

Identifying Work-Related Injuries in Trauma Data: A Comparison of Methods in New York State

Jin Luo, MS, Leah Hines, MPH, Alicia Fletcher, MPH, Michael Bauer, MS

New York State Department of Health, Bureau of Occupational Health and Injury Prevention

Background

The New York State (NYS) Trauma Registry (TR) collects information on patients with moderate to severe traumatic injuries treated in one of the 49 designated NYS trauma centers. Over 200 variables are collected in the TR, including a variable “Work-Related”. Occupational injuries have historically been identified using Workers’ Compensation (WC) as the primary payer in NYS emergency department (ED) and inpatient hospital data. However, self-employed individuals such as farmers, independent contractors, federal employees, railroad, longshore and maritime workers are not covered by NYS WC system.

The study objectives were to analyze and characterize the occupational injuries that are not covered or reported by WC, to investigate the potential pattern and understand why work-related injuries would not claim WC.

Methods

Work-related injuries were identified in the 2010-2013 TR using both the “Work-Related” variable and WC in the expected primary payer variable.

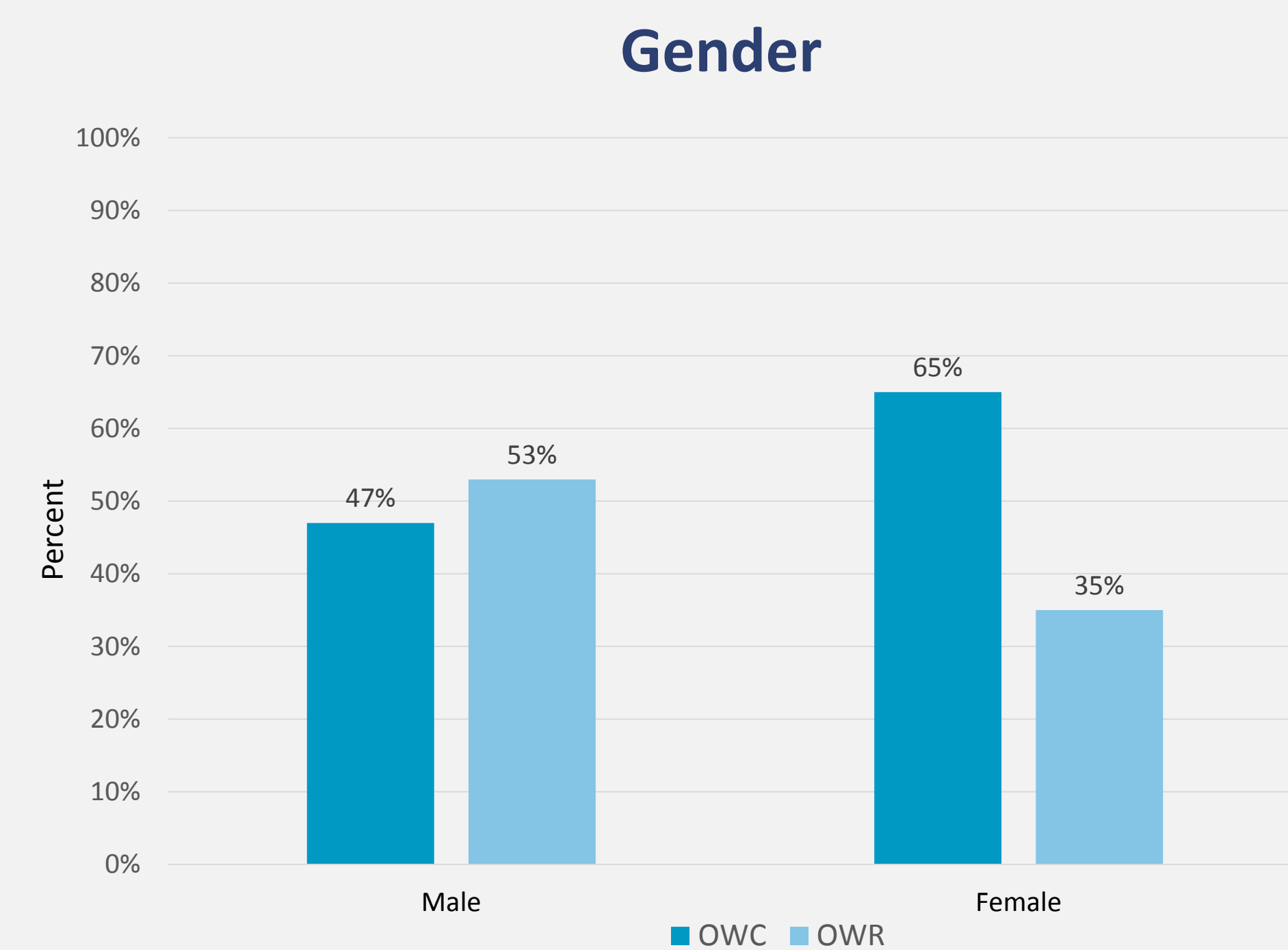
Results

From 2010-2013, there were 2,367 work-related traumatic injuries identified with the work-related indicator and 2,356 identified with WC as the expected primary payer. Of these cases, 1,659 could be identified both by the work-related variable and WC, 697 were identified *only by WC* (OWC), and 708 cases were identified *only by the work-related variable* (OWR).

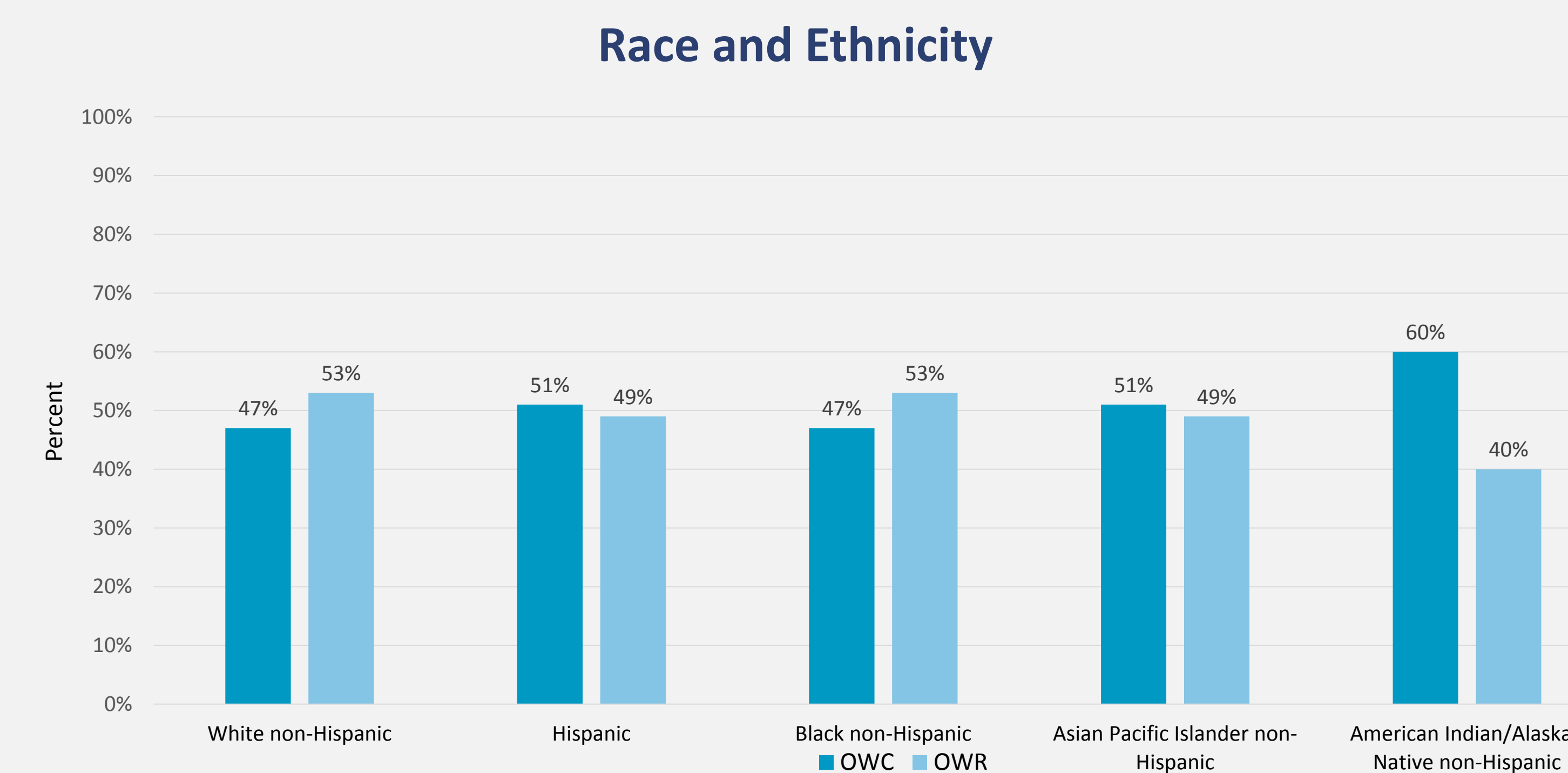
Work-Related	Workers’ Compensation		Total
	No	Yes	
No/Unknown	67,660	697	68,357
Yes	708	1,659	2,367
Total	68,368	2,356	70,724

OWR: Work-related injuries identified *only by the work-related variable*

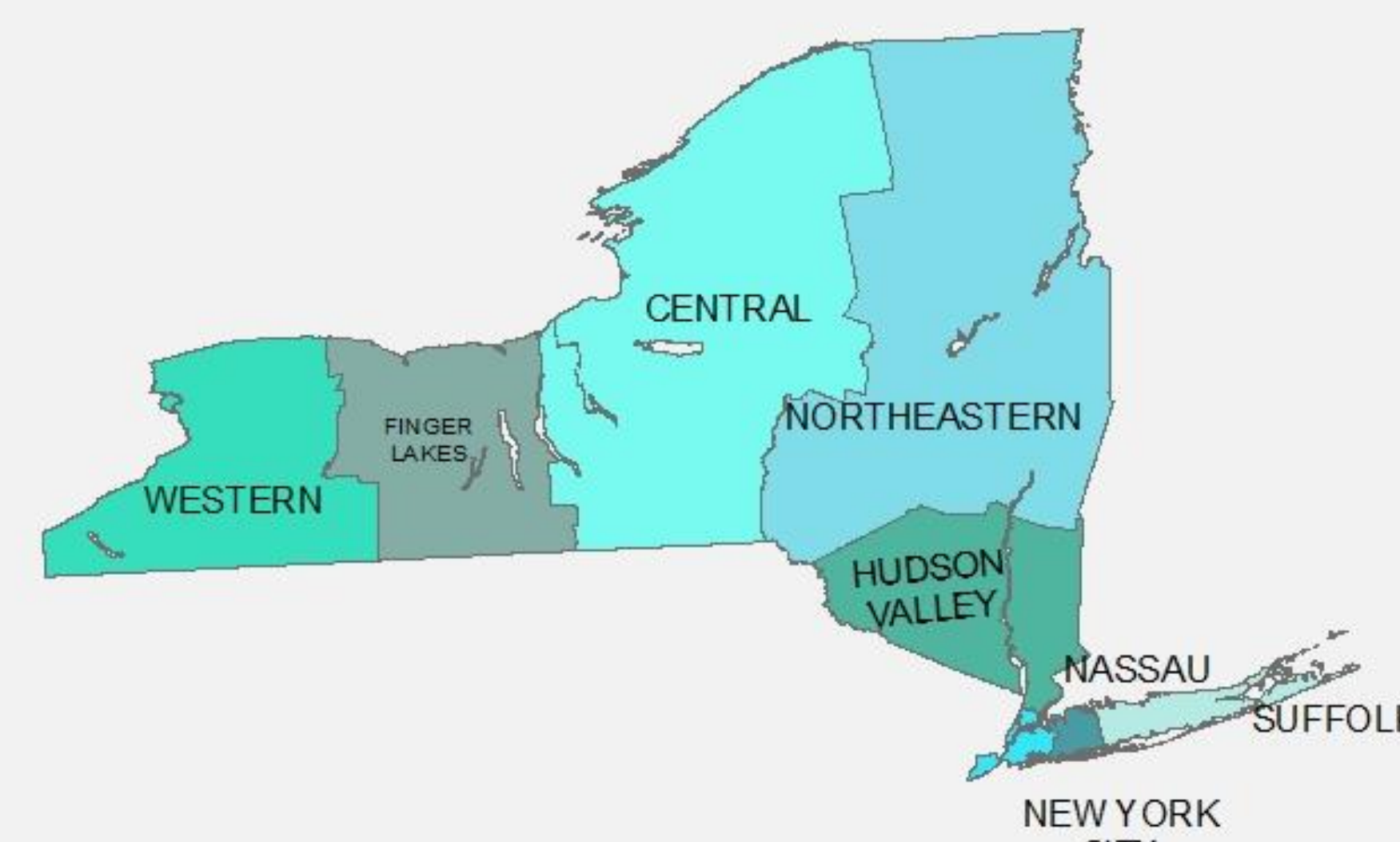
OWC: Work-related injuries identified *only by Workers’ Compensation*



Among males, 47% were identified as OWC, and 53% were identified as OWR. Conversely, 65% of females were identified at OWC, and 35% were identified as OWR. Among the race and ethnicity groups, White non-Hispanics and Black non-Hispanics were more likely to be captured in OWR.



Region of Residence



Region	Percent	
	OWC	OWR
New York City	58%	42%
Nassau	44%	56%
Suffolk	35%	65%
Hudson Valley	62%	38%
Northeastern	38%	62%
Central	38%	62%
Finger Lakes	51%	49%
Western	57%	43%

Regions are based on the NYS TR definition of regions. The Suffolk Region had the highest number of additional cases captured by OWR.

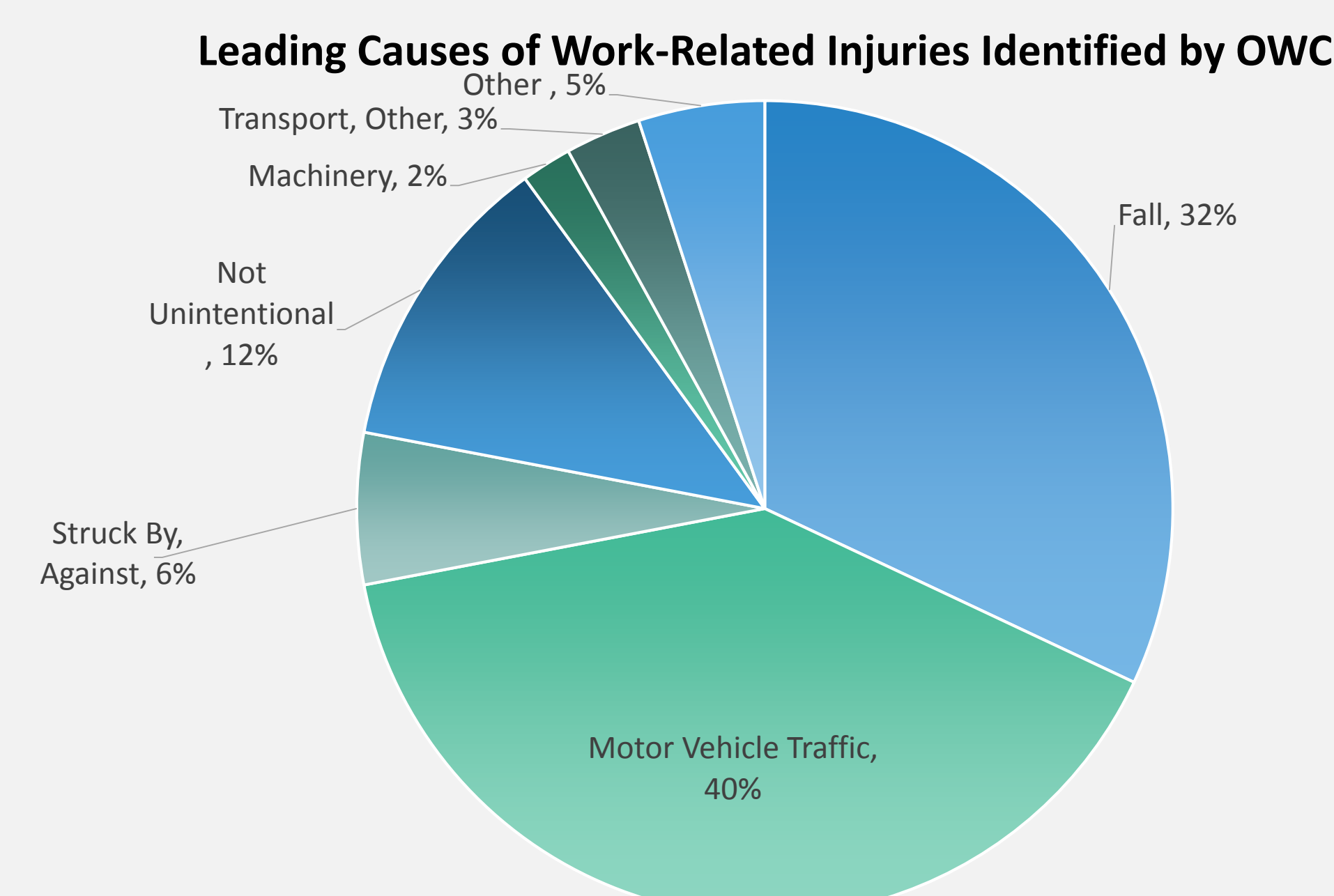
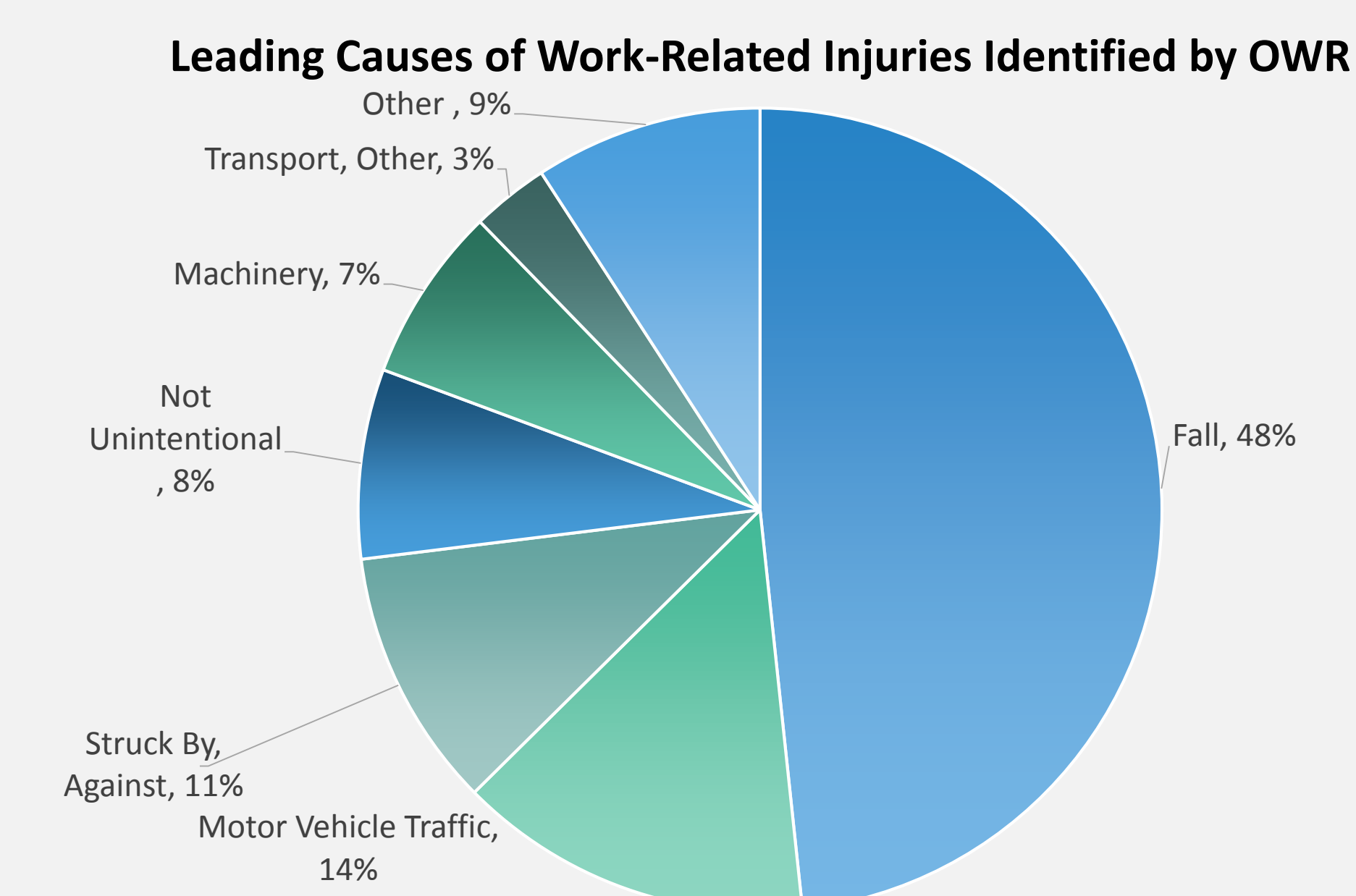
Injury Severity Score

Group	Mean
OWC	14.7
OWR	15.6

The Injury Severity Score (ISS) is used to assess injury magnitude. The ISS threshold for an injury to be considered a major trauma is 15. In this analysis, the mean ISS was 14.7 in the OWC group, and 15.6 in the OWR group.

Mechanism of Injury

In the OWC group, the leading cause of injury was motor vehicle traffic (MVT) (40%), followed by falls (32%). In comparison, the leading cause of injury was falls (48%), followed by MVT (14%) in the OWR group.



Fall injuries

In OWC, 16% injuries occurred at home, and 9% injuries occurred at a public building. In OWR, 22% injuries occurred at home, 5% of injuries occurred at a public building. Workers compensation is more likely to be used when the fall injuries occurred at work place.

In the OWC group, 14 (2%) fall injuries included drug or alcohol diagnosis codes. In the OWR group, 39 (5.5%) fall injuries included drug or alcohol diagnosis codes. In NYS, injuries sustained at work due to drug or alcohol intoxication are not covered by WC.

Motor Vehicle Traffic Injuries

Seventy two percent of MVT-related injuries in the OWR group were covered by No-Fault insurance. No-Fault insurance is required in NYS to simplify the process of determining which driver is responsible for a crash. Because of the complexity of WC and the convenience of No-Fault, it is not unexpected that the majority of cases in the OWR group were covered by No-Fault insurance.

Expected Primary Payor	OWR	
	Number	Percent
No fault	73	72%
Self pay	10	10%
No charge	4	4%
Government	4	4%
Other	10	10%

Conclusions

This analysis suggests the importance of considering additional means of identifying work-related injuries in medical data, as using traditional methods result in an undercount of these injuries (708 additional work-related cases found). The main differences seen are in capturing work-related injuries by gender, and the mechanism of injury. Males are more likely to be identified by OWR, the OWC group is more likely to be injured in a fall. MVT-related injuries can involve vehicle damage and a police report. WC is more likely to be used when official documentation is recorded. The work-related fall injuries without WC may be from businesses that are not required to have WC for their employees, such as small family owned and operated businesses.