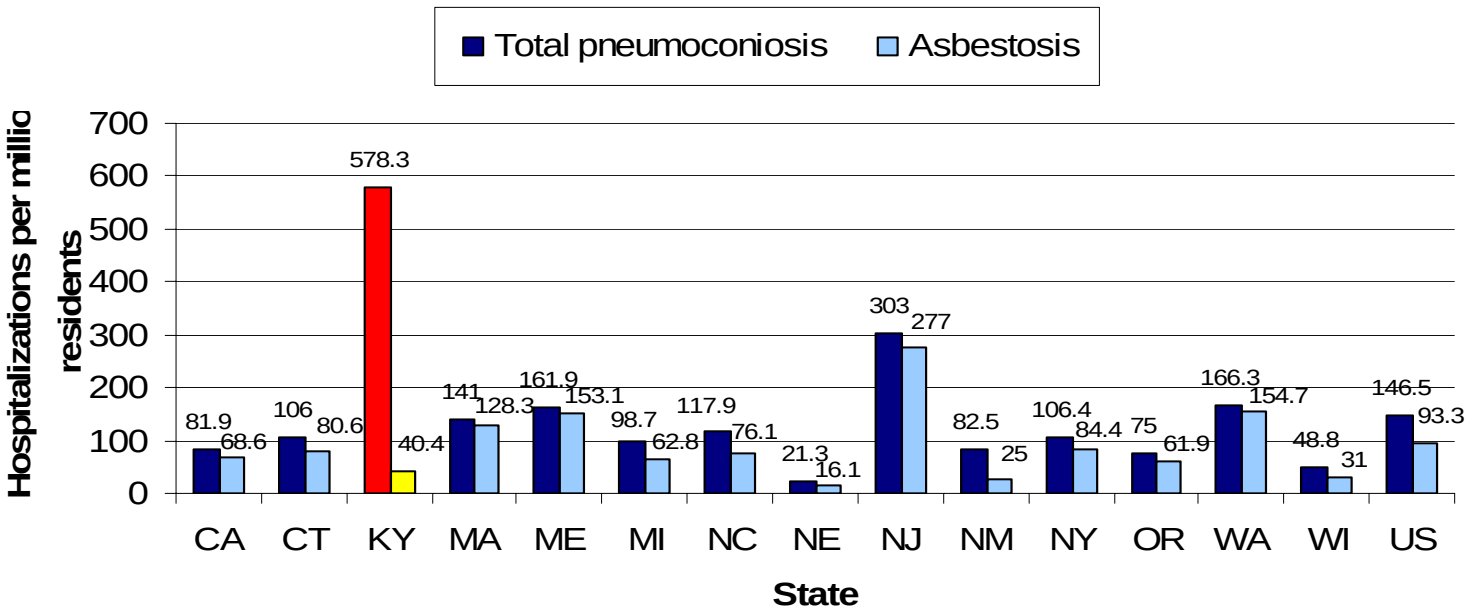
- Machine operators (n=326)
- Assemblers (n=201)
- Textile sewing machine operators (n=116)
- Administrative support (n=83)
- General office clerks (n=79)



Indicator #9: Hospitalization From or With Pneumoconiosis

- 1,974 pneumoconiosis hospitalization discharges in 2004

Age-standardized Rate of Hospitalizations From or With Total Pneumoconiosis and Asbestosis by State and U.S., 2000.



Annual Age-Adjusted Coal Workers Pneumoconiosis Hospitalization Rates Per Million Residents in Kentucky, (2000-2004).

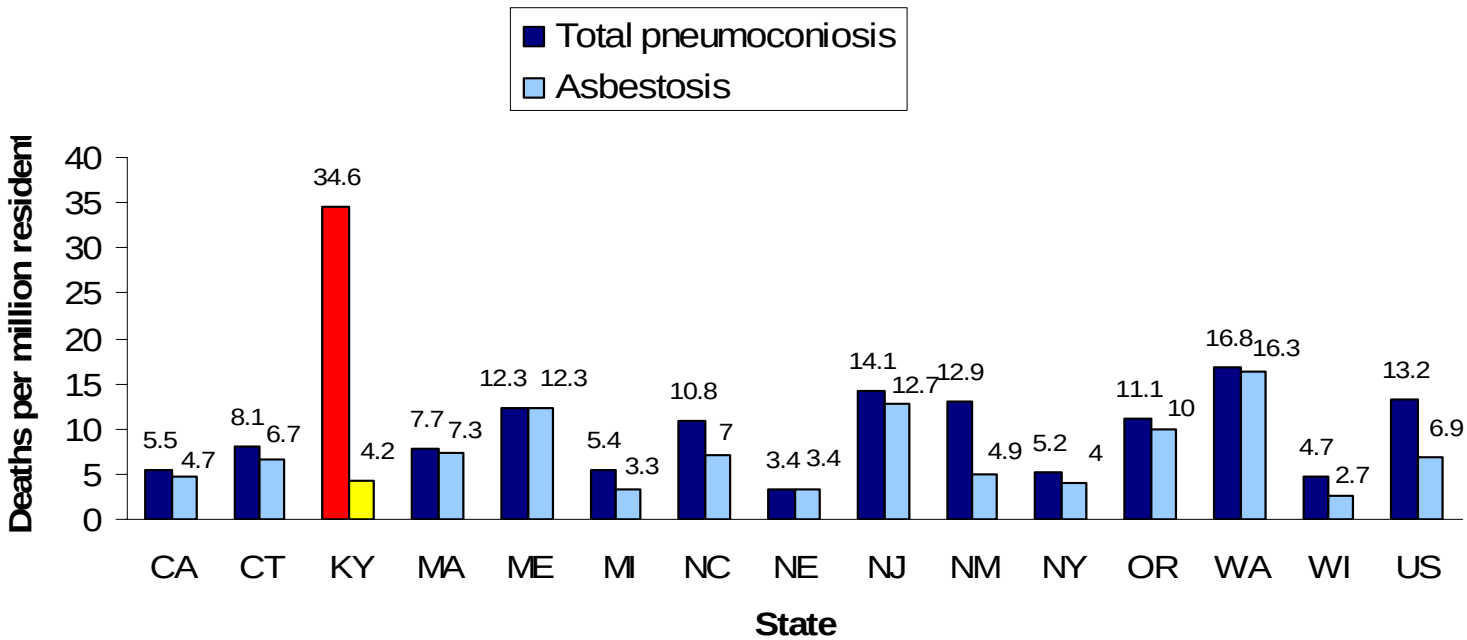
Year	Total # of Hospitalizations	Age-Adjusted Rate
2000	1528	486
2001	1576	499
2002	1740	553
2003	1824	578
2004	1718	545

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

Indicator #10: Mortality From or With Pneumoconiosis

- 67 cases in 2003, down from 107 in 2000.
- Crude death rate was 20.8 per million residents and age-adjusted death rate was 21.6 in 2003.

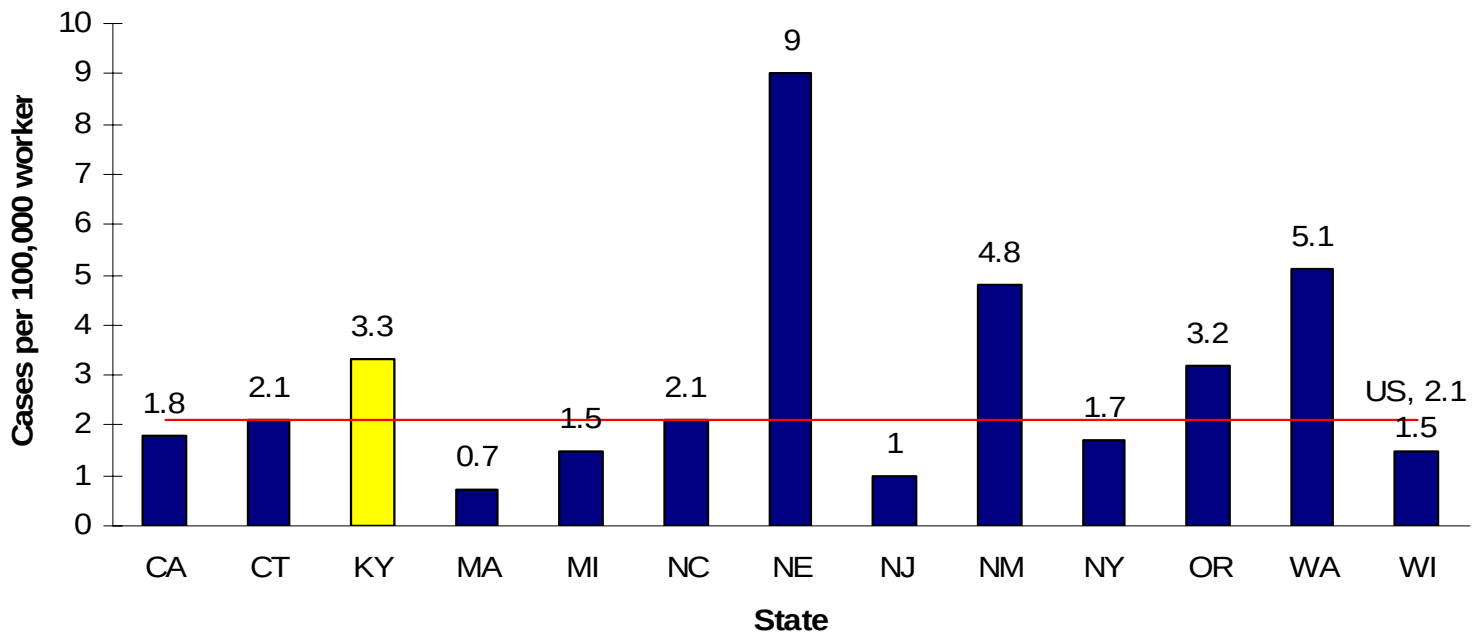
Age-Standardized Mortality Rate From or With Total Pneumoconiosis and Asbestosis by State and U.S., 2000.



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

- 59 Pesticide poisoning cases reported in 2004, increased from 47 cases in 2003.
- Annual incidence rate of 3.1/100,000 employed in 2002.

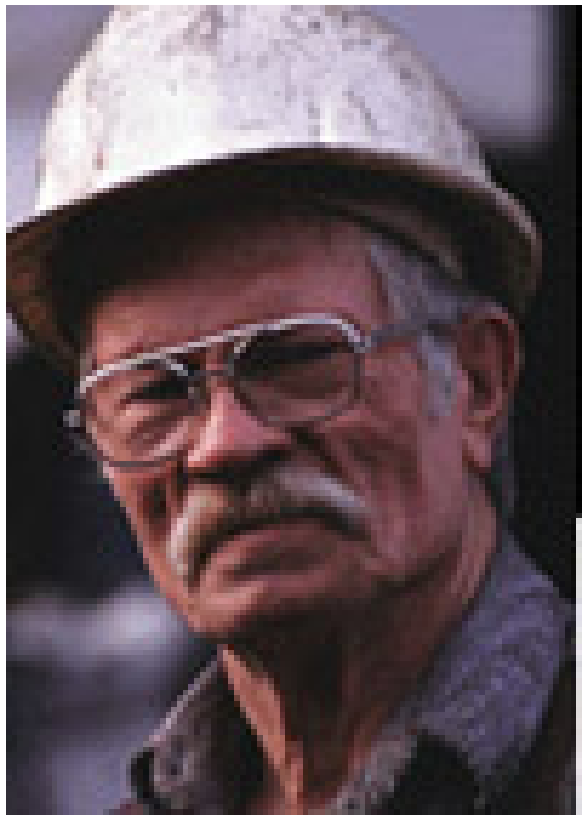
Rate of Work-Related Pesticide Associated Poisonings by State and U.S., 2000.



Primary Pesticide Exposures

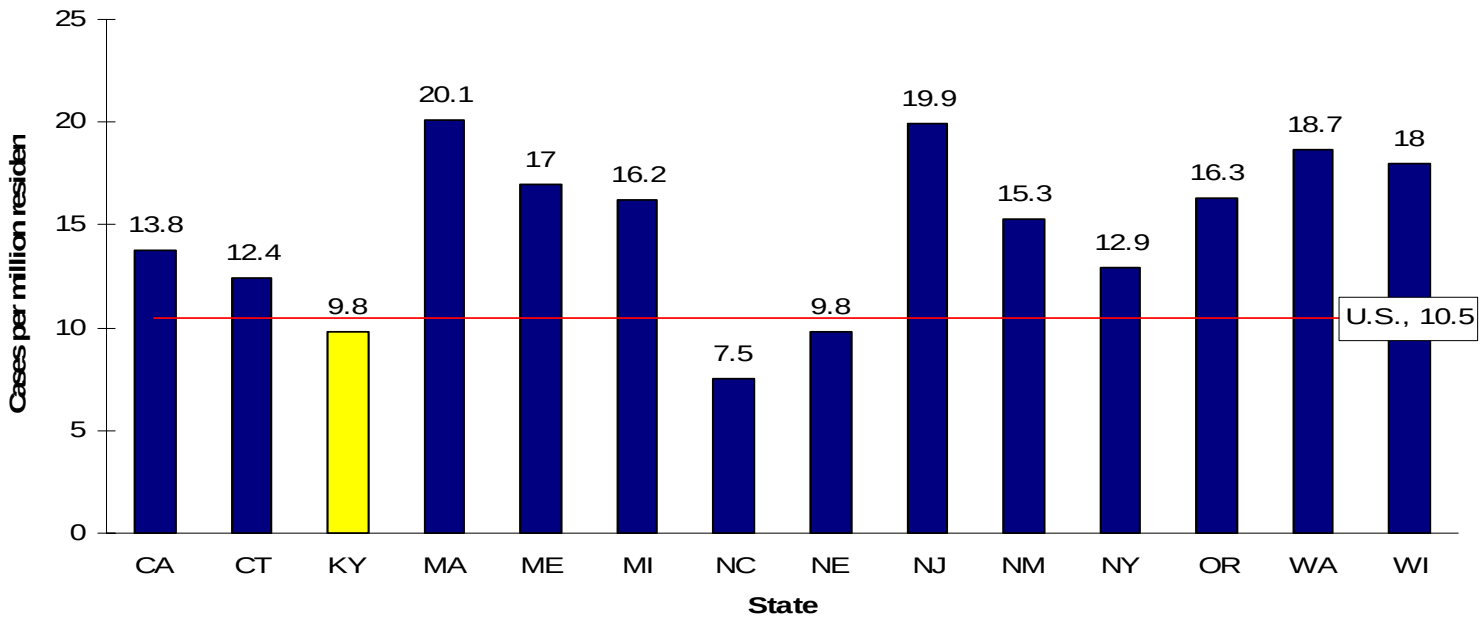
- Disinfectant industrial cleaners (22%)
- Other/unknown disinfectants (15%)
- Other herbicides (8%)

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



Indicator #12: Incidence of Malignant Mesothelioma

Age-Standardized Incidence Rate of Malignant Mesothelioma by State and U.S., 2000.

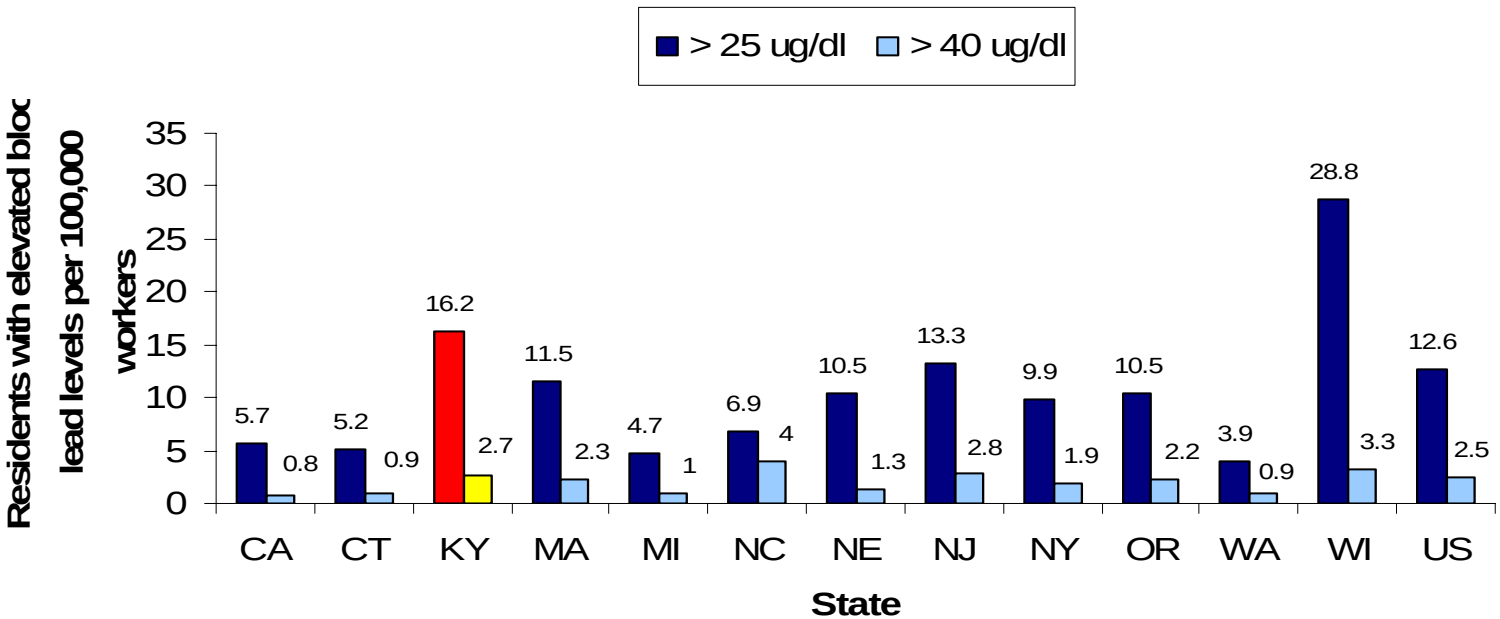


Data Source: Malignant mesothelioma case data was provided by the Kentucky Cancer Registry.

Indicator #13: Elevated Blood Lead Levels Among Adults

- The Kentucky adult blood lead level (>25µg/dL) prevalence rate was 17.82 cases per 100,000 employed persons, 76% above the average state rate of 10.1µg/dL in 2001.

Prevalence Rate of Persons with Blood Lead Levels ≥ 25µg/dl and ≥ 40µg/dl of Persons Age 16 Years or Older by State and U.S., 2000.



Industries Where Most Lead Exposures Occurred in 2004

- Battery manufacturing (n=131)
- Electrical equipment, electric lamp bulb and part manufacturing (n=5)
- Fabricated metal product manufacturing (n=4)

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.


AUTOMOTIVE INDUSTRY:
CO2 BLAST CLEANING A MAN-FAN
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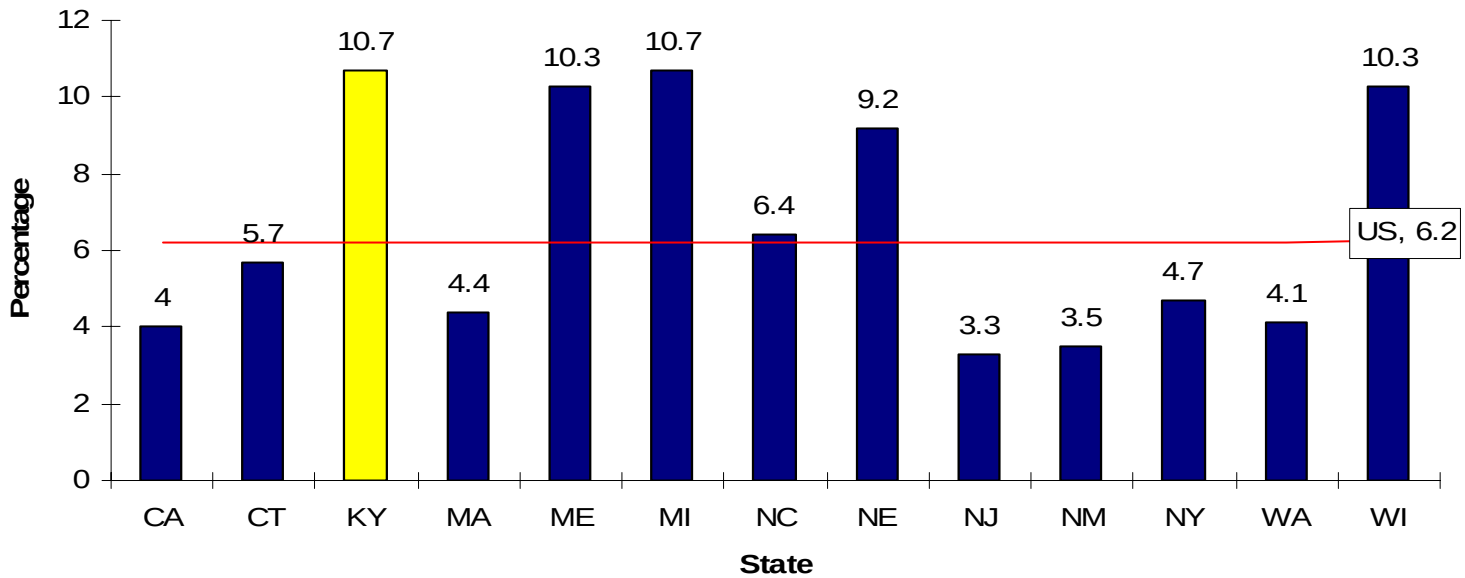
Indicator #14: Percentage of Workers Employed in Industries at High Risk for Occupational Morbidity

- Kentucky and Michigan employed the largest percentage of workers in high-risk industries

Percentage of Workers in Industries With High Risk for Occupational Morbidity by State and U.S., 2000.



Kentucky Industries at Great Risk for Occupational Injuries

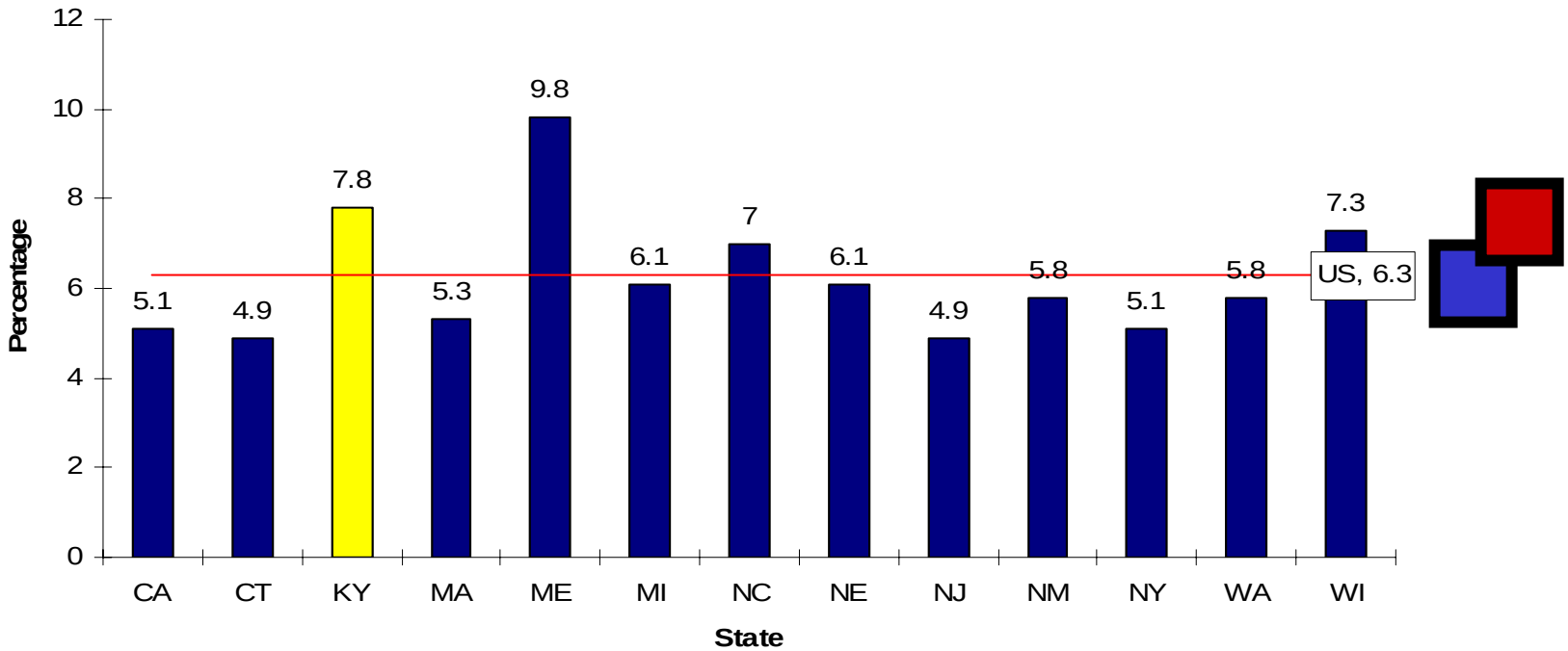
- Nursing care facilities
- Scheduled air transportation
- Motor vehicle manufacturing

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

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

- Kentucky had 7.8% of its workers employed in occupations at increased risk for an occupational injury, second after Maine.

Percentage of Workers in Occupations with High Risk for Occupational Morbidity by State and U.S., 2000.



Occupations at Highest Risk for Occupational Injuries

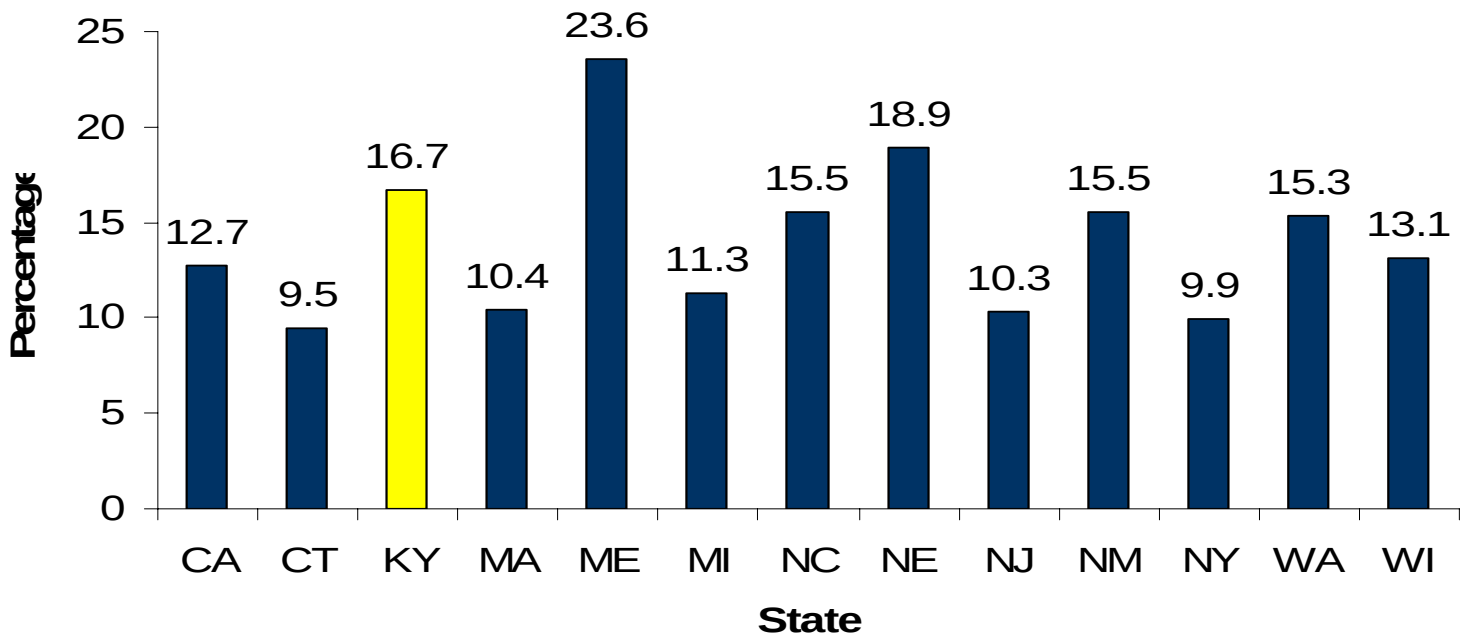
- Truck drivers
- Laborers

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.

- 17% of Kentucky's workers were employed in high mortality-risk industries

Percentage of Workers Employed in Industries with High Risk for Occupational Mortality by State, 2000.



Occupations With the Highest Risk of Occupational Mortality

- Truck drivers
- Farming and farm worker occupations

Data Source: Bureau of Labor Statistics (BLS) Current Population Survey (CPS)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State-Specific Indicator: Occupational Motor Vehicle Collisions

- 12,573 occupational motor vehicle collisions (MVCs) in 2004
  - 4,567 semi-trucks
  - 3,328 single trucks
  - 1,533 trucks and trailers
- This number is increased from the 11,459 occupational MVCs in 2003.

Work-Related MVCs

- 3,194 people injured
- 135 people (drivers and occupants) killed
- Fatality rate was 0.9/100,000 in 2002.
- Nonfatal occupational MVC injury rate was 21.5/100,000 in 2002.

Injury Severity of Occupational Driver MVCs, 2000-2004.

Injury Severity	2004	2003	2002	2001	2000
Fatal	25	23	16	8	20
Incapacitating	106	103	102	121	138
Non-Incapacitating	343	331	335	374	399
Possible Injury	337	317	308	316	381
None Detected	12509	11264	10620	11038	11485

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.

Human Factors Involved in MVCs

	Non-Occupational Driver	Occupational Driver
Human Factor:	Total	Total
Distraction/ Inattention	6158	14840
Failed To Yield Right of Way	2780	2713
Following Too Close	819	1306
Misjudge Clearance	724	6881
Not Under Proper Control	1153	1804

Summary I

- Fatal work-related injury rate 75% above national fatality rate.
- Work-related hospitalization rate 32% above national rate.
- 2nd highest rate of lost work time claims for amputations (WC)

Summary II

- 10th highest musculoskeletal disease case rate involving days away from work
- 12,573 occupational MVCs with 3,194 injured and 135 killed.
- 3rd highest coal workers' pneumoconiosis mortality rate in the nation.

Summary III

- 7th highest incidence rate for occupational poisonings.
- Adult blood lead level prevalence rate 76% above the average state rate.
- Highest and 3rd highest percentages of workers in high-risk industries for nonfatal and fatal occupational injuries.

Where do we go from here?

- Establishment of consortium to establish state-wide priorities for the prevention of occupational injuries and illnesses.