

Fatal Occupational Injuries among Hispanic-Latino Workers in California, 2009-2013

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Executive Summary

Protecting worker health and safety in California is an ongoing priority across all industries. Interventions can be targeted to specific groups to reduce workplace injuries, illnesses, and fatalities. To maximize efficiency, preventive strategies should consider the risk factors revealed by the trends over time, industry, and geographic location. This report examines the trend in fatal occupational injuries among workers in California from 2009 to 2013, with a focus on the observed increase that occurred among Hispanic¹ workers between 2012 and 2013.² Our main findings include the following:

- Hispanics are the largest ethnic group in the workforce. The Hispanic labor force grew by 13.4% between 2009 and 2013.
- In four of the last five years, the occupational fatality rate was higher among Hispanic workers than non-Hispanics. In 2013, the rate per 100,000 full-time equivalent Hispanic workers (3.1)³ was 70% higher than the rate among non-Hispanics (1.8).
- Between 2012 and 2013, industries with an increase in Hispanic fatalities included administrative and waste services from 16 (5.0 per 100,000) to 37 (11.4 per 100,000), in transportation and warehousing from 18 (7.5 per 100,000) to 29 (13.0 per 100,000), and in construction from 23 (6.4 per 100,000) to 33 (8.1 per 100,000).
- The highest rate of fatalities in 2013 was in the transportation and warehousing sectors for both Hispanics (13.0 per 100,000) and non-Hispanics (12.0 per 100,000).
- The rate of fatalities was higher in 2013 among Hispanic workers than non-Hispanic workers in three sectors: administrative and waste services (11.4 vs 2.2 per 100,000), construction (8.1 vs 6.1 per 100,000), and manufacturing (2.5 vs 1.8 per 100,000).
- The rate of fatalities in 2013 was higher among non-Hispanic workers than Hispanic workers in two sectors: agriculture, forestry, fishing and hunting (18.8 vs 6.8 per 100,000) and public administration (9.1 vs 5.1 per 100,000).
- Within the administrative and waste services sector, the number of fatalities among landscaping services workers increased from 9 to 24 from 2012 to 2013, and Hispanics constitute all of the landscaping services fatalities in those two years. These workers died from incidents that occurred while they were trimming or pruning trees, as well as from vehicular and transportation operations.

Background

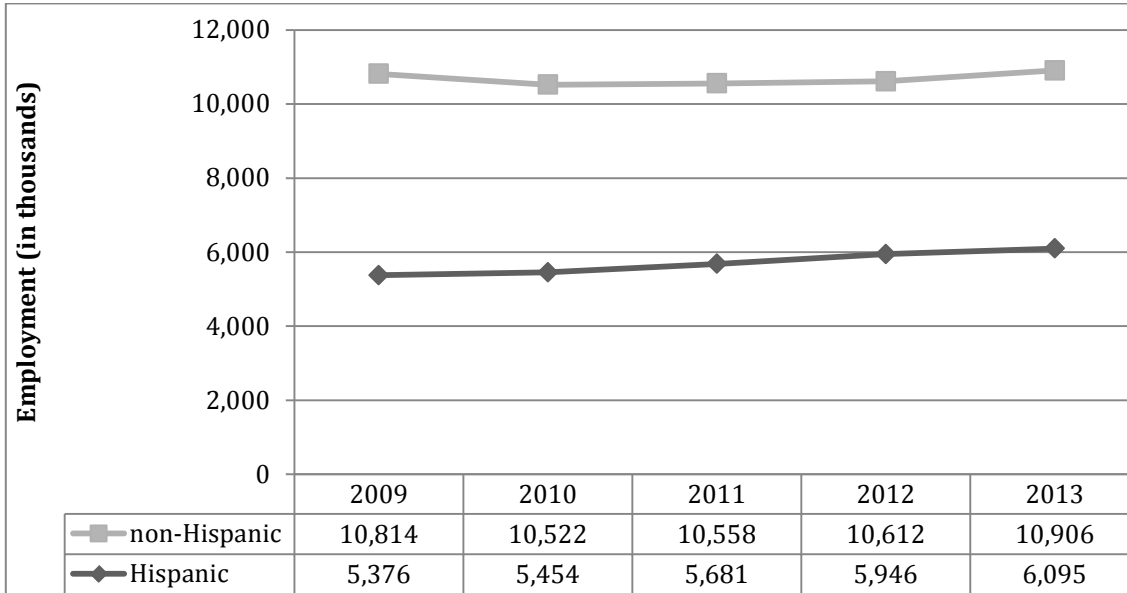
The Census of Fatal Occupational Injuries (CFOI) produces comprehensive, accurate, and timely counts of fatal work injuries. This Federal-State cooperative program has been implemented by the Bureau of Labor Statistics (BLS) in all 50 States and the District of Columbia since 1992. CFOI only covers workers who are fatally injured, not those who die from occupational diseases or chronic toxic exposures. To compile counts that are as complete as possible, CFOI uses multiple sources to identify, verify, and profile fatal worker injuries. Information about each fatal workplace injury, including occupation and other worker characteristics, equipment involved, and circumstances of each event, is obtained by cross-referencing coroners' reports, death certificates, workers' compensation reports, and other administrative reports. To ensure that fatal injuries are work related, cases are substantiated with two or more independent source documents, or a source document and a follow-up questionnaire.

Between 2009 and 2012, 1,500 workers were killed on the job in California, an average of 375 per year. These workers were predominately male (1,380, or 92%). One-third of these cases were caused by a transportation incident, and one in four deaths was due to an assault or other violent act. Slips, trips, and falls accounted for 17% of workplace fatalities. The highest numbers of deaths each year are in the trade, transportation and utility sectors; construction; agriculture, forestry, fishing and hunting; and professional and business services. By occupation, drivers and sales workers accounted for 22% of fatalities; followed by construction workers (14%); and farming, fishing, and forestry workers (7%).

The preliminary CFOI report for 2013 indicates 385 California workers died from job-related injuries in 2013, an increase of 10 deaths over the prior year. The number of fatalities among Hispanic workers increased from 137 in 2012 to 188 in 2013, an increase of 37%. Conversely, among non-Hispanic workers, the number of fatalities decreased during the same time period by 40 cases, or 17%. In 2013, Hispanic work-related fatalities made up 49% of the statewide total, although Hispanic workers made up 36% of the labor force, indicating an increased risk for fatality among Hispanic workers. Of the 188 Hispanic work related fatalities, 178 were male workers, while 10 were female. To identify risk factors and possible interventions to prevent these fatalities, it is important to consider these changes over time, industry, and geographic location. This report examines the long- as well as short-term trends in work-related fatalities in California, with particular attention to Hispanic fatalities.

Hispanics are the largest ethnic group in the California population, comprising 36% of the state’s labor force in 2013. As shown in Figure 1, from 2009-2013, following the 2007-2009 recession, the Hispanic labor force increased at a higher rate with 13.4% growth compared to the non-Hispanic labor force (1%) and California’s labor force overall (5.5%).

Figure 1. California Employment, 2009-2013

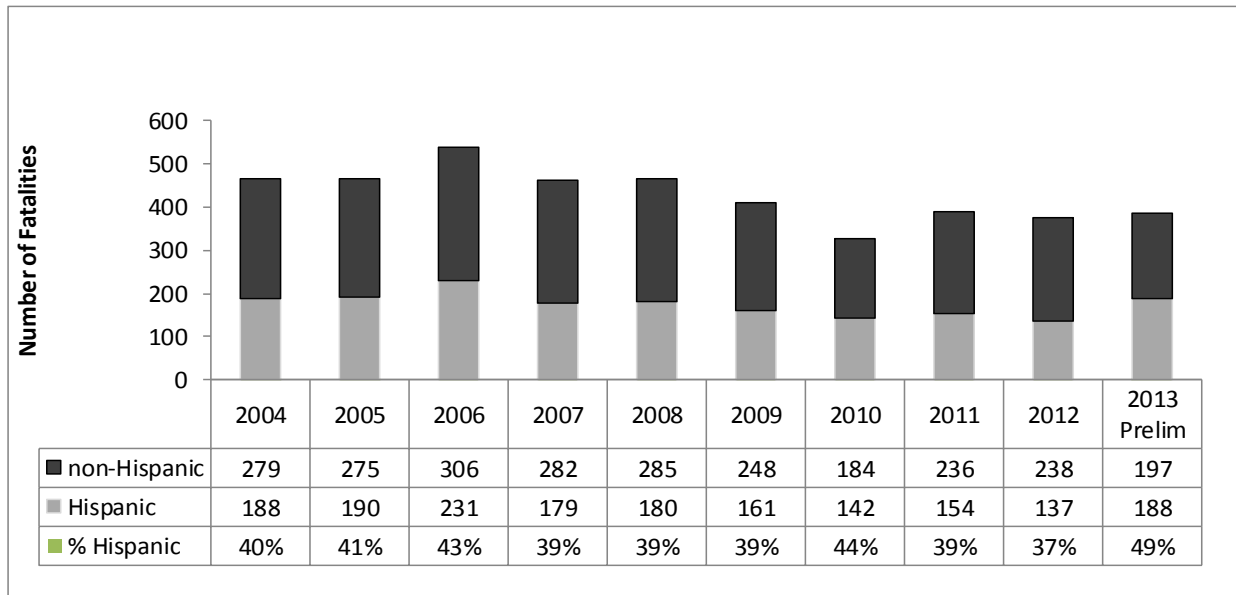


Source: U.S. Department of Labor, Bureau of Labor Statistics, Geographic Profile of Employment and Unemployment, 2009-2013. Note: Non-Hispanic numbers were calculated by taking the difference between total workers and Hispanic workers.

Work-Related Fatalities among Hispanic and Non-Hispanic Workers

Prior to 2013, the portion of work related fatalities among Hispanic and non-Hispanic workers stayed relatively constant, with approximately 40% of cases. During the 2009-2013 time period, the total number of work-related fatalities dropped 5.9% in the state, whereas Hispanic fatalities increased by 16.8%. The number and percentage of the fatalities that occurred among Hispanics vary over time. Hispanic fatalities dropped from 154 (39% of total) in 2011 to 137 (37% of total) in 2012, and then increased to 188 (49% of the total) in 2013 (see Figure 2).

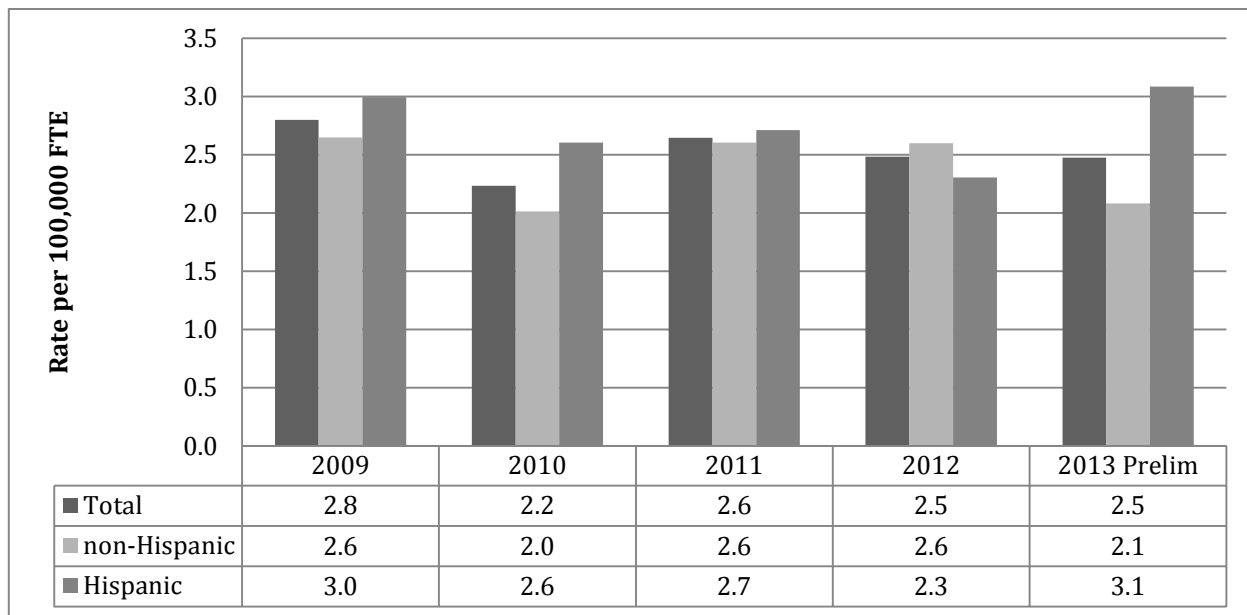
Figure 2. California Fatalities by Ethnicity, 2004-2013



Source: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries. Data for 2013 are preliminary. Data for prior years are revised and final. Note: Non-Hispanic numbers were calculated by taking the difference between total workers and Hispanic workers.

In California in 2013, the fatality rate was 2.5 per 100,000 workers.⁴ The rate among Hispanic workers (3.1 per 100,000) was 48% higher than the rate among non-Hispanics (2.1 per 100,000). The fatality rate was higher for Hispanic workers in four of the last five years (see Figure 3 on next page).

Figure 3. California Fatality Rate per 100,000 Workers, 2009-2013



Source: Not an official product of CFOI. Rates were calculated by authors using data from CFOI and number of workers taken from Table 14, Employment status of the civilian noninstitutionalized population, by sex, age, race, Hispanic or Latino ethnicity, and marital status, from the Geographic Profile of Employment and Unemployment, Estimates for States. (http://www.bls.gov/opub/gp/pdf/gp13_14.pdf) Non-Hispanic numbers were calculated by taking the difference between total workers and Hispanic workers. CFOI data for 2013 are preliminary. Data for prior years are revised and final.

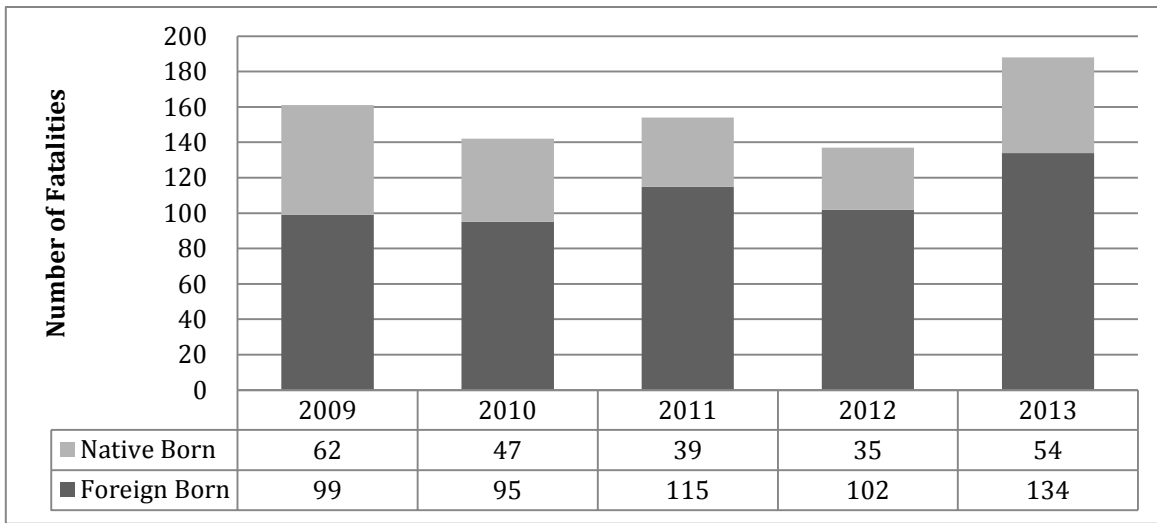
Between 2009 and 2013, 70% of fatally injured Hispanic workers in California were foreign born, and 30% were born in the United States. In contrast, in the United States as a whole, approximately 64% of fatally injured Hispanic workers were born outside the U.S. Figure 4 shows the breakdown of fatal work injuries involving Hispanic workers from 2009-2013 by place of birth. A majority of those Hispanic workers fatally injured in California were from Mexico, others were born in the U.S., Guatemala, El Salvador, Nicaragua and Peru.

Table 1: California Occupational Fatalities among Hispanic Workers by Birthplace, 2009-2013

	2009	2010	2011	2012	2013
El Salvador	6	4	8	5	17
Guatemala	6	5	-	10	5
Mexico	80	79	102	80	106
Nicaragua	-	4	-	-	-
Peru	-	-	-	3	-
United States	62	47	39	35	54

Source: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries. Dashes indicate no data reported or data that do not meet publication criteria. Data for 2013 are preliminary. Data for prior years are revised and final.

Figure 4. California Work Fatalities Involving Hispanic Workers by Place of Birth, 2009-2013

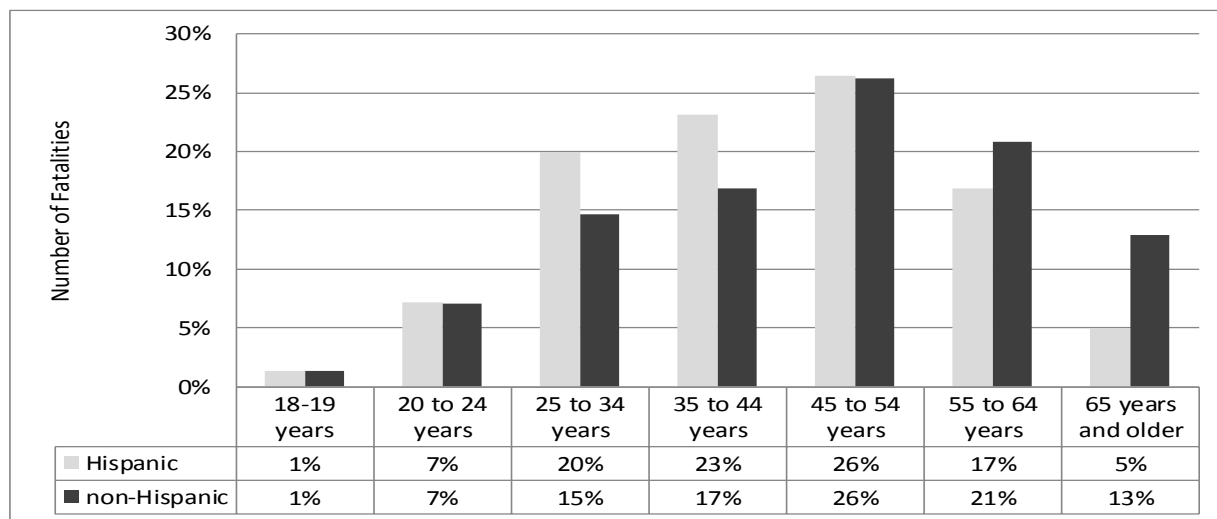


Source: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries. Data for 2013 are preliminary. Data for prior years are revised and final.

Demographics

For both Hispanics and non-Hispanics, 26% of fatalities occurred among workers aged 45 to 54, and over 90% of fatalities occurred among males. However, Hispanic workers die from work-related fatalities at a younger age than non-Hispanics. Fifty-one percent of Hispanic fatalities were 44 or younger, compared to 40% of non-Hispanics (see Figure 5).

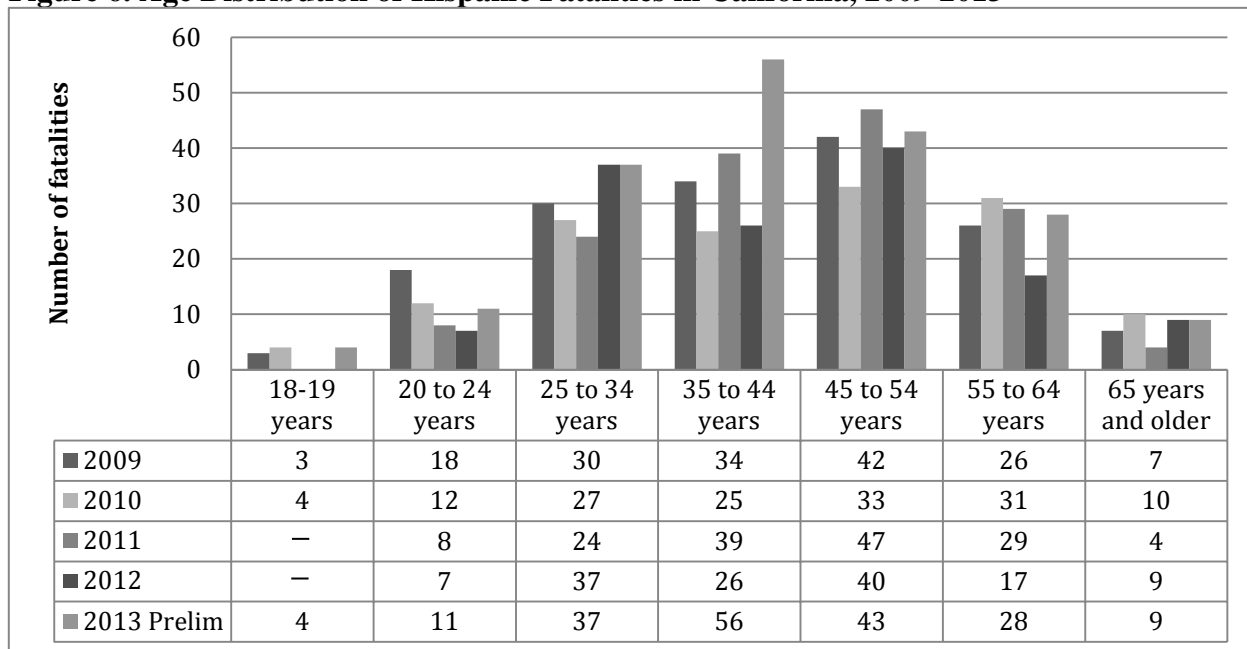
Figure 5. Age Distribution of Hispanic and non-Hispanic Fatalities in California, 2009-2013



Source: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries. Data for 2013 are preliminary. Data for prior years are revised and final.

The number of fatalities among Hispanics aged 35-44 more than doubled between 2012 and 2013, increasing from 26 to 56; this age group accounted for half of the total increase between these two years, as well as a substantial increase in fatalities since 2009 (Figure 6).

Figure 6. Age Distribution of Hispanic Fatalities in California, 2009-2013

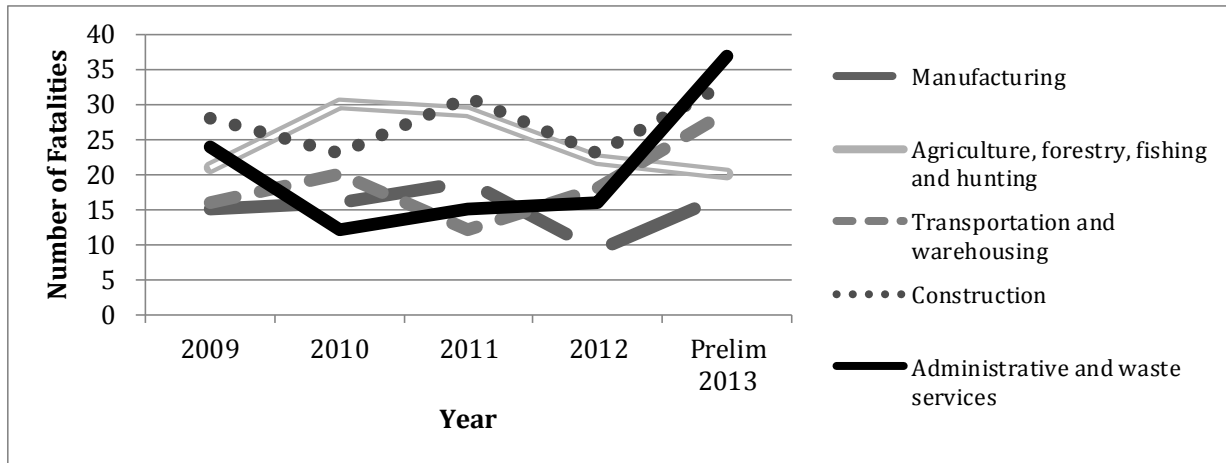


Source: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries. Dashes indicate no data reported or data that do not meet publication criteria. Data for 2013 are preliminary. Data for prior years are revised and final.

Industry

In 2013, the highest number of fatalities in the California workforce occurred in transportation and warehousing (65), construction (57), and government administration (47). Among Hispanic workers in 2013, the highest number of fatalities occurred in administrative and waste services (37), construction (33), and transportation and warehousing (29). Between 2012 and 2013, fatalities in administrative and waste services among Hispanics increased from 16 to 37 (up 131%), and this industry represents 41% of the increase in Hispanic fatalities during that time period. Hispanic fatalities also increased in manufacturing (89%), transportation and warehousing (61%), and construction (43%) (see Figure 7).

Figure 7. California Sectors with the Most Fatalities among Hispanics, 2009-2013



Source: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries. Data for 2013 are preliminary. Data for prior years are revised and final.

Within administrative and waste services, the number of Hispanic fatalities increased from 9 in 2012 to 24 in 2013 among landscaping services, and Hispanics constitute *all* of the landscaping services fatalities in 2013. By contrast, deaths in agriculture, forestry, fishing and hunting decreased both overall and among Hispanics between 2010 and 2013.

Rates of fatality⁵ by ethnicity for 2013 appear in Table 2. Between 2012 and 2013, Hispanic fatalities increased in administrative and waste services from 16 (5.0 per 100,000) to 37 (11.4 per 100,000), in transportation and warehousing from 18 (7.5 per 100,000) to 29 (13.0 per 100,000), and in construction from 23 (6.4 per 100,000) to 33 (8.1 per 100,000). The highest rates of fatalities in 2013 were in the transportation and warehousing sectors for both Hispanics (13.0 per 100,000) and non-Hispanics (12.0 per 100,000). The rate of fatalities was higher in 2013 among Hispanic workers than non-Hispanic workers in three sectors: administrative and waste services (11.4 vs 2.2 per 100,000), construction (8.1 vs 6.1 per 100,000), and manufacturing (2.5 vs 1.8 per 100,000). The rate of fatalities in 2013 was higher among non-Hispanic workers than Hispanic workers in two sectors: agriculture, forestry, fishing and hunting (18.8 vs 6.8 per 100,000) and public administration (9.1 vs 5.1 per 100,000).

Table 2: Rates of Occupational Fatality by Private Industry Sector* and Hispanic Ethnicity, California, 2013.

Sector	Cases	Full-time Equivalent (FTE) workers [†]	Rate per 100,000 FTE (90% CI)
Agriculture, Forestry, Fishing and Hunting	30	349,158	8.6 (8.1, 9.2)
non-Hispanic	10	53,490	18.7 (16.8, 21)
Hispanic	20	295,668	6.8 (6.4, 7.2)
Percent Hispanic	67%	85%	
Construction	57	775,684	7.3 (7.1, 7.7)
non-Hispanic	24	369,807	6.5 (6.3, 6.7)
Hispanic	33	405,877	8.1 (7.8, 8.5)
Percent Hispanic	58%	52%	
Manufacturing	36	1,716,901	2.1 (2, 2.2)
non-Hispanic	19	1,046,250	1.8 (1.7, 1.9)
Hispanic	17	670,651	2.5 (2.4, 2.7)
Percent Hispanic	47%	39%	
Wholesale Trade	22	495,091	4.4 (4.2, 4.7)
non-Hispanic	15	277,249	5.4 (5.2, 5.7)
Hispanic	7	217,842	3.2 (3, 3.4)
Percent Hispanic	32%	44%	
Retail Trade	24	1,539,918	1.6 (1.5, 1.6)
non-Hispanic	15	938,696	1.6 (1.5, 1.7)
Hispanic	9	601,222	1.5 (1.4, 1.6)
Percent Hispanic	38%	39%	
Transportation and Warehousing	65	522,141	12.4 (11.6, 13.4)
non-Hispanic	36	298,847	12 (11.3, 12.9)
Hispanic	29	223,294	13.0 (12.1, 14.1)
Percent Hispanic	45%	43%	
Administrative and Waste Services	43	599,894	7.2 (6.8, 7.5)
non-Hispanic	6	275,637	2.2 (2.1, 2.3)
Hispanic	37	324,257	11.4 (10.9, 12)
Percent Hispanic	86%	54%	
Accommodation and Food Services	11	1,011,364	1.1 (1.1, 1.1)
Non-Hispanic	4	471,588	0.8 (0.8, 0.9)
Hispanic	7	539,776	1.3 (1.3, 1.3)
Percent Hispanic	64%	53%	

Source: Not an official product of CFOI. Rates were calculated by authors at DIR using the American Community Survey (ACS) Public Use Microdata Set (PUMS) data, one-year estimates. U.S. Census Bureau, 2013 American Community Survey 1-year Estimates, Public Use Microdata Set (PUMS); generated by Rebecca Jackson; using American FactFinder and SAS; <<http://factfinder2.census.gov>>; (1 December 2014). CFOI data for 2013 are preliminary.

* Excludes public sector workers.

[†] Full time equivalent (FTE) equivalent was calculated from the ACS PUMS. The PUMS files that contain 1% of the housing units sampled for each year, and a weight for each record. The ACS asks each survey respondent to report the number of weeks he or she worked in the last 12 months and the usual hours he or she worked per week. The FTE is calculated by summing the weighted annual hours worked by industry and dividing by 2,000 hours.

Occupation

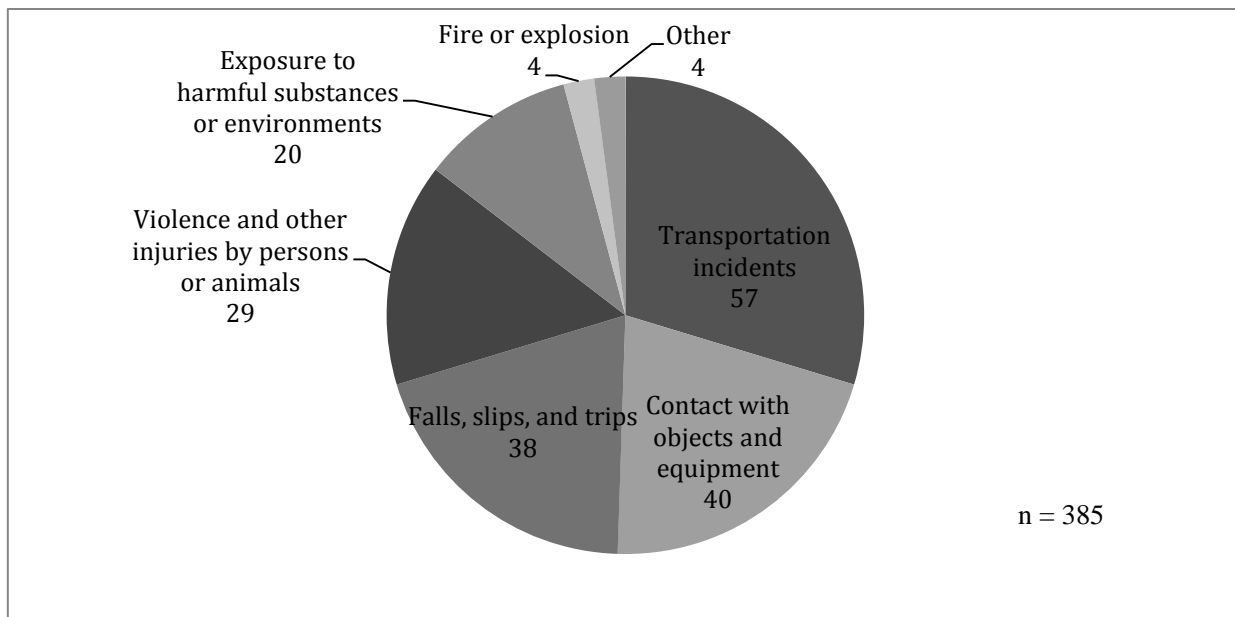
Occupational distinction provides valuable insight into prevention opportunities. In 2013, one in four fatalities among Hispanics was a transportation and material moving operations worker, including 27 heavy truck drivers and 14 material moving workers. Other high-fatality occupations included construction trade workers (29); agricultural workers (16); production occupations (14); installation, repair, and maintenance workers (12); and protective service occupations (9).

As noted above, the past few years have seen a large increase in fatalities among groundskeeping workers.⁶ The total number of fatalities among these workers was 17 in 2011, 12 in 2012, and 30 in 2013. Nearly all groundskeeper fatalities in 2013 (29 of 30) occurred among Hispanic workers, and all were men. Among the 30 groundskeeper fatalities in 2013, 14 fatalities were a fall, slip, or trip (5 deaths involving falls of under 6 feet), 7 were caused by a transportation incident, and 6 cases were caused by drowning (5 cases listed pools as the primary source of injury). Eighteen of the cases in 2013 involved machinery used in trimming and pruning and 7 involved vehicular operations. Half of the groundskeeper deaths in 2013 involved work at a private residence, while most others occurred on streets and highways. Trees, logs, and limbs were identified as the primary source of 12 fatalities in 2013.

Fatalities by Type/Event

The primary types of events leading to fatalities among Hispanic workers can be divided into five categories (listed here in descending order of frequency): (1) transportation incidents; (2) contact with objects and equipment; (3) falls, trips, and slips; (4) violence and other injuries by persons or animals; and (5) exposure to harmful substances or environments (see Figure 8).

Figure 8. Major Events of Fatalities among Hispanic Workers in California, 2013



Source: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries. Data for 2013 are preliminary.

Of the 57 work-related transportation incidents leading to fatalities among Hispanic workers in 2013, most involved one of three situations: roadway collisions with another vehicle (14), pedestrians struck by road and off-road vehicles (20), and non-roadway incidents involving vehicles (10). The fatalities caused by contact with objects occurred primarily when workers were either struck by equipment, including non-transport vehicles (13) or by falling equipment or objects (12), and when workers were caught in or between equipment or objects (10). Most of the 38 falls, trips, and slips resulting in fatalities involved falls; in 2013, 7 fatalities involved falls of less than 6 feet, 9 fatalities involved falls between 11 and 15 feet, and 5 falls involved falls through a surface or other existing opening, such as a skylight. Of the 29 violence-related fatalities in 2013, 17 were homicides, 8 were suicides, and 3 resulted from encounters with an animal or insect.

Worker Activity

In 2013, the major categories of worker activities associated with Hispanic workplace fatalities include vehicular and transportation operations (57), constructing, repairing and cleaning (42), operating tools and machinery (30); and handling materials (14). In addition, in 2013, 10 fatalities among Hispanics involved tending a retail establishment, and 15 Hispanic workers died while walking in or near roadways. For the state as a whole, comparable figures are: vehicular and

transportation operations (131), constructing, repairing and cleaning (72), operating tools and machinery (42); handling materials (25); and tending a retail establishment (19).

Location of Fatal Injuries

In 2013, Hispanic fatalities occurred in many different types of locations: 62 occurred in industrial places and premises, including 18 in factories and 17 on construction sites. In addition, 40 fatalities occurred on streets and highways; 26 at private residences; 18 in public places, including commercial stores; and 16 on a farm. For the state as a whole, 103 occurred in industrial places and premises, including 23 in factories and 23 on construction sites. For all workers, 96 fatalities occurred on streets and highways; 36 at private residences; 54 in public places, including commercial stores; and 20 on a farm.

DIR was able to obtain some data on the location of occupational fatalities from the Bureau of Labor Statistics. The detailed data grouped fatalities into Metropolitan Statistical Areas (MSAs). Due to restrictions on publication of CFOI data, Table 3 does not show all areas of the state. The table indicates the distribution by MSA for 172 of the 188 Hispanic fatalities in 2013. The table lists MSAs starting with those that have the highest total number of fatalities from 2009 to 2013 and then in descending order. In 2013, two MSAs accounted for half of the occupational fatalities among Hispanics: Los Angeles/Long Beach/Santa Ana and Riverside/ San Bernardino/Ontario.

Table 3: Hispanic Fatalities by Metropolitan Statistical Area (MSA), California, 2009-2013

Region	2009	2010	2011	2012	2013
Los Angeles-Long Beach-Santa Ana	57	42	55	40	62
Riverside-San Bernardino-Ontario	18	20	12	17	24
San Diego-Carlsbad-San Marcos	14	9	10	7	14
San Francisco-Oakland-Fremont	10	9	12	15	8
Fresno	7	5	3	16	16
San Jose-Sunnyvale-Santa Clara	4	8	9	5	9
Bakersfield-Delano	7	7	6	5	4
Santa Barbara-Santa Maria-Goleta	6	6	3	3	3
Salinas	-	4	6	-	7
Sacramento-Arden-Arcade-Roseville	4	-	5	4	3
Modesto	5	-	3	3	4
Oxnard-Thousand Oaks-Ventura	-	-	7	3	5
Stockton	4	3	3	-	4
Merced	3	3	-	-	4
Visalia-Porterville	3	-	-	-	5
El Centro	-	-	3	3	-
Chico	-	3	-	-	-
San Luis Obispo-Paso Robles	-	-	3	-	-
Santa Cruz-Watsonville	3	-	-	-	-

Source: U.S. Department of Labor, Bureau of Labor Statistics, Census of Fatal Occupational Injuries (CFOI). See <http://www.bls.gov/iif/oshcfdef.htm> for more information on how MSAs are defined in CFOI. Dashes indicate no data reported or data that do not meet publication criteria. Data for 2013 are preliminary. Data for prior years are revised and final.

Conclusion

This report examines the change in Hispanic fatalities in California from 2009 to 2013, with a focus on the increase that occurred between 2012 and 2013. In 2012, the rate of Hispanic fatalities was at a 5-year low, at 2.3 per 100,000 workers, and was comparable to the rate among non-Hispanic workers of 2.2 per 100,000 workers. In 2013, non-Hispanic fatality rates decreased while Hispanic fatality rates increased, reflecting a greater risk for work-related fatality among Hispanics. In 2013, the fatality rate among Hispanic workers (3.1 per 100,000) was 70% higher than the rate among non-Hispanics (1.8 per 100,000). The highest rates were in the transportation and warehousing sectors for both Hispanics (11.6 per 100,000) and non-Hispanics (12.0 per 100,000). The rate of fatalities was higher in 2013 among Hispanic workers than non-Hispanic workers in three sectors: administrative and waste services (11.4 vs 2.2 per 100,000), construction (8.1 vs 6.1 per 100,000), and manufacturing (2.5 vs 1.8 per 100,000). The fatality rate was lower among Hispanic workers than non-Hispanic workers in two sectors: agriculture, forestry, fishing and hunting (6.8 vs 18.8 per 100,000) and public administration (5.1 vs. 9.1 per 100,000).

Trends over time include an increase in fatalities among Hispanic workers in administrative and waste services, manufacturing, transportation and warehousing, and construction sectors. Within the administrative and waste services sector, the number of Hispanic fatalities of workers in landscaping services increased from 9 to 24 from 2012 to 2013, and Hispanics constitute all of the landscaping services fatalities in those two years. These workers died from accidents that occurred while they were trimming or pruning trees, as well as from drowning and falling. Deaths in agriculture, forestry, fishing and hunting decreased among Hispanics from 2010 to 2013. The number of fatalities among Hispanics aged 35-44 more than doubled between 2012 and 2013, and workers younger than 45 made up over half of the Hispanic fatalities. In four of the last five years, the fatality rate was higher among Hispanic workers than non-Hispanics.

Recommendations

Workplace fatalities among Hispanic and non-Hispanic workers are a continuing concern. We recommend specialized training for Hispanic workers in administrative and waste services, transportation and warehousing, construction, and manufacturing, in appropriate languages. Specific attention should be given to landscaping workers and the prevention of fatalities during tree trimming and other landscaping services, and to male Hispanic workers between the ages of 25

and 44. Training programs and materials could be developed in English and Spanish in conjunction with state-based occupational health centers, including the California Commission on Health and Safety and Workers' Compensation's Worker Occupational Safety and Health Training and Education Program (WOSHTEP), to ensure adequate and appropriate training is provided for workers prior to performing hazardous work.

Acknowledgements

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This report was prepared by the DIR Office of the Director - Research Unit - with assistance from the DIR Census of Fatal Occupational Injuries Unit.

Notes

¹ The Census of Fatal Occupational Injuries uses “Hispanic or Latino” as the formal name for this categorization. This report uses the term Hispanic. Persons identified as Hispanic may be of any race.

² Figures for 2009-2012 are final CFOI data, whereas 2013 is “preliminary.” In 2007-2012, there was an average 13% increase in total fatalities between preliminary and final results. However, beginning in the 2013 program year, the California CFOI program has gained more timely access to death certificates and as a result does not expect any significant difference between preliminary and final results.

³ All rates are per 100,000 full-time equivalent workers.

⁴ Not an official product of CFOI. Rates were calculated by the authors using data from CFOI and number of workers taken from Table 14, Employment Status of the civilian noninstitutionalized population, by sex, age, race, Hispanic or Latino ethnicity, and marital status, from the Geographic Profile of Employment and Unemployment, Estimates for States. Non-Hispanic numbers were calculated by taking the difference between total workers and Hispanic workers. CFOI data for 2013 are preliminary.

⁵ Rates of fatalities were calculated by DIR using one-year estimates from American Community Survey (ACS) Public Use Microdata Set (PUMS) data.

⁶ This category includes landscaping and grounds workers, tree trimmers and pruners, and first-line supervisors/managers of landscaping, lawn service, and grounds-keeping workers.