

## **Chapter 4 - Work-related Emergency Department Visits in New York State: 2005-2010**

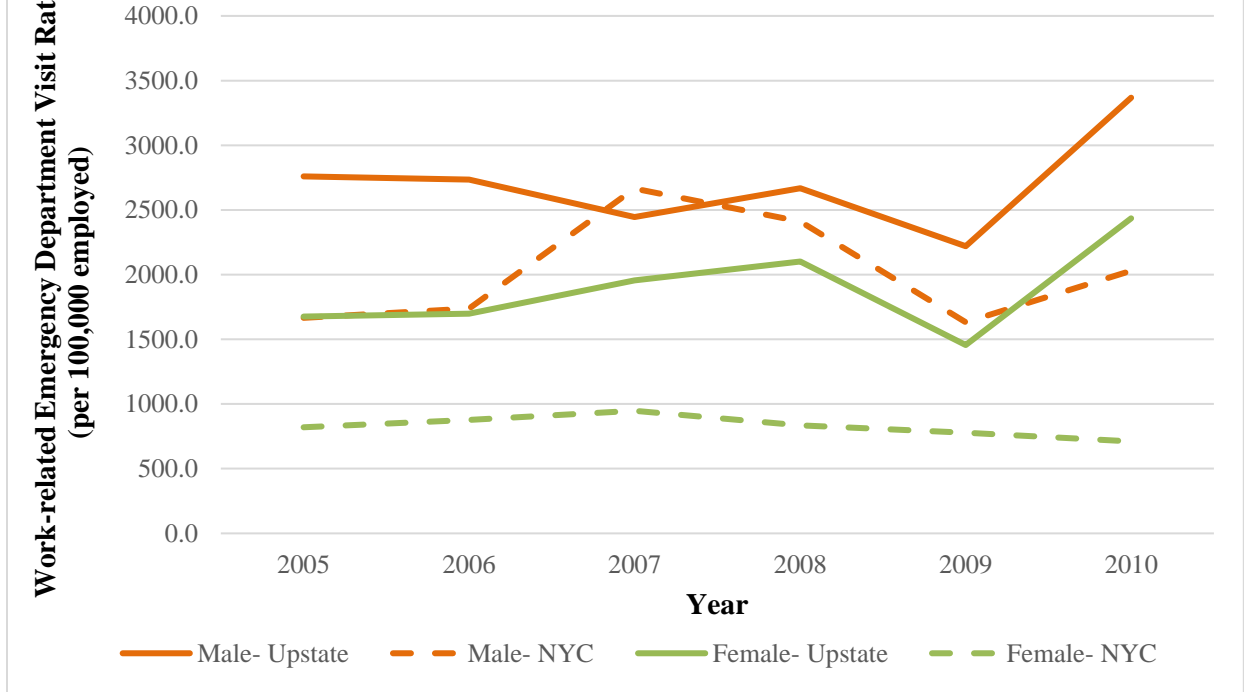
Emergency department (ED) visit data can provide an opportunity to better understand the extent and nature of occupational injuries and illnesses in New York State (NYS). Although work-related illnesses and injuries treated in EDs are usually less severe than those cases requiring hospitalization, there are many more work-related ED visits occurring annually. There were an estimated 2.6 million nonfatal work-related occupational injuries and illnesses treated in the United State (U.S.) hospital EDs in 2005 and more than 3.4 million in 2010. The overall rate of work-related ED visits in the U.S. has also increased from 1,934 ED visits per 100,000 workers in 2005 to 2,444 ED visits per 100,000 workers in 2010.<sup>1</sup>

In NYS, there are on average, 193,000 work-related ED visits each year, although the number has varied from a low of about 171,500 in 2005 to a high of more than 213,000 in 2010. The overall rate of work-related ED visits in NYS has increased from 1,918.7 ED visits per 100,000 workers in 2005 to 2,208.9 ED visits per 100,000 workers in 2010 (data not shown). This increase over time is statistically significant ( $p$ -value < 0.01). It should be noted that NYS ED data has only been available since 2005, so all data analyses presented here are conducted only on 2005-2010 data.

In NYS overall, there is a statistically significant increase in the rate of work-related ED visits among females from 1,389.2 ED visits per 100,000 employed persons in 2005 to 1,712.9 ED visits per 100,000 employed persons in 2010. There is also a statistically significant increase in males over time (2,394.7 ED visits per 100,000 employed in 2005 to 2,658.4 ED visits per 100,000 employed in 2010) (data not shown).

It is often useful, for purposes of analysis, to divide the state into two regions: Upstate (all regions of the state excluding the five boroughs of New York City) and New York City (NYC). Much of the data presented in this chapter are broken down geographically. As seen in Figure 4.1, when broken down geographically, the rate of work-related ED visits is greater in upstate New York than NYC (similar to hospitalizations), regardless of gender with the exception of 2007 in which the rate of work-related ED visits was higher in NYC males than upstate males.

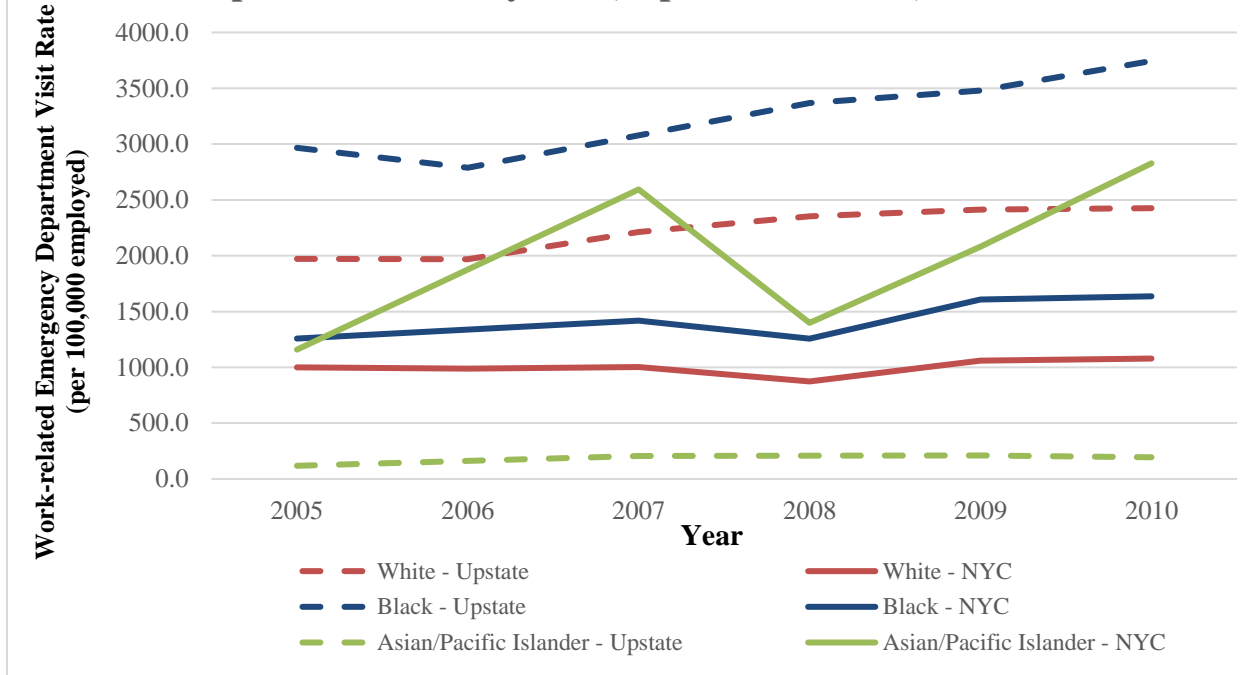
**Figure 4.1. Annual Rate of Work-related Emergency Department Visits by Sex, Upstate and NYC, 2005-2010**



In NYS overall, there is a statistically significant increase in the rate of work-related ED visits among White workers (1685.4 ED visits per 100,000 employed persons in 2005 to 1999.0 ED visits per 100,000 employed persons in 2010) and Black workers (1733.5 ED visits per 100,000 employed persons in 2005 to 2183.5 ED visits per 100,000 employed persons in 2010) (data not shown). Although there was also an increase in the rate of work-related ED visits among Asian/Pacific Islander workers (315.3 ED visits per 100,000 employed persons in 2005 to 480.6 ED visits per 100,000 employed persons in 2010), the increase was not statistically significant (data not shown).

As shown in Figure 4.2, when broken down by region, the rate of work-related ED visits are higher in both Whites and Blacks in upstate, when compared to the rates in NYC. However, the rate of work-related ED visits in Asian/Pacific Islanders in NYC was much higher than the rate of Asian/Pacific Islanders in upstate.

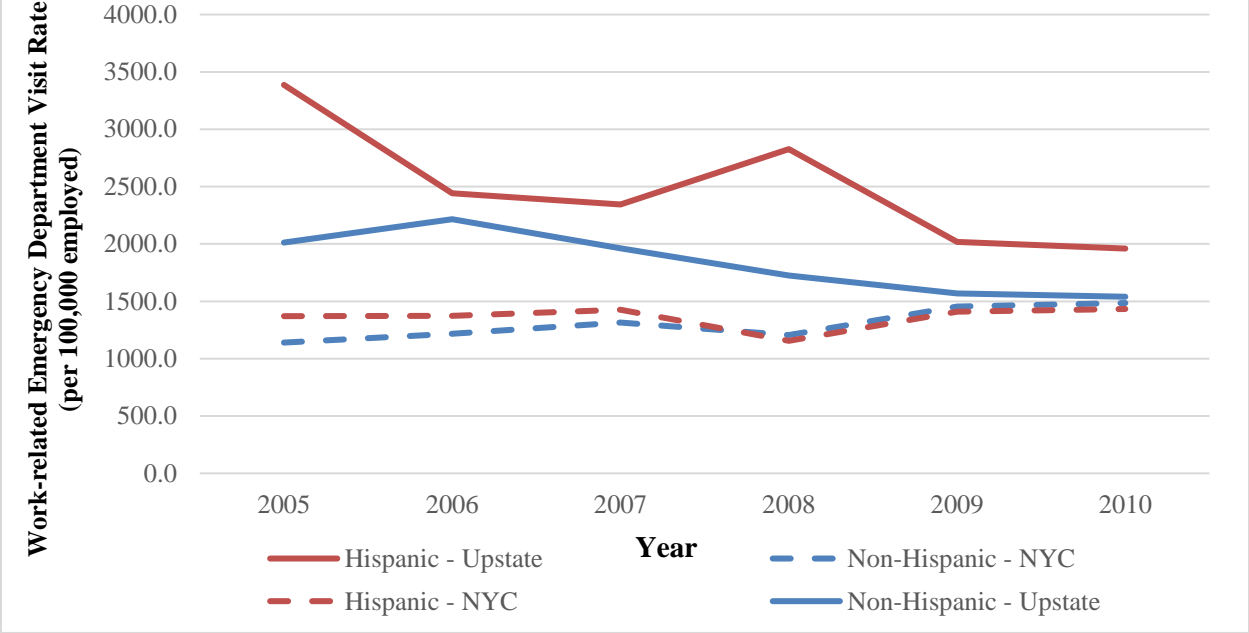
**Figure 4.2. Annual Rate of Work-related Emergency Department Visits by Race, Upstate and NYC, 2005-2010**



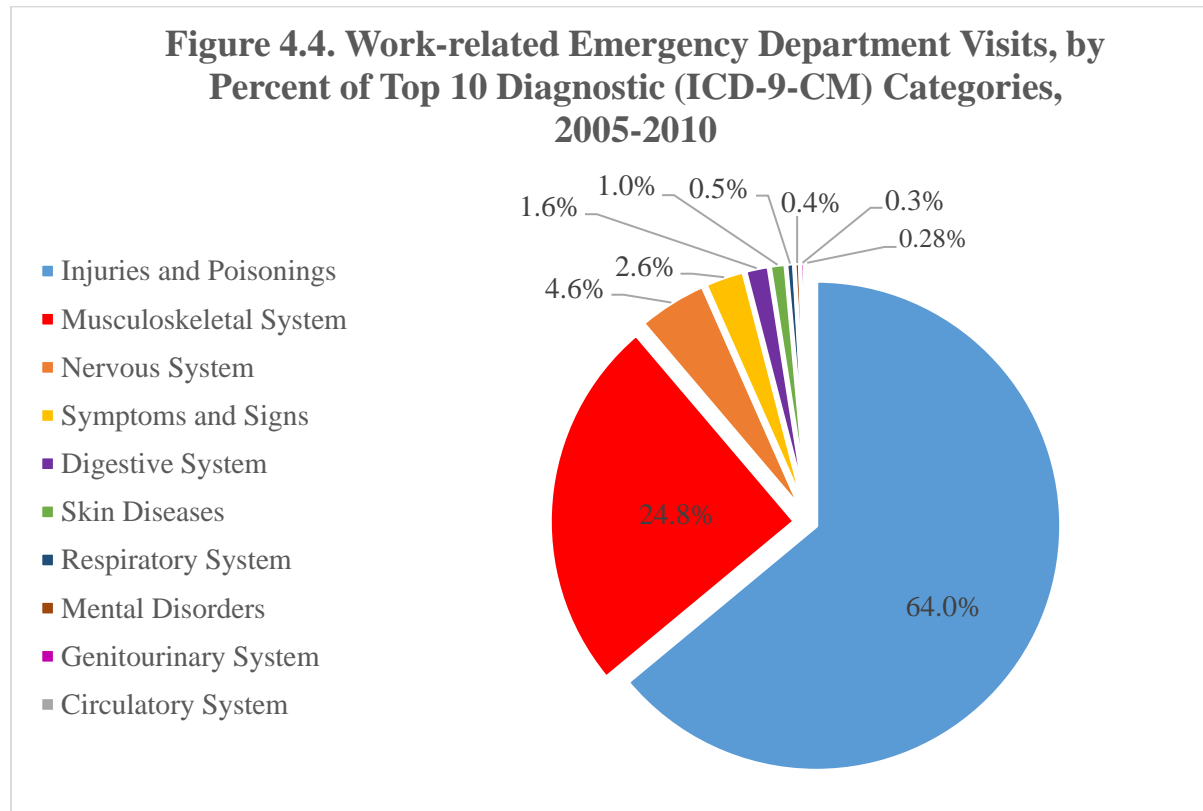
In NYS overall, there is a statistically significant increase in both the rate of work-related ED visits among both Hispanic workers (1536.5 ED visits per 100,000 employed persons in 2005 to 2069.0 ED visits per 100,000 employed persons in 2010) and non-Hispanic workers (1018.0 ED visits per 100,000 employed persons in 2005 to 2069.0 ED visits per 100,000 employed persons in 2010) (data not shown). The rates don't vary greatly but overall, Hispanic workers do have a slightly higher rate of work-related ED visits in all of NYS.

When broken down by geographic region, Hispanic workers in upstate, have a much higher rate of work-related ED visits than non-Hispanic workers. In NYC, the rates among Hispanic workers and non-Hispanic workers are practically identical for all years (Figure 4.3). However it should be noted that the rate of ED visits in upstate Hispanic workers is declining over time, while the rate of ED visits in NYC Hispanic workers has remained relatively stable during the same time period.

**Figure 4.3. Annual Rate of Work-related Emergency Department Visits by Ethnicity, Upstate and NYC, 2005-2010**



As seen in Figure 4.4, more than 64 percent of the work-related ED visit diagnoses were due to injuries and poisonings (ICD-9-CM codes 800-999<sup>1</sup>), while an additional 25 percent were due to diseases of the musculoskeletal system and connective tissue (ICD-9 codes 710-739). The most frequently diagnosed injuries were open wounds, contusions, sprains, tear/dislocation of knee, and fractures. The most frequently diagnosed musculoskeletal disorders were disc and other back disorders, tendinitis, joint pain/stiffness, tears or pulls of knee tendons and ligaments and neck pain.



<sup>1</sup> The International Classification of Disease, 9<sup>th</sup> edition, Clinical Modification (ICD-9-CM), is the official system of assigning codes to diagnoses and procedures associated with hospital utilization in the United States. 1.2% of the injury and poisoning cases had nature of injury codes of “Certain adverse effects not elsewhere classified” (ICD-9-CM code 995) or as “Complications of surgical and medical care, not elsewhere classified” (ICD-9-CM codes 996-999) that could not be classified into one of these categories. They were excluded from the presentation of this data.

**Table 4.1. Percent of Top 10 Unintentional External Cause of Injury Codes for Injury and Poisoning Work-related Emergency Department Visits, New York State, 2005-2010**

<b>External Cause of Injury</b>	<b>E code</b>	<b>Percent</b>
<b>Unintentional Falls</b>	<b>E880-E886, E888</b>	<b>18.6%</b>
Fall from other slipping, tripping, or stumbling	E885.9	13.6%
Unspecified fall	E888.9	5.0%
<b>Motor Vehicle Traffic Crashes</b>	<b>E810-E819</b>	<b>6.8%</b>
Other motor vehicle traffic crash involving collision with motor vehicle	E812.0	6.8%
<b>Other Unintentional Injuries</b>	<b>E916-E928</b>	<b>74.5%</b>
Struck accidentally by falling object	E916	5.8%
Other accident caused by striking against or being struck accidentally by objects or persons	E917.9	13.7%
Caught accidentally in or between objects	E918	6.8%
Accidents caused by knives, swords, and daggers	E920.3	6.1%
Accidents caused by other specified cutting and piercing instruments or object	E920.8	13.3%
Overexertion and strenuous and repetitive movements or loads	E927	18.7%
Unspecified accident	E928.9, E887, E929.9	10.4%

As seen in Table 4.1, almost 75 percent of all injury work-related ED visits are other unintentional injuries, including overexertion and strenuous and repetitive movements or loads (18.7%), striking against or being struck accidentally by objects or persons (13.7%) and unintentional injuries caused by other specified cutting and piercing instruments or objects (13.3%). More than 18 percent of work-related ED visit injuries are due to unintentional falls, including falls from other slipping, tripping or stumbling (13.6%). Motor vehicle traffic crashes make up another seven percent of the cause of injuries for the work-related ED visits.

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<sup>1</sup> National Institute for Occupational Safety and Health. Work-Related Injury Statistics Query System [Internet]. Morgantown (WV): Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health (US); [updated 2015 June 1; cited 2015 Sept 23]. Available from: <http://www.niosh.gov/wisards/workrisqs>.