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Workers Memorial Day — April 28, 2017

Workers Memorial Day, observed annually on April 28,* recognizes workers who suffered or died because of exposures to hazards at work. In 2015, work-related injuries claimed the lives of 4,836 U.S. workers.† Although deaths resulting from work-related injuries are captured by surveillance systems, most deaths resulting from work-related illness are not. In 2007, an estimated 53,445 persons died from work-related illness (*1*). In 2015, employers reported approximately 2.9 million nonfatal injuries and illnesses to private industry workers and 752,600 to state and local government workers§; an emergency department surveillance system estimates that 2.7 million workers were treated for work-related injuries in emergency departments, resulting in 85,000 hospitalizations (National Institute for Occupational Safety and Health [CDC-NIOSH], unpublished data, 2017).

Occupational injuries and illnesses also have economic costs. The societal cost of work-related fatalities, injuries, and illnesses was estimated at $250 billion in 2007, based on methods that focus on medical costs and productivity losses (*1*).

New data on fatal falls in the oil and gas industry are reported in this issue of *MMWR*. CDC-NIOSH collects detailed information about these fatal events in its Fatalities in Oil and Gas Extraction Industry database (https://www.cdc.gov/niosh/topics/fog/about.html) and uses these data to inform the industry and other stakeholders about health and safety risks and to guide intervention activities.

*Workers Memorial Day was established in 1970 by the American Federation of Labor and Congress of Industrial Organizations.
†National Census of Fatal Occupational Injuries in 2015. https://www.bls.gov/news.release/pdf/cfoi.pdf.
§Employer-reported workplace injuries and illnesses in 2015. https://www.bls.gov/news.release/pdf/osh.pdf.

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Occupational Fatalities Resulting from Falls in the Oil and Gas Extraction Industry, United States, 2005–2014

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During 2003–2013, fatality rates for oil and gas extraction workers decreased for all causes of death except those associated with fall events, which increased 2% annually during 2003–2013 (*1*). To better understand risk factors for these events, CDC examined fatal fall events in the oil and gas extraction industry during 2005–2014 using data from case investigations conducted by the Occupational Safety and Health Administration (OSHA). Sixty-three fatal falls were identified, accounting for 15% of all fatal events. Among fatal falls, 33 (52%) workers fell from a height of >30 feet (9 meters), and 22 (35%) fell from the derrick board, the elevated work platform located in the derrick (structure used to support machinery on a drilling rig). Fall fatalities occurred most frequently when drilling rigs were being assembled or disassembled at the well site (rigging up or rigging down) (14; 22%) or when workers were removing or inserting drill pipe into the wellbore (14; 22%). Measures that target derrickmen and workers engaged in assembling and disassembling drilling rigs (rigging up and down) could reduce falls in this industry. Companies should annually update their fall protection plans and ensure

INSIDE

Continuing Education examination available at https://www.cdc.gov/mmwr/cme/conted_info.html#weekly.

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effective fall prevention programs are in place for workers at highest risk for falls, including providing trainings on proper use, fit, and inspection of personal protective equipment.

A dataset of all U.S. land-based oil and gas worker fatality investigations that occurred during 2005–2014 was provided by OSHA under a memorandum of agreement to the National Institute for Occupational Safety and Health (NIOSH). The investigations were conducted by the respective federal, state, or area OSHA office where the event occurred. The North American Industry Classification System (NAICS) was used to categorize fatal events occurring among the three types of companies in the oil and gas extraction industry: 1) oil and gas operators (companies that control and manage leased areas [NAICS 211]); 2) drilling contractors (companies that drill the wells [NAICS 213111]); and 3) well-servicing companies (companies that provide all other types of support operations that prepare a well for production and completion [NAICS 213112]) (*2*). The Occupational Injury and Illness Classification System was used to identify and code fatal fall events (*3*).

Additional variables were created by conducting key word searches of the description field of the dataset. For 15 (24%) of the 63 fatal falls, additional information was collected from media reports. A classification scheme was created that included the following variables: fall height, location of fall, activity immediately before the fall, use of fall protection, and whether the worker was securely tied to an appropriate anchor through a fall arrest or a fall restraint system.* Worker population estimates from the Bureau of Labor Statistics, Quarterly Census of Employment and Wages were used to calculate rates. Poisson regression was used to assess the trend in rates of fatal falls during 2005–2014, which were considered statistically significant if $p<0.05$.

Sixty-three oil and gas extraction workers died as the result of a fall during 2005–2014, (average = 6.3 fatalities per year). Fall fatality rates declined an average of 6.3% per year (incidence rate ratio = 0.937) during this time but were not statistically significant ($p = 0.138$). Among 61 (97%) fall-associated deaths in which the sex of the victim was known, all were male. The average age of victims was 36 years (range = 21–76 years). The majority of falls (33; 52%) were from a height of >30 feet (9 meters) (Table). Among 56 cases in which the location of the fall was known, 22 (35%) victims fell from the derrick board (Figure 1). The two most common activities occurring immediately before the fatal falls were pipe handling (14; 22%) and rigging up or rigging down (14; 22%). However, the activity occurring immediately before the fall was not determined for 22 (35%) cases.

*Two common types of fall protection equipment include the fall arrest system and a fall restraint system. The fall arrest system consists of a vertical lifeline, connectors, lanyard, and harness with an anchorage point overhead, serving to arrest the fall of a worker. The fall restraint system consists of a harness, lifeline and/or lanyard, and a 5,000 pound capacity anchor which keeps the worker from reaching a fall point. There are also climbing assist devices that can be used while the worker is climbing the derrick ladder.

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TABLE. Characteristics of fatal falls among workers (N = 63) in the oil and gas extraction industry — United States, 2005–2014

Characteristic	No. (%)
Age group (yrs)	
20–29	23 (37)
30–39	16 (25)
40–49	10 (16)
≥50	10 (16)
Unknown	4 (6)
Sex	
Male	61 (97)
Female	0 (0)
Unknown	2 (3)
Industry (NAICS code)	
Oil and gas operators (211)	1 (2)
Drilling oil and gas wells (213111)	38 (60)
Support activities for oil and gas operations (213112)	24 (38)
Fall height (feet)	
0	3 (5)
1–10	4 (6)
11–20	6 (10)
21–30	6 (10)
31–40	5 (8)
41–50	5 (8)
51–60	8 (13)
61–70	3 (5)
71–80	3 (5)
≥81	9 (14)
>30	33 (52)
Unknown	11 (17)
Location	
Derrick board	22 (35)
Rig floor	8 (13)
Derrick ladder	5 (8)
Offshore rig	3 (5)
Stabbing board†	3 (5)
Other	15 (24)
Unknown	7 (11)
Activity before fall	
Handling/Tripping* pipe	14 (22)
Rigging up (assembling rig)	7 (11)
Rigging down (disassembling rig)	7 (11)
Maintenance	4 (6)
Welding	3 (5)
Stabbing†	3 (5)
Picking up sucker rods§	2 (3)
Picking up tools from scaffold	1 (2)
Unknown	22 (35)
Use of fall protection equipment	
Fall protection required	54 (86)
No fall protection required	9 (14)
Fall protection required:	
Fall protection used	24 (44)
No fall protection used	7 (13)
Unknown whether fall protection used	23 (43)
Fall protection used:	
Fall protection not anchored	15 (63)
Fall protection not worn properly	2 (8)
Equipment failure	7 (29)

Abbreviation: NAICS = North American Industry Classification System.

* Tripping pipe is the act of pulling the drill string out of the wellbore and then running it back in, usually to replace a worn drill bit or damaged drill pipe.

† The stabbing board is a temporary platform erected on the derrick approximately 20–40 feet (6–12 meters) from the derrick floor. The crew member works on the board while cement casing is being run in a well; the worker is referred to as a "stabber" and the operation is referred to as "stabbing." Cementing a well is the process of protecting and sealing the wellbore for the purpose of further drilling, production, or abandonment.

§ A series of interconnected sucker rods (steel rods, typically 25–30 feet [8–9 meters] in length, threaded at both ends) joins the visible above-ground pump jack with the pump at the bottom of the well after drilling is completed.

Among the three types of companies, drilling contractor workers experienced both the largest proportion of fatal fall injuries (38; 60%) and the highest fall-associated fatality rate (4.5 deaths per 100,000 workers). Twenty-four fatal fall injuries (38%) occurred among well-servicing company workers (1.1 per 100,000 workers), and only one worker death resulting from a fall occurred among oil and gas operators. Texas accounted for the largest number of fall fatalities (26; 41%), followed by Oklahoma (7; 11%) and Wyoming (6; 10%) (Figure 2).

Fall protection equipment was required for the work being done by 54 (86%) of the 63 workers involved in fatal fall events; however, in 30 (56%) of these cases, the workers were either not using the equipment (seven) or it was not determined whether they were using the required equipment (23). Among the 24 fatally injured workers who were wearing personal fall protection equipment, 15 (63%) were not properly attached to an anchor, two (8%) were not wearing a properly fitted harness, and seven (29%) were wearing the proper harness and attached to an anchor, but the equipment failed because a retractable lifeline broke (four), a rope broke (one), the climbing assist device reportedly failed (one), or the tool ring pulled out of the harness stitching (one).

Discussion

A 2015 analysis of occupational fatalities among oil and gas extraction workers during 2003–2013 found a decline in all leading causes of death except for fall events, which increased during that time (*1*). This analysis found slightly decreasing rates of fatal falls during 2005–2014. While the decreasing rates suggest that safety might be improving, the findings also indicate that implementation of additional interventions could prevent deaths from falls.

The majority of oil and gas extraction workers who died from a fall during 2005–2014 worked for a drilling contractor and fell from a height of >30 feet (9 meters). The occupation most commonly involved in a fatal fall were derrickmen, who work up to 90 feet (27 meters) above the rig floor on the derrick board, and handle pipe. Their work is physically demanding, repetitive, and requires a great deal of concentration. Without proper safeguards, one misstep can result in a fatal fall. Rigging

FIGURE 1. An oilfield derrickman climbing up to the derrick board

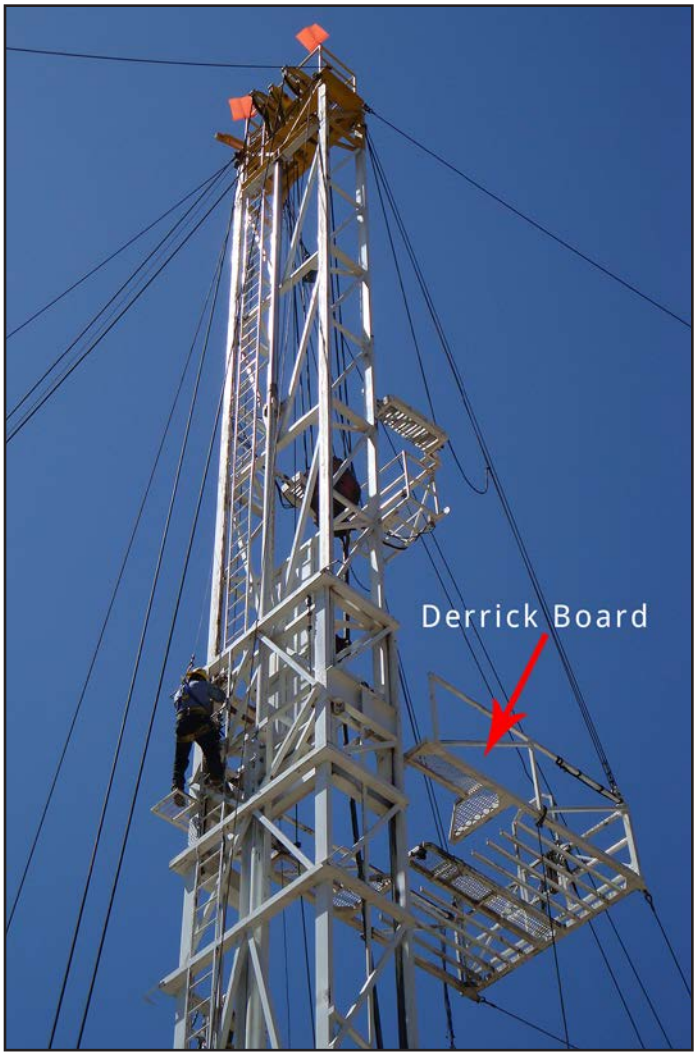
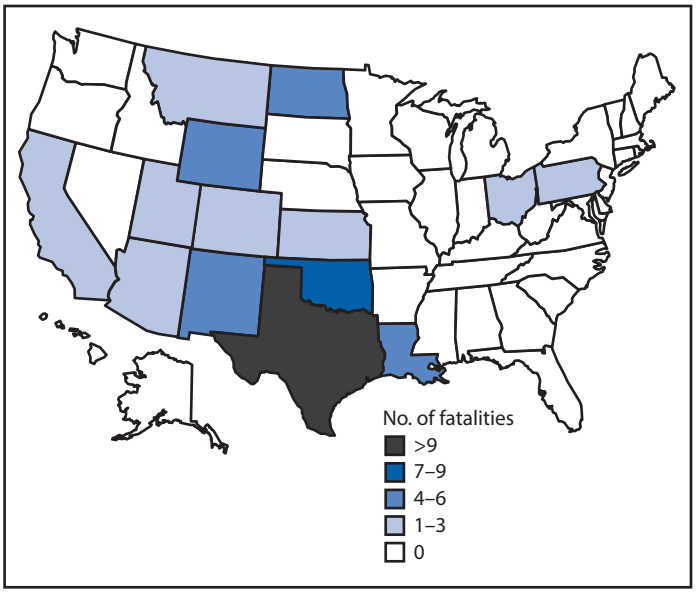


FIGURE 2. Fatalities resulting from falls in the oil and gas extraction industry (N = 63), by state — United States, 2005–2014



up and rigging down were identified as particularly hazardous activities; one reason for this might be the opportunity for miscommunication associated with the simultaneous movements of large equipment, vehicles, and workers that occur during the these activities (*4*).

In 86% of fatal falls in this series, fall protection was required by regulation, but it was not used, was used improperly, or the equipment failed. Among the 24 fatal falls where fall protection was used, 15 (63%) workers were wearing a harness, but they fell because their harness was not attached to an anchor point. In several of these cases, a visual or verbal check between the driller and the derrickman before drilling operations began might have prevented the fall. This check would ensure that the derrickman remembers to connect his fall protection harness to both his self-retracting lifeline and a restraint system on the derrick board. Workers must also be fitted for the proper size harness and trained in proper donning of their personal fall protection equipment (*5*). Fall protection equipment should be checked daily, and equipment that is worn, heavily soiled, or damaged should be removed from service and destroyed to prevent future use. The NIOSH rig check form for harnesses and lanyards can be used to ensure inspection is thorough and that only undamaged fall protection equipment is available for use (*6*).

The findings in this report are subject to at least three limitations. First, the dataset did not contain worker fatalities that occurred outside of OSHA's jurisdiction, such as self-employed workers, which might have resulted in an underestimate of worker fall fatalities. Second, case descriptions were the primary source of information, but they provided varying levels of detail, resulting in missing information for some variables. Finally, revisions to the Occupational Injury and Illness Classification System coding system for the event type categories occurred in 2011, and might have led to differences in the way fall fatalities were coded.

Measures in fall prevention should target derrickmen and workers engaged in rigging up and rigging down activities. Employers should first consider how to eliminate or control fall hazards using engineering controls such as automated rig technologies that allow drill pipe to be handled from the rig floor, thereby eliminating the need to work from the derrick board. Where engineering controls are not feasible, administrative controls can be implemented to ensure that derrickmen and other workers remember to anchor themselves while working at heights (*7*). Finally, training in the proper use and fit of personal protective equipment can protect workers from falls (*5*). A fall protection plan containing these processes should be available and understandable to workers, and able to be

Summary

What is already known about this topic?

Fall events are one of the leading causes of death in the U.S. oil and gas extraction industry. During 2003–2013, fatality rates for all causes of death among oil and gas extraction workers decreased, except for deaths from falls, which increased. Workers in this industry spend a substantial amount of time working at heights, especially on the rig floor, which is located up to 30 feet (9 meters) above the ground, and in other elevated locations.

What is added by this report?

This is the first report to identify which categories of workers are at highest risk for fall fatalities in the U.S. oil and gas extraction industry. During 2005–2014, a total of 63 workers died in fall events. The majority of fatal fall events occurred among derrickmen who were handling pipe from the derrick board, assembling the drilling rig at the well site, or dismantling the drilling rig in preparation for transport.

What are the implications for public health practice?

Further research is needed to develop effective and appropriate strategies for preventing fall fatalities in the U.S. oil and gas extraction industry. Potential interventions include adopting rig technologies that eliminate the need to work at height, providing training on how to identify and reduce hazards of working at height, and ensuring proper use, fit, and inspection of personal protective equipment.

repeated by workers. The use of existing training tools and ongoing job safety analysis should be completed and shared across companies to improve hazard identification and control during rigging up and rigging down activities (*8*). In addition, training for self-rescue and rescue of fellow workers who have fallen and are suspended in the air by fall protection equipment should be written into the workplace hazard control program along with emergency response planning (*9*,*10*). Companies should ensure that plans are implemented on work sites. The oil and gas extraction industry has experienced a decline in the overall rate of fatalities. However, eliminating the need to work at height, training on how to identify and reduce the hazards of working at height, and proper use, fit, and inspections of personal protective equipment are essential in reducing fatal falls in this industry.

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Morbidity and Mortality Weekly Report

Trends in Repeat Births and Use of Postpartum Contraception Among Teens — United States, 2004–2015

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Teen* childbearing (one or more live births before age 20 years) can have negative health, social, and economic consequences for mothers and their children (*1*). Repeat teen births (two or more live births before age 20 years) can constrain the mother's ability to take advantage of educational and workforce opportunities (*2*), and are more likely to be preterm or of low birthweight than first teen births (*3*). Despite the historic decline in the U.S. teen birth rate during 1991–2015, from 61.8 to 22.3 births per 1,000 females aged 15–19 years (*4*), many teens continue to have repeat births (*3*). The American College of Obstetricians and Gynecologists and the American Academy of Pediatrics both recommend that clinicians counsel women (including teens) during prenatal care about birth spacing and postpartum contraceptive use (*5*), including the safety and effectiveness of long-acting reversible methods that can be initiated immediately postpartum. To expand upon prior research assessing patterns and trends in repeat childbearing and postpartum contraceptive use among teens with a recent live birth (i.e., 2–6 months after delivery) (*3*), CDC analyzed data from the National Vital Statistics System natality files (2004 and 2015) and the Pregnancy Risk Assessment Monitoring System (PRAMS; 2004–2013). The number and proportion of teen births that were repeat births decreased from 2004 (82,997; 20.1%) to 2015 (38,324; 16.7%); in 2015, the percentage of teen births that were repeat births varied by state from 10.6% to 21.4%. Among sexually active teens with a recent live birth, postpartum use of the most effective contraceptive methods (intrauterine devices and contraceptive implants) increased from 5.3% in 2004 to 25.3% in 2013; however, in 2013, approximately one in three reported using either a least effective method (15.7%) or no method (17.2%). Strategies that comprehensively address the social and health care needs of teen parents can facilitate access to and use of effective methods of contraception and help prevent repeat teen births.

National Vital Statistics System natality files, compiled annually by CDC's National Center for Health Statistics, include demographic information such as maternal age, race, and Hispanic ethnicity for all births in the 50 states and the District of Columbia.† CDC analyzed national and state-specific natality data for 2004 and 2015 for teens aged 15–19 years in which information about the number of previous live births was available. The total number of births with known birth order to teens aged 15–19 years was 413,144 in 2004 and 228,862 in 2015, representing ≥99% of births in this age group for these years. The percentage change from 2004 to 2015 in teen births that were repeat teen births, overall and for each state, was evaluated using a two-sided Z-test, with significance set at $p<0.05$.

PRAMS is an ongoing population-based surveillance system designed to monitor selected self-reported behaviors and experiences before, during, and after pregnancy among women with a recent live birth (*6*). To measure postpartum contraceptive use among teens aged <20 years,§ CDC analyzed PRAMS data from 30 states¶ and New York City (states) that met survey response rate criteria of 60%** in 2013, and 5 states†† that met response rate thresholds continuously during 2004–2013. Contraceptive methods were placed in three tiers of effectiveness based on the percentage of users who experience pregnancy during the first year of typical use: most effective (<1%),§§ moderately effective (6%–10%),¶¶ and least effective (>10%)*** (*7*). Teens reporting multiple contraceptive methods were categorized by the most effective method used. Trends in postpartum contraceptive use were analyzed in 2-year increments to account for the complex sampling design

* For this report, the term "teen" refers to a person aged <20 years.

† CDC National Center for Health Statistics, Division of Vital Statistics, Natality public-use data.

§ To measure postpartum contraceptive respondents were asked, "Are you or your husband or partner doing anything now to keep from getting pregnant?" and if the respondent answered affirmatively, she was then asked, "What kind of birth control are you or your husband or partner using now to keep from getting pregnant?" Analyses excluded teens who were currently pregnant, not sexually active, or used nonreversible methods of contraception (male or female sterilization).

¶ The thirty states (Alaska, Arkansas, Colorado, Delaware, Georgia, Hawaii, Illinois, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Nebraska, New Hampshire, New Jersey, New Mexico, New York, Oklahoma, Oregon, Pennsylvania, Rhode Island, Tennessee, Utah, Vermont, Washington, West Virginia, Wisconsin, and Wyoming) and New York City are hereafter referred to as "states."

** PRAMS response rates required for states to be included in analyses were 70% for 2004–2006, 65% for 2007–2011, and 60% for 2012–2013.

†† Arkansas, Michigan, Nebraska, Oregon, and Rhode Island.

§§ Contraceptive implants and intrauterine devices.

¶¶ Oral contraceptive pills, injectables (e.g., Depo-Provera), birth control patches, and vaginal rings.

*** Condoms, diaphragms, cervical caps, contraceptive sponges, rhythm method/natural family planning, the "morning after pill," withdrawal, and "other" responses that could not be categorized into a more effective category.

of PRAMS. CDC calculated weighted prevalence estimates and 95% confidence intervals and used chi-squared analyses to measure differences in postpartum contraceptive use, and tested for linear and quadratic changes in contraceptive use over time.

Repeat Teen Births: 2015 and Change from 2004 to 2015

In 2015, among 413,144 births to teens aged 15–19 years, 38,324 (16.7%) were repeat births (Supplementary Table 1; https://stacks.cdc.gov/view/cdc/). The prevalence of teen births that were repeat births was highest among Hispanics (18.7%), followed by non-Hispanic black (black) (17.9%), and non-Hispanic white (white) (14.3%) births. The proportion of teen births that were repeat births varied by state, from 10.6% in Vermont to 21.4% in the District of Columbia.

Overall, the number of repeat teen births declined 53.8%, from 82,997 in 2004 to 38,324 in 2015. In addition, the percentage of teen births that were repeat births decreased 16.9%, from 20.1% in 2004 to 16.7% in 2015. By race/ethnicity, the largest declines in the percentage of teen births that were repeat births occurred among blacks (21.8%), followed by Hispanics (16.8%), and whites (13.9%). By age, declines in the percentage of teen births that were repeat births occurred both among teens aged 15–17 years (23.8%) and 18–19 years (19.7%). From 2004 to 2015, 35 states experienced a significant decline in the percentage of teen births that were repeat births; of the 35 states, 12 experienced declines of >20%, and none experienced a significant increase (Figure 1).

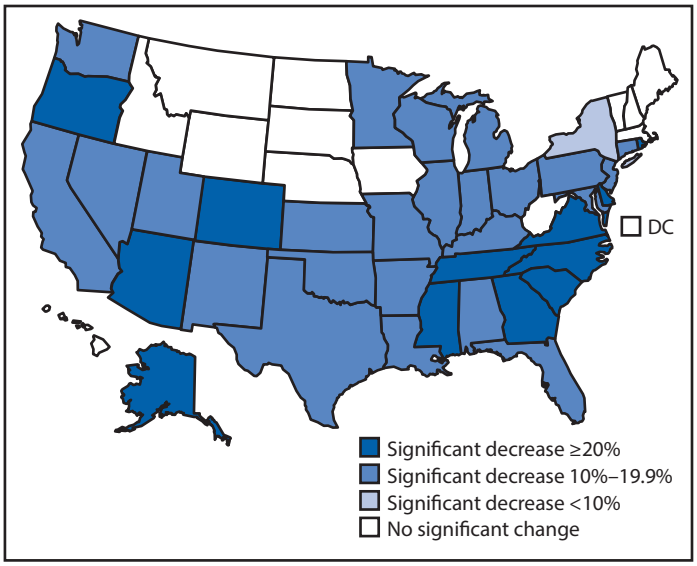
Current Postpartum Contraceptive Use — 31 States, 2013

In 2013, among teens with a recent live birth, 82.8% reported postpartum using contraception, with 26.9% using most effective, 40.2% using moderately effective, and 15.7% using least effective methods (Table 1). By state, the percentage of teens with a recent live birth who reported using a most effective method postpartum ranged from 11.4% in New York City to 51.5% in Colorado, and the percentage using no method ranged from 4.9% in Vermont to 33.8% in New Jersey.

Trends in Postpartum Contraceptive Use Among Teens in Five States During 2004–2013

Among the five states that continuously collected data on teens' use of postpartum contraception, the use of any method remained relatively stable during 2004–2013 (range by 2–year increment = 82.7% to 90.8%), but the distribution of contraceptive methods used changed over time (Figure 2) (Supplementary Table 2; https://stacks.cdc.gov/view/cdc/45185). From 2004–2005 to 2012–2013, use of the most effective reversible methods increased significantly, from 5.3% to 25.3%, and use of moderately effective methods decreased significantly, from 65.1% to 40.2%; use of least effective methods and no method did not change significantly.

FIGURE 1. Percent change in repeat teen births*,† — United States, 2004–2015



* Repeat teen births are two or more live births to a mother aged <20 years.
† Data for 2004 and 2015 downloaded from CDC WONDER (https://wonder.cdc.gov).

Discussion

From 2004 to 2015, the number and proportion of teen births in the United States that were repeat births decreased 53.8% and 16.9%, respectively. Further, the percentage of teens with a recent live birth who used a most effective contraceptive method postpartum increased substantially during 2004-2013, from 5.3% to 25.3%. This increase in teens' use of the most effective contraceptive methods mirrors the pattern observed among all reproductive-aged women who participated in the National Survey of Family Growth during this period (*8*). Despite these improvements, in 2015, one in six teen births was a repeat birth, and in 2013, one in three teens with a recent live birth used either a least effective method or no method of contraception.

These results demonstrate a shift in the distribution of the types of reversible contraception used by teens with a recent live birth; use of the most effective contraceptive methods increased, with a concomitant decline in use of moderately effective methods, and no significant change in use of least effective methods or no method. Recently developed clinical performance measures for contraceptive care have established the use of most or moderately effective methods as an indicator of quality family planning service provision and can help

TABLE. Postpartum contraceptive use among teens,* by selected characteristics — Pregnancy Risk Assessment Monitoring System, 31 states,† 2013

Characteristic (No.)	Overall		Postpartum contraceptive use: Most effective§		Moderately effective§		Least effective§		No contraceptive use§		Chi-squared p-value
	No.	% (95% CI)¶	No.	% (95% CI)¶	No.	% (95% CI)¶	No.	% (95% CI)¶	No	% (95% CI) ¶	
Total (2,518)	—	100 (–)	652	26.9 (23.8–30.2)	984	40.2 (36.7–43.9)	415	15.7 (13.3–18.5)	467	17.2 (14.7–20.0)	—
Maternal age (yrs) (2,518)											0.5964
≤17	744	29.0 (25.8–32.5)	204	25.4 (20.0–31.6)	309	43.9 (37.2–50.8)	101	13.8 (9.7–19.3)	130	16.9 (12.4–22.6)	
18–19	1,774	71.0 (67.5–74.2)	448	27.5 (23.8–31.5)	675	38.7 (34.6–43.1)	314	16.5 (13.6–19.8)	337	17.3 (14.4–20.6)	
Previous live birth (2,499)											0.8867
No	2,135	86.1 (83.5–88.4)	546	26.5 (23.2–30.2)	849	40.7 (36.8–44.6)	343	15.7 (13.1–18.8)	397	17.1 (14.4–20.2)	
Yes	364	13.9 (11.6–16.5)	102	29.5 (21.8–38.6)	126	36.9 (28.2–46.6)	67	15.6 (10.2–23.1)	69	17.9 (12.1–25.8)	
Race/Ethnicity (2,455)											0.0003
White, non-Hispanic	839	45.9 (42.2–49.6)	193	26.9 (22.1–32.3)	362	40.2 (34.8–45.9)	154	18.5 (14.6–23.1)	130	14.4 (11.0–18.7)	
Black, non-Hispanic	598	21.9 (19.0–25.2)	115	15.1 (10.2–21.6)	281	50.1 (42.0–58.2)	88	12.6 (8.1–18.9)	114	22.3 (16.0–30.2)	
Hispanic	656	23.6 (20.9–26.7)	223	36.1 (29.9–42.7)	206	34.6 (28.1–41.7)	101	13.0 (9.4–17.8)	126	16.3 (12.2–21.5)	
Marital status (2,518)											0.0627
Married	276	10.9 (9.0–13.2)	69	19.7 (14.0–27.0)	86	35.8 (26.2–46.6)	67	21.8 (15.0–30.6)	54	22.7 (15.1–32.5)	
Other	2,242	89.1 (86.8–91.0)	583	27.8 (24.4–31.4)	898	40.8 (37.0–44.7)	348	15.0 (12.4–17.9)	413	16.5 (13.9–19.5)	
State† (2,518)											<0.0001
Alaska	92	1.0 (0.7–1.2)	31	32.6 (22.1–45.2)	18	22.7 (13.6–35.5)	20	21.9 (13.2–34.2)	23	22.8 (13.9–35.0)	
Arkansas	98	2.4 (1.7–3.5)	9	13.7 (4.4–35.1)	52	53.1 (34.4–71.0)	17	17.8 (7.1–38.0)	20	15.4 (6.6–32.0)	
Colorado	90	3.8 (2.8–5.2)	37	51.5 (36.1–66.6)	24	29.7 (17.4–45.9)	15	11.1 (5.4–21.4)	14	7.7 (3.5–16.2)	
Delaware	49	0.6 (0.5–0.8)	7	15.3 (7.4–29.0)	30	63.5 (48.9–76.1)	4	6.1 (2.1–16.2)	8	15.1 (7.5–28.0)	
Georgia	50	5.4 (3.6–8.1)	13	39.9 (21.0–62.3)	23	31.9 (15.7–54.2)	7	13.4 (3.9–36.7)	7	14.8 (4.8–37.4)	
Hawaii	73	1.0 (0.7–1.4)	13	15.8 (7.4–30.6)	30	36.6 (23.4–52.3)	14	18.2 (9.2–32.7)	16	29.4 (16.6–46.5)	
Illinois	71	11.3 (8.8–14.3)	16	19.7 (10.8–33.0)	33	52.7 (39.3–65.8)	13	12.6 (6.6–23.0)	9	15.0 (7.5–27.5)	
Iowa	95	2.3 (1.6–3.3)	27	13.7 (6.4–26.8)	32	47.0 (29.6–65.2)	19	20.0 (9.0–38.7)	17	19.3 (8.5–38.2)	
Maine	47	0.7 (0.5–0.9)	14	32.6 (18.5–50.6)	18	34.3 (20.0–52.1)	7	13.1 (5.1–29.5)	8	20.1 (9.4–37.9)	
Maryland	35	2.3 (1.5–3.4)	4	15.8 (5.4–38.0)	14	35.0 (18.5–56.0)	8	21.7 (9.2–42.9)	9	27.6 (12.9–49.5)	
Massachusetts	54	2.6 (1.8–3.7)	22	36.4 (21.9–54.0)	18	40.2 (23.7–59.4)	5	6.1 (2.4–14.6)	9	17.2 (7.0–36.4)	
Michigan	141	7.7 (5.9–10.1)	31	18.6 (10.0–31.9)	73	55.8 (41.4–69.3)	23	19.2 (9.9–34.1)	14	6.4 (3.5–11.4)	
Minnesota	46	2.6 (1.8–3.8)	18	28.9 (15.9–46.8)	13	30.2 (15.9–49.8)	6	17.4 (6.1–40.7)	9	23.4 (10.3–44.8)	
Missouri	88	6.5 (5.2–8.2)	33	27.2 (18.2–38.6)	24	27.7 (18.1–39.9)	17	24.7 (15.5–36.9)	14	20.4 (12.1–32.2)	
Nebraska	85	1.4 (1.1–1.9)	23	30.9 (20.0–44.4)	27	30.9 (20.3–44.0)	14	17.6 (9.5–30.3)	21	20.7 (12.4–32.4)	
New Hampshire	36	0.9 (0.6–1.3)	13	43.0 (24.2–64.0)	13	27.7 (13.7–48.0)	6	17.6 (7.0–37.5)	4	11.7 (3.2–35.2)	
New Jersey	32	2.0 (1.3–2.9)	5	20.3 (7.8–43.6)	9	25.3 (12.0–45.6)	8	20.7 (9.0–40.7)	10	33.8 (16.8–56.2)	
New Mexico	148	3.0 (2.5–3.6)	50	39.3 (30.8–48.5)	54	30.5 (23.3–38.7)	18	12.3 (7.4–19.6)	26	18.0 (12.0–26.0)	
New York	326	5.4 (4.0–7.4)	58	13.6 (6.3–26.7)	133	49.4 (33.8–65.2)	63	8.9 (6.0–13.1)	72	28.1 (15.8–45.0)	
New York City	54	3.5 (2.4–5.1)	7	11.4 (3.8–29.3)	28	57.0 (38.4–73.8)	7	17.6 (7.3–36.8)	12	14.0 (5.7–30.6)	
Oklahoma	108	4.1 (2.9–5.6)	21	32.2 (18.4–50.0)	46	39.1 (24.2–56.3)	15	14.7 (6.4–30.5)	26	14.0 (6.6–27.0)	
Oregon	77	2.7 (2.0–3.7)	35	46.9 (31.7–62.7)	22	27.8 (15.4–44.7)	7	10.5 (3.7–26.0)	13	14.9(7.3–27.9)	
Pennsylvania	43	6.4 (4.6–8.9)	9	23.2 (11.6–41.2)	20	41.9 (26.1–59.6)	8	17.5 (7.9–34.3)	6	17.4 (7.2–36.3)	
Rhode Island	50	0.5 (0.4–0.8)	19	35.9 (22.2–52.3)	20	38.9 (24.6–55.4)	3	7.8 (2.6–21.0)	8	17.4 (8.0–33.9)	
Tennessee	56	7.6 (5.6–10.3)	12	29.9 (16.8–47.5)	29	42.1 (26.9–59.0)	8	17.0 (7.6–33.8)	7	10.9 (4.0–26.4)	
Utah	74	1.8 (1.4–2.3)	28	35.7 (25.0–48.0)	28	34.7 (24.1–47.0)	5	6.3 (2.6–14.7)	13	23.4 (12.7–39.1)	
Vermont	43	0.3 (0.2–0.4)	17	40.3 (25.4–57.2)	15	38.0 (23.4–55.1)	8	16.9 (7.8–32.7)	3	4.9 (1.2–18.5)	
Washington	41	4.0 (2.7–5.8)	13	37.8 (21.1–57.8)	11	26.1 (12.4–46.7)	7	12.8 (4.3–32.6)	10	23.4 (10.9–43.1)	
West Virginia	153	2.1 (1.7–2.6)	19	11.9 (6.3–21.1)	77	50.6 (39.5–61.6)	30	18.9 (11.6–29.3)	27	18.6 (11.4–29.0)	
Wisconsin	129	3.6 (2.7–4.9)	41	32.9 (20.3–48.5)	38	24.7 (14.5–38.8)	25	19.0 (9.9–33.5)	25	23.4 (13.2–37.9)	
Wyoming	34	0.5 (0.4–0.8)	7	21.2 (9.0–42.4)	12	32.9 (16.7–54.4)	8	28.2 (13.2–50.4)	7	17.6 (6.7–38.8)	

Abbreviation: CI = confidence interval.

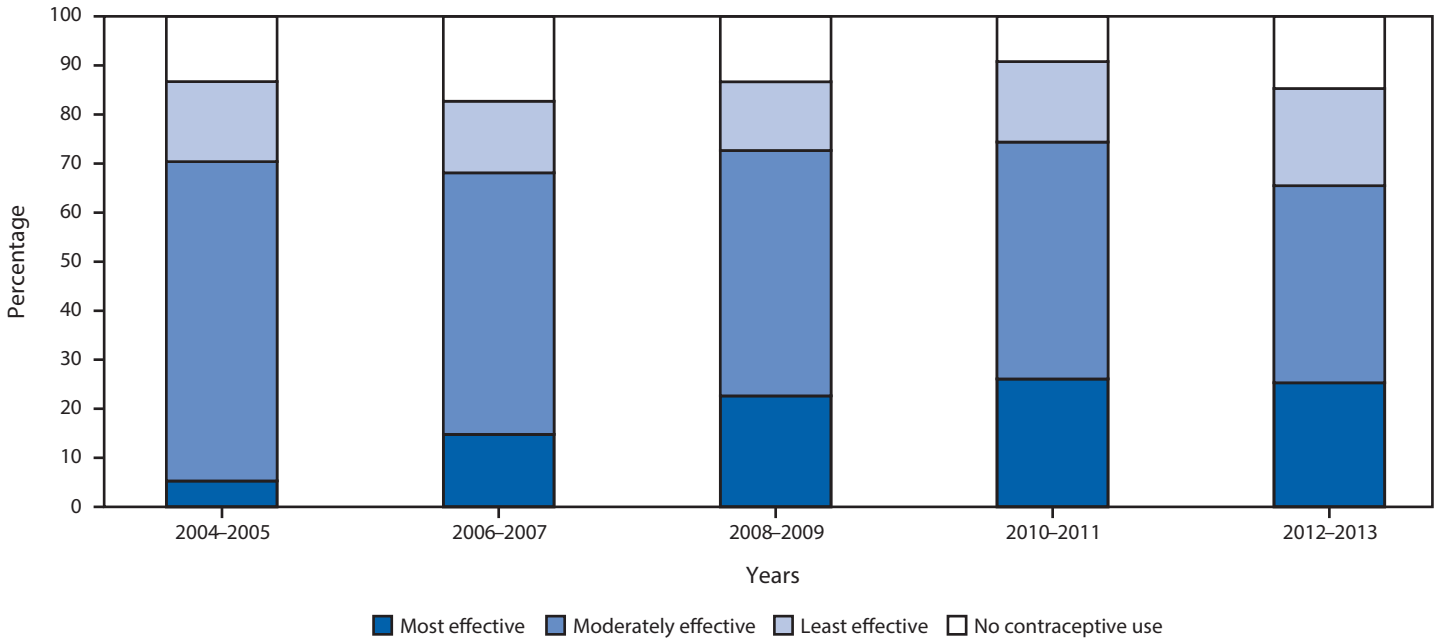
* For this report, the term "teens" refers to persons aged <20 years.

† "States" refer to 30 states (Alaska, Arkansas, Colorado, Delaware, Georgia, Hawaii, Illinois, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Nebraska, New Hampshire, New Jersey, New Mexico, New York, Oklahoma, Oregon, Pennsylvania, Rhode Island, Tennessee, Utah, Vermont, Washington, West Virginia, Wisconsin, and Wyoming) and New York City.

§ Methods categorized by effectiveness, as determined by the percentage of females who experience pregnancy during the first year of typical use: most effective (contraceptive implant and intrauterine device) (<1%); moderately effective (oral contraceptive pill, an injectable (e.g., Depo–Provera), birth control patch, and vaginal ring) (6%–10%); and least effective (condom, diaphragm, cervical cap, contraceptive sponge, rhythm method/natural family planning, the "morning after pill," withdrawal, and "other" responses that could not be categorized to a more effective category) (>10%); also includes measure of teen mothers who report no postpartum contraceptive use.

¶ Weighted percent.

FIGURE 2. Trends and distribution of postpartum contraception method use* among teens† — Pregnancy Risk Assessment Monitoring System, five states,§ 2004–2013



* Methods categorized by effectiveness, as determined by the percentage of females who experience pregnancy during the first year of typical use as the following: *most effective* (contraceptive implant and intrauterine device) (<1%); *moderately effective* (oral contraceptive pill, an injectable [e.g., Depo-Provera], birth control patch, and vaginal ring) (6–10%); and *least effective* (condom, diaphragm, cervical cap, contraceptive sponge, rhythm method/natural family planning, the "morning after pill," withdrawal, and "other" responses that could not be categorized to a more effective category) (>10%); also includes measure of teen mothers who report no postpartum contraceptive use.
† For this report, the term "teens" refers to persons aged <20 years.
§ Arkansas, Michigan, Nebraska, Oregon, and Rhode Island.

identify populations where a need exists for improving access to contraception in the postpartum period.††† Strategies for increasing access to postpartum contraception among parenting teens include provision of youth-friendly services that address adolescent confidentiality concerns, adequate client-centered counseling, and increased provider and consumer awareness of the full range of contraceptive methods (*9*).

Previous analyses have found wide variation in postpartum contraceptive use among teens across states (*3*,*10*). Although states vary in sociodemographic factors that might influence repeat births among teens, variation also exists in the implementation of measures designed to increase access to and use of immediate postpartum long-acting reversible contraception among women, including teens (*11*). For example, some states have implemented policies that provide enhanced reimbursement of immediate postpartum long-acting reversible contraception insertion for Medicaid-enrolled mothers, thereby removing health care system barriers.§§§,¶¶¶,**** In addition, some states provide support services to teen parents, such as home visiting programs,††††,§§§§ which have been found to reduce repeat teen births.

The findings in this report are subject to at least five limitations. First, although contraceptive effectiveness is dependent on both consistent and correct use, particularly for the least

††† https://www.hhs.gov/opa/performance-measures/index.html.

§§§ Additional information about state Medicaid approaches to improve access to LARC is available at https://www.medicaid.gov/federal-policy-guidance/downloads/cib040816.pdf.
¶¶¶ Additional information about Medicaid reimbursement of postpartum LARC in the hospital setting is available at http://www.acog.org/About-ACOG/ACOG-Departments/Long-Acting-Reversible-Contraception/Immediate-Postpartum-LARC-Reimbursement.
**** Additional information about the Association of State and Territorial Health Officials' state learning communities and state initiatives to improve access to contraception is available at http://www.astho.org/Programs/Maternal-and-Child-Health/Long-Acting-Reversible-Contraception-LARC/.
†††† Additional information about the federal home visiting program is available at https://mchb.hrsa.gov/maternal-child-health-initiatives/home-visiting-overview.
§§§§ Additional information about programs for expectant and parenting teens is available at https://www.hhs.gov/ash/oah/grant-programs/pregnancy-assistance-fund/index.html.

Summary

What is known about this topic?

Despite record declines in the rate of births among teens, many women continue to have repeat births during their teen years. Use of postpartum contraception can help teens avoid repeat births.

What is added by this report?

From 2004 to 2015, the number and percentage of teen births that were repeat births decreased 53.8% and 16.9%, respectively; in 2015, the percentage of teen births that were repeat births varied by state from 10.6% to 21.4%. Among teens with a recent live birth, use of the most effective contraceptive methods postpartum increased substantially, from 5.3% in 2004 to 25.3% in 2013; however, in 2013, approximately one in three teens with a recent live birth reported using a least effective contraceptive method or no method postpartum.

What are the implications for public health practice?

Strategies that comprehensively address the social and health care needs of parenting teens, such as provision of youth-friendly services, adequate client-centered counseling, and promotion of provider and consumer awareness of the range of contraceptive methods, can help improve use of effective contraception postpartum and prevent repeat teen births.

effective methods, neither of these attributes was measured through PRAMS questions. Second, data on postpartum contraceptive use were only available in the PRAMS states with response rates that met the reporting threshold; therefore, findings might not be generalizable to all states. Third, because of small sample sizes, state-level prevalence estimates for certain categories of contraceptive effectiveness were unstable, with wide and overlapping confidence intervals. Fourth, PRAMS data are self-reported and thus potentially subject to social desirability bias. Finally, although the rate of repeat teen births (per 1,000 female teens) might better reflect changes in the population of females at risk for having a repeat teen birth, this report highlights strategies to reduce the proportion of teen births that are repeat births.

This report found continued decreases in repeat teen births and increases in use of the most effective contraceptive methods among teens with a recent live birth. At the same time, use of moderately effective methods declined and use of least effective methods or no method remained stable. Further reducing repeat births among teens requires ensuring access to the full range of Food and Drug Administration–approved methods of contraception during the postpartum period (*11*) and increased use of moderately effective and most effective methods.

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Announcements

National Campaign to Prevent Falls in Construction — United States, 2017

Falls are a leading but preventable cause of death in the construction sector, accounting for 350 (37%) of the 937 fatalities among construction workers recorded in 2015 (*1*). Falls to a lower level from roofs, ladders, and scaffolds comprise 72% of construction fall deaths (*2*). During 2011–2015, roofing contractors reported the largest number of fall-related deaths (332) in this high-risk industry (*2*). Robust employment in the construction industry during 2000–2008 was followed by a considerable decline during the economic downturn of 2008–2012 (*3*). Since 2012, when employment levels were at their lowest (*4*), there has been an approximate 10% increase in employment in the construction industry. A total of 9.9 million U.S. workers were employed in construction during 2015. Small businesses with fewer than 20 employees account for 92.5% of all construction establishments, and 41.4% of all construction employees work in small businesses (*3*).

CDC's National Institute for Occupational Safety and Health (NIOSH) works with construction sector partners to improve workplace safety through a government-labor management partnership. One product of this partnership is an annual national fall prevention campaign aimed at construction contractors, onsite supervisors, and workers. During May 8–12, the federal Occupational Safety and Health Administration and partners, including NIOSH, will host the National Safety Stand-Down to Prevent Falls in Construction. The voluntary "stand-down"* is an activity within the campaign, and provides an opportunity for construction employers to speak directly to their employees, including their non-English–speaking employees, about fall hazards and reinforce the importance of fall prevention. Participation in both the stand-down and falls campaign is strongly encouraged throughout the United States, including by state agencies, public health practitioners, and private contractors. Additional information is available at https://www.osha.gov/StopFallsStandDown/.

* The term "stand-down" is taken from the U.S. military: whenever a death or a number of similar nonfatal injuries occurs, the military stops (i.e., stands down) all relevant activities while safety training is provided across all units engaged in the activity.

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Announcements

ALS Awareness Month — May 2017

May is ALS Awareness Month, observed to raise awareness of and foster research for amyotrophic lateral sclerosis (ALS), also known as Lou Gehrig's disease. ALS is a progressive, fatal, neurodegenerative disorder of upper and lower motor neurons. The cause of ALS is not known, and no cure exists.

In October 2010, the Agency for Toxic Substances and Disease Registry (ATSDR) launched the congressionally mandated National ALS Registry (https://wwwn.cdc.gov/als/) to collect and analyze data regarding persons in the United States with ALS. The goals of the registry are to determine the incidence and prevalence of ALS, characterize the demographics of persons living with ALS, and examine possible risk factors for the disease.

In August 2016, ATSDR released its second prevalence report, which indicated an estimated 16,000 persons (5.0 per 100,000 population) were living with ALS in 2013. ALS remains more common among whites, males, non-Hispanics, and persons aged 60–69 years. The registry uses data from existing national databases, as well as the registry's online system to track ALS cases. Online registrants can also take surveys regarding potential risk factors for the disease.

A new National ALS Biorepository allows researchers to request high-quality biologic specimens to study ALS. Both in-home and postmortem specimens are being collected from interested patients enrolled in the National ALS Registry. Epidemiologic data from patient surveys will be matched with patient specimens, making the biorepository a rich data source for ALS research.

ATSDR is collaborating with the ALS Association (https://www.alsa.org), the Muscular Dystrophy Association (https://www.mda.org), the Les Turner ALS foundation (http://www.lesturnerals.org), and other organizations to spread awareness about the National ALS Registry. Additional information is available at https://www.cdc.gov/als.

Community Preventive Services Task Force Recommends Interventions to Increase Healthier Foods and Beverages in Schools

The Community Preventive Services Task Force recently posted new information about four findings on its website: 1) Obesity: Meal and Fruit and Vegetable Snack Interventions to Increase Healthier Foods and Beverages Provided by Schools*; 2) Obesity: Supporting Healthier Snack Foods and Beverages Sold or Offered as Rewards in Schools†; 3) Obesity: Multicomponent Interventions to Increase Availability of Healthier Foods and Beverages in Schools§; and 4) Obesity: Increasing Water Access in Schools.¶

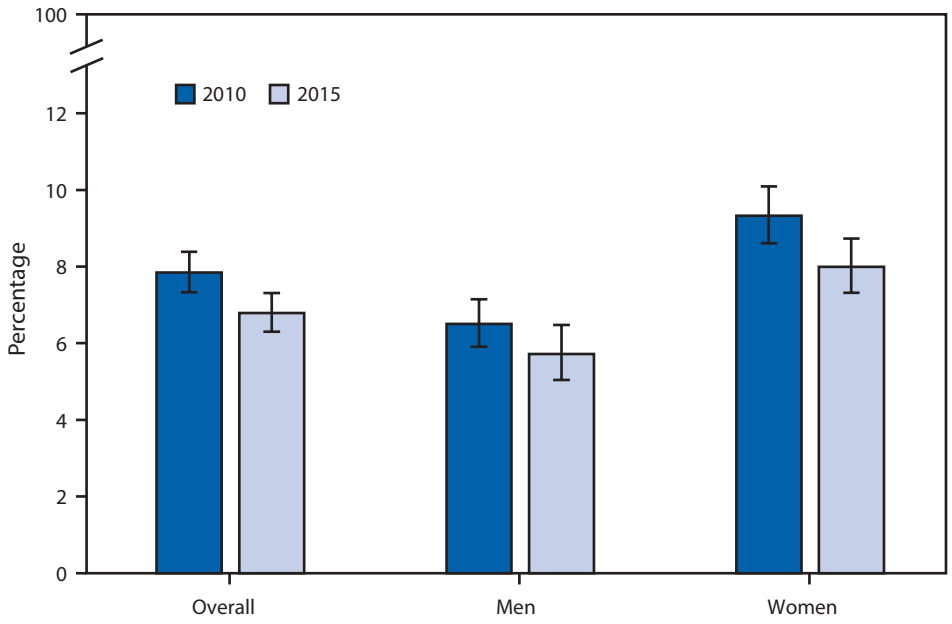
Established in 1996 by the U.S. Department of Health and Human Services, the task force is an independent, nonfederal panel of public health and prevention experts whose members are appointed by the director of CDC. The task force provides information for a wide range of persons who make decisions about programs, services, and other interventions to improve population health. Although CDC provides administrative, scientific, and technical support for the task force, the recommendations developed are those of the task force and do not undergo review or approval by CDC.

* https://www.thecommunityguide.org/findings/obesity-meal-fruit-vegetable-snack-interventions-increase-healthier-foods-beverages-schools.
† https://www.thecommunityguide.org/findings/obesity-supporting-healthier-snack-foods-and-beverages-sold-or-offered-rewards-schools.
§ https://www.thecommunityguide.org/findings/obesity-multicomponent-interventions-increase-availability-healthier-foods-and-beverages.
¶ https://www.thecommunityguide.org/findings/obesity-increasing-water-access-schools.

QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Percentage* of Adult Workers Aged ≥18 Years Who Reported Being Threatened, Bullied, or Harassed While on the Job,† by Sex — National Health Interview Survey, United States, 2010 and 2015§



* Error bars indicate 95% confidence intervals.
† In both 2010 and 2015, adult respondents were asked: "During the past 12 months, were you threatened, bullied, or harassed by anyone while you were on the job?"
§ Estimates were based on a sample of the U.S. civilian, noninstitutionalized population aged ≥18 years who reported being employed during the week before the interview. Those who did not respond to the question were not included in the denominators when calculating percentages.

In 2015, 6.8% of adult workers in the United States reported being threatened, bullied, or harassed on the job during the preceding 12 months, down from 7.8% overall in 2010. The percentage of workers who were threatened, bullied, or harassed declined significantly for women but not for men from 2010 to 2015. In both years, women were more likely than men to report being threatened, bullied, or harassed (9.3% compared with 6.5% in 2010 and 8.0% compared with 5.7% in 2015).

Source: National Health Interview Survey, 2010 and 2015. https://www.cdc.gov/nchs/nhis.htm.

Reported by: Roger R. Rosa, PhD, rrosa@cdc.gov, 202-245-0655; Abay Asfaw, PhD.

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