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Suicide Trends Among Persons Aged 10–24 Years — United States, 1994–2012

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Suicide is the second leading cause of death among persons aged 10–24 years in the United States and accounted for 5,178 deaths in this age group in 2012 (*1*). Firearm, suffocation (including hanging), and poisoning (including drug overdose) are the three most common mechanisms of suicide in the United States. Previous reports have noted that trends in suicide rates vary by mechanism and by age group in the United States (*2*), with increasing rates of suffocation suicides among young persons (*3–5*). To test whether this increase is continuing and to determine whether it varies by demographic subgroups among persons aged 10–24 years, CDC analyzed National Vital Statistics System mortality data for the period 1994–2012. Trends in suicide rates were examined by sex, age group, race/ethnicity, region of residence, and mechanism of suicide. Results of the analysis indicated that, during 1994–2012, suicide rates by suffocation increased, on average, by 6.7% and 2.2% annually for females and males, respectively. Increases in suffocation suicide rates occurred across demographic and geographic subgroups during this period. Clinicians, hotline staff and others who work with young persons need to be aware of current trends in suffocation suicides in this group so that they can accurately assess risk and educate families. Media coverage of suicide incidents and clusters should follow established guidelines to avoid exacerbating risk for "suicide contagion" among vulnerable young persons.* Suicide contagion is a process by which exposure to the suicide or suicidal behavior of one or more persons influences others who are already vulnerable and thinking about suicide to attempt or die by suicide. Early prevention strategies are needed to reduce the likelihood of young persons developing suicidal thoughts and behavior.

CDC's Web-Based Injury Statistics Query and Reporting System was used to compile National Vital Statistics System data on annual suicide counts and rates for persons aged 10–24 years from 1994 (when the suicide rate peaked in this age group) to 2012. Transition of cause of death coding from the ninth to the 10th revision of the *International Classification of Diseases* (ICD) in 1999 had minimal effect on examining trends in suicide rates during the study period because the comparability ratio of ICD-10 to ICD-9 is very close to 1 (0.9962).† Suicide rates per 100,000 were calculated using bridged-race population estimates from the U.S. Census Bureau; age-adjusted rates were computed using the United

* Available at http://reportingonsuicide.org/Recommendations2012.pdf.

† Additional information available at http://www.cdc.gov/nchs/data/nvsr/nvsr49/nvsr49_02.pdf.

INSIDE

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States standard 2000 population. Trends in suicide rates were examined for all mechanisms combined, by sex, by the three leading mechanisms of suicide (firearm, suffocation, and poisoning), and by all other mechanisms combined for each of three 5-year age groups (10–14, 15–19, and 20–24 years), sex, race/ethnicity, and U.S. Census region. Trend analysis of poisoning suicide rates among some subcategories was limited because of unstable rates resulting from small death counts.

Joinpoint regression was used to test the significance of trends and to calculate the annual percent change (APC) during 1994–2012. For trend analyses of suicide rates among persons aged 10–24 years during that period, joinpoint regressions were performed for each leading mechanism of suicide across the selected demographic/geographic subgroups. Average annual percent change (AAPC) was calculated and used to facilitate comparison of trends across groups with different numbers of joinpoints. AAPC (reported as a single statistic for each subgroup) takes a weighted average of the annual percent change calculated across joinpoints. For comparison of overall suicide rate by sex, both AAPC and APC (using >0 joinpoints) were calculated. Rate ratios (RRs) with 95% confidence intervals (CIs) were calculated to compare suffocation suicide rates for 2012 with those for 1994, by sex, age group, race/ethnicity, and U.S. Census region.

Overall age-adjusted suicide rates by sex fluctuated somewhat during 1994–2012, but rates among males were consistently much higher than among females. In 1994 rates were 15.7 per 100,000 among males compared with 2.7 among females. In 2012, rates were 11.9 among males compared with 3.2 among females. Among males, age-adjusted suicide rates decreased significantly from 1994 to 2007 (APC [1994–1999] = -5.7, p<0.001; APC [1999–2007] = -1.2, p<0.001), and increased significantly from 2007 to 2012 (APC = 2.4, p<0.001). Among females, age-adjusted suicide rates decreased significantly during 1994–2001 (APC = -4.4, p<0.001), increased (but not significantly) during 2001–2004 (APC = 6.9, p=0.058), decreased (but not significantly) during 2004–2007 (APC = -2.9, p=0.378) and increased significantly during 2007–2012 (APC = 6.9, p<0.001). AAPCs over the study period for males and females were -1.5 (p<0.001) and 0.7 (p=0.385), respectively.

Among males aged 10–24 years, firearm was the leading mechanism of suicide, whereas, among females, suffocation surpassed firearm in 2001 as the leading mechanism (Figure). Suicide rate trends by mechanism were similar for males and females over the study period. In general, firearm suicide rates decreased and suffocation suicide rates increased, while rates for suicide by poisoning decreased slightly and rates for suicide by all other mechanisms combined remained relatively unchanged.

For both males and females, age-adjusted firearm suicide rates decreased significantly from 1994 to 2012 (males: from 10.9 to 5.9 per 100,000; AAPC = -3.4, p<0.001; females: from 1.5 to 0.8; AAPC= -3.6, p=0.002) with a notable decline from 1994 to 2007 followed by an uptick from 2007 to 2012 (APC = 2.4, p<0.001 for males; APC = 5.6, p<0.001 for females). During 1994–2012, downward trends were significant across all four age

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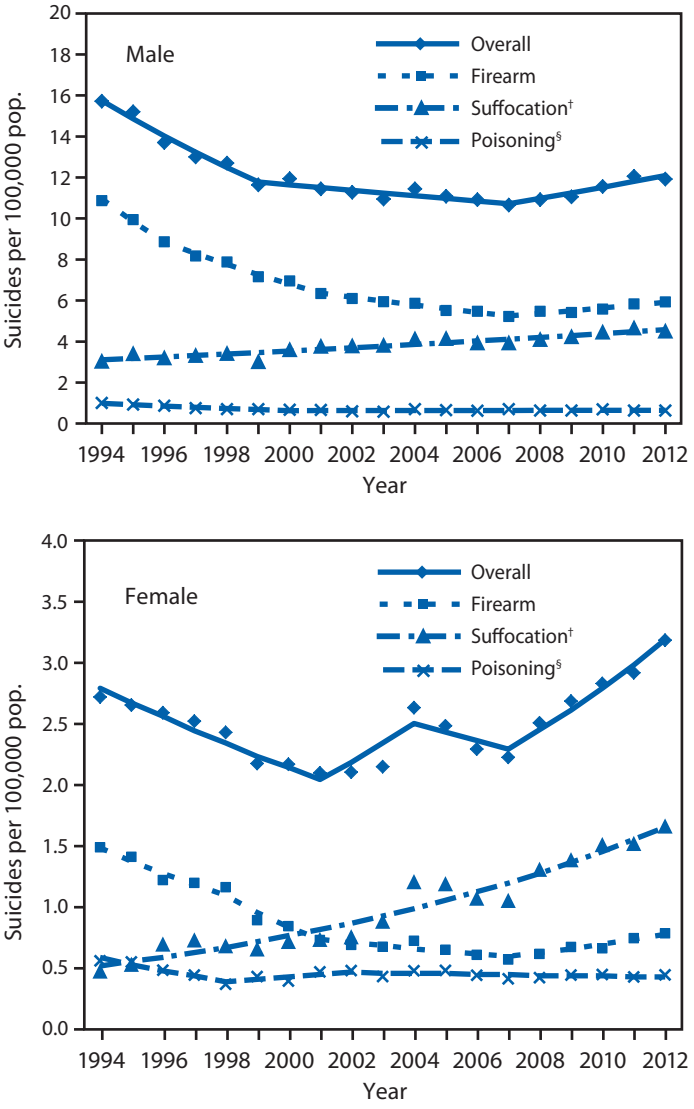
FIGURE. Age-adjusted suicide rates among persons aged 10–24 years, by sex and mechanism — United States, 1994–2012*



* Symbols (diamond, square, triangle, x) representing joinpoints are displayed on the line graphs because, for both males and females, some of the suicide rates were best fitted by multiple segments of lines (number of joinpoints >0).
† Including hanging.
§ Including drug overdose.

groups, all racial/ethnic groups, and all U.S. Census regions. The largest significant decreases in firearm suicide rates during 1994–2012 were among persons aged 15–19 years (AAPC = -4.2, p<0.001), Asian/Pacific Islanders (AAPC = -6.9, p<0.001), and persons living in the West (AAPC = -4.4, p<0.001).

Poisoning suicide rates were considerably lower than either firearm suicide or suffocation suicide rates. From 1994 to 2012, poisoning suicide rates decreased significantly (from 1.0 per 100,000 to 0.6; AAPC = -2.3, p<0.001) among males and decreased among females (but not significantly) (from 0.6 per 100,000 to 0.4; AAPC = -1.8, p=0.078). Trend analysis of poisoning suicide rates among some subgroups was limited because of unstable rates resulting from small death counts.

For both males and females, age-adjusted suffocation rates increased significantly from 1994 to 2012 (males: from 3.0 to 4.5 per 100,000 population; AAPC = 2.2, p<0.001; females: from 0.5 to 1.7; AAPC = 6.7, p<0.001) (Table). Suffocation suicide rates increased among all age groups, races/ethnicities, and regions, and the AAPCs all were significant. The largest increases in suffocation suicide rates were among persons aged 15–19 years (AAPC = 3.3, p<0.001), American Indians/Alaska Natives (AAPC = 4.9, p<0.001), and persons living in the Midwest (AAPC = 3.9, p<0.001). Rate ratios were highest for females (3.6), persons aged 15–19 years (1.9), non-Hispanic whites (1.9), and persons living in the Midwest (2.1) (Table).

What is already known on this topic?

Among persons aged 10–24 years, suicide rates are higher in males than in females. Suicide rates by suffocation (including hanging) have been increasing among females in this age group since the early 1990s.

What is added by this report?

Overall age-adjusted suicide rates among persons aged 10–24 years in 1994 were 15.7 per 100,000 among males compared with 2.7 among females. In 2012, these rates were 11.9 per 100,000 among males and 3.2 among females. During 1994–2012, age-adjusted suffocation suicide rates continued to increase among females aged 10–24 years and also increased significantly, although less sharply, among males in this age group. These rates have increased across all racial/ethnic groups and U.S. Census regions.

What are the implications for public health practice?

These results highlight the increased use of suffocation as a method of suicide among young persons. Professionals who work with young persons and their families need to be aware of the trend in this highly lethal method when asking about suicide plans and when working to reduce suicide risk. These results also underscore the importance of early prevention of suicidal behavior and effective intervention for youth and young adults at greater risk for suicide.

Discussion

Increases in suffocation suicide rates, reported in earlier studies (*3*–*5*), continued through 2012 among females and males aged 10–24 years across all races/ethnicities and U.S. Census regions. Since the early 1980s, firearm had been the most common mechanism of suicide among those aged 10–24 years (*1*). However, suffocation surpassed firearm as the most common mechanism of suicide among females in 2001. An uptick in firearm suicide rates was observed for males and females after 2007. Increases in suffocation suicide rates also have been reported in older age groups, especially middle-aged

TABLE. Numbers and age-adjusted rates per 100,000 population of suicides by suffocation* among persons aged 10–24 years, by selected characteristics — United States, 1994 and 2012

Characteristic	1994		2012		Annual % change†	p-value	Rate ratio	(95% CI)
	No.	Rate	No.	Rate				
Overall	**997**	**1.8**	**2,077**	**3.1**	**3.0**	**<0.001**	**1.8**	**(1.6–1.9)**
Sex								
Male	871	3.0	1,545	4.5	2.2	<0.001	1.5	(1.4–1.6)
Female	126	0.5	532	1.7	6.7	<0.001	3.6	(3.0–4.4)
Age group (yrs)								
10–14	103	0.5	195	0.9	1.5	0.018	1.7	(1.4–2.2)
15–19	344	1.9	787	3.7	3.3	<0.001	1.9	(1.7–2.2)
20–24	550	3.0	1,095	4.9	2.5§	<0.001	1.7	(1.5–1.8)
Race/Ethnicity								
White, non-Hispanic	676	1.8	1,326	3.5	3.3	<0.001	1.9	(1.7–2.1)
Black, non-Hispanic	109	1.4	216	2.1	2.9	<0.001	1.6	(1.2–2.0)
Hispanic	110	1.5	360	2.6	2.9	<0.001	1.8	(1.4–2.2)
Asian/PI, non-Hispanic	40	1.8	88	2.4	1.4§	<0.001	1.3	(0.9–2.0)
AI/AN, non-Hispanic	40	8.9	82	12.2	4.9	<0.001	1.4	(0.9–2.0)
U.S. Census region¶								
Northeast	186	1.8	323	2.8	2.2	<0.001	1.6	(1.3–1.9)
South	312	1.6	704	2.8	3.0§	0.002	1.8	(1.6–2.1)
Midwest	239	1.8	535	3.8	3.9	<0.001	2.1	(1.8–2.4)
West	260	2.1	515	3.2	2.7	<0.001	1.5	(1.3–1.8)

Abbreviations: CI = confidence interval; PI = Pacific Islander; AI/AN = American Indian/Alaska Native.

* Includes hanging.

† Computed using joinpoint regression of annual suffocation suicide rates during 1994–2012.

§ Regression analyses indicated that models with more than zero joinpoints provided the best fit to the data for these three subgroups. For consistency, the average annual percentage change was computed as a weighted average of the annual percentage changes for each model, allowing for comparison across groups with differing numbers of joinpoints.

¶ *Northeast:* Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont; *Midwest:* Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin; *South:* Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia; *West*: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

adults (*2*,*3*). These trends are concerning because suffocation as a suicide mechanism has a high lethality rate, typically 69%–84% (*3*). By comparison, lethality rates for firearms and poisoning in 2010 were 81% and 2%, respectively (*3*). Additional research (e.g., perceptions about hanging as a method of suicide) is needed to understand why suffocation suicide rates are increasing (*6*).

The findings in this report are subject to at least three limitations. First the findings are subject to variation among state coroner/medical examiners regarding determination of manner of death, especially for poisoning, as recorded on the death certificate (*7*). Second, suicide rates likely are an underestimate of the actual prevalence because suicides might be undercounted in the National Vital Statistics System (*7*). Finally, suicide rates might be affected by death certificate race/ethnicity misclassification, particularly for American Indians/Alaska Natives.§

The increased use and high lethality of suffocation as a suicide method underscores the importance of early prevention strategies to reduce onset of suicidal thoughts in young persons and to help identify persons who are contemplating suicide or who are at greater risk for suicide (*8*). National data indicate that 17% of high school students reported seriously considering suicide and 8% reported making one or more suicide attempts in the preceding 12 months (*9*). Clinicians, hotline workers, and other practitioners who are trained to assess suicide plans and to intervene with young persons should be aware of the increased use and high lethality of suffocation as a suicide method. The National Strategy for Suicide Prevention encourages a comprehensive approach to suicide prevention that includes activities for enhancing social support, problem-solving skills, and other protective factors to prevent suicidal behavior; increasing training in recognizing risk factors and making appropriate referrals; expanding access to social services; reducing stigma and other barriers to seeking help; and providing responsible media reporting to reduce contagion and to enhance awareness that suicide is preventable (*10*). Media coverage that provides details about suicide methods has the potential to increase contagion among vulnerable youth. Established recommendations for reporting on suicide are designed to reduce contagion, provide hope, and raise awareness about warning signs and actions that readers can take to help those close to them. The National Strategy for

§ Additional information available at http://wonder.cdc.gov/wonder/help/cmf/sr02_148.pdf.

Suicide Prevention calls for integration of suicide prevention into a range of programs and services because strategies that promote overall health and build positive relationships are critically important for reducing suicidal thoughts, attempts, and deaths.

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Update: Influenza Activity — United States, September 28, 2014–February 21, 2015

World Health Organization Collaborating Center for Surveillance, Epidemiology, and Control of Influenza, Tiffany D'Mello, MPH[1], Lynnette Brammer, MPH[1], Lenee Blanton, MPH[1], Krista Kniss, MPH[1], Sophie Smith, MPH[1], Desiree Mustaquim, MPH[1], Craig Steffens, MPH[1], Rosaline Dhara, MPH[1], Jessica Cohen, MPH[1], Sandra S. Chaves, MD[1], Lyn Finelli, DrPH[1], Joseph Bresee, MD[1], Teresa Wallis, MS[1], Xiyan Xu, MD[1], Anwar Isa Abd Elal, BScCS[1], Larisa Gubareva, PhD[1], David Wentworth, PhD[1], Julie Villanueva, PhD[1], Jackie Katz, PhD[1], Daniel Jernigan, MD[1]
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Influenza activity in the United States began to increase in mid-November, remained elevated through February 21, 2015, and is expected to continue for several more weeks. To date, influenza A (H3N2) viruses have predominated overall. As has been observed in previous seasons during which influenza A (H3N2) viruses predominated, adults aged ≥65 years have been most severely affected. The cumulative laboratory-confirmed influenza-associated hospitalization rate among adults aged ≥65 years is the highest recorded since this type of surveillance began in 2005. This age group also accounts for the majority of deaths attributed to pneumonia and influenza. The majority of circulating influenza A (H3N2) viruses are different from the influenza A (H3N2) component of the 2014–15 Northern Hemisphere seasonal vaccines, and the predominance of these antigenically and genetically drifted viruses has resulted in reduced vaccine effectiveness (*1*). This report summarizes U.S. influenza activity* since September 28, 2014, and updates the previous summary (*2*).

Viral Surveillance

During September 28, 2014, through February 21, 2015, approximately 270 World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System collaborating laboratories in the United States tested 486,004 respiratory specimens for influenza viruses, and 98,680 (20.3%) were positive (Figure 1). Of these, 91,837 (93.1%) were influenza A viruses, and 6,843 (6.9%) were influenza B viruses. Of the 91,837 influenza A viruses, 43,288 (47.1%) were subtyped, of which 43,123 (99.6%) were influenza A (H3) viruses and 165 (0.4%) were influenza A (H1N1)pdm09 viruses. The percentage of specimens that tested positive for influenza increased through the week ending December 27, 2014 (week 52), when 31.8% were positive and decreased subsequently. In the week ending February 21, 2015 (week 7), 12.1% of specimens tested positive. Influenza A (H3) viruses have been reported most frequently in the United States overall, followed by influenza B viruses. Influenza A (H1N1)pdm09 viruses have been rarely identified.

Novel Influenza A Viruses

Since September 28, 2014, two human infections with novel influenza A viruses have been reported. One infection with an influenza A (H3N2) variant virus was reported to CDC during the week ending October 18, 2014 (week 42) from Wisconsin, and one infection with an influenza A (H1N1) variant virus was reported to CDC during the week ending January 24, 2015 (week 3) from Minnesota (*2*). The illness onsets for both patients was in October 2014. Both patients reported contact with swine in the week preceding illness, and both patients fully recovered. No further cases were identified in contacts of either patient.

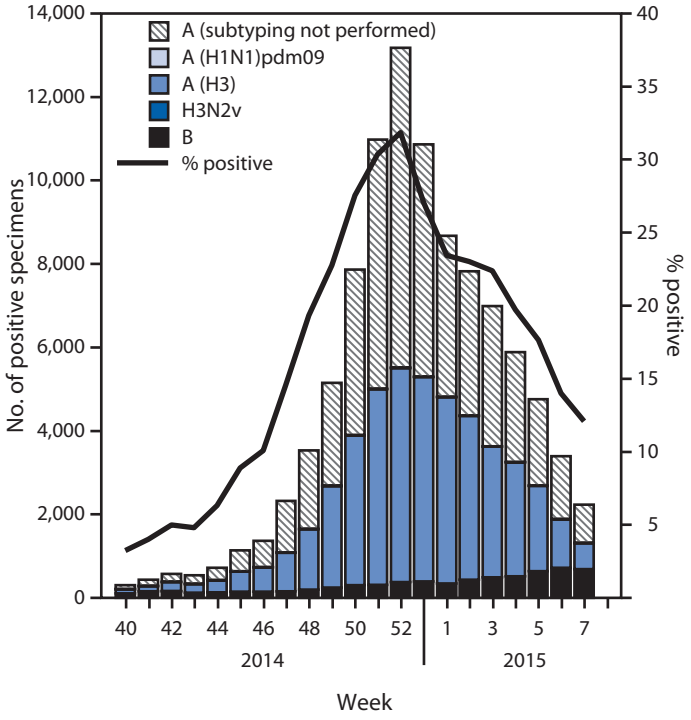
Antigenic and Genetic Characterization of Influenza Viruses

WHO collaborating laboratories in the United States are requested to submit a subset of their influenza-positive respiratory specimens to CDC for further virus characterization. CDC has antigenically and/or genetically characterized† 933 influenza viruses collected since October 1, 2014, including 27 influenza A (H1N1) pdm09, 752 influenza A (H3N2), and 154 influenza B viruses. All influenza A (H1N1)pdm09 viruses were antigenically characterized as A/California/7/2009-like, the influenza A (H1N1) component of the 2014–15 Northern Hemisphere vaccines. Of the 752 influenza A (H3N2) viruses that were characterized, 228 (30%) were characterized as A/Texas/50/2012-like, the influenza A (H3N2) component of the 2014–15 Northern Hemisphere vaccines. The remaining 524 (70%) influenza A (H3N2) viruses showed either reduced titers with antiserum produced against A/Texas/50/2012 or belonged to genetic groups that typically show reduced titers

* The CDC influenza surveillance system collects five categories of information from eight data sources: 1) viral surveillance (U.S. World Health Organization collaborating laboratories, the National Respiratory and Enteric Virus Surveillance System, and novel influenza A virus case reporting); 2) outpatient illness surveillance (U.S. Outpatient Influenza-Like Illness Surveillance Network); 3) mortality (122 Cities Mortality Reporting System and influenza-associated pediatric mortality reports); 4) hospitalizations (FluSurv-NET, which includes the Emerging Infections Program and surveillance in three additional states); and 5) summary of the geographic spread of influenza (state and territorial epidemiologist reports).

† CDC routinely uses hemagglutination inhibition (HI) assays to antigenically characterize influenza viruses year-round to compare how similar currently circulating influenza viruses are to those included in the influenza vaccine, and to monitor for changes in circulating influenza viruses. However, a portion of recent influenza A (H3N2) viruses do not grow to sufficient hemagglutination titers for antigenic characterization by HI. For many of these viruses, CDC is also performing genetic characterization to infer antigenic properties.

FIGURE 1. Number* and percentage of respiratory specimens testing positive for influenza reported by World Health Organization and National Respiratory and Enteric Virus Surveillance System collaborating laboratories, by type, subtype, and surveillance week — United States, 2014–15 influenza season†



* N = 486,004.
† Data reported as of February 21, 2015.

to A/Texas/50/2012. These viruses that showed reduced titers to A/Texas/50/2012 belong to multiple genetic groups and most, but not all, were antigenically similar to the influenza A (H3N2) virus selected for the 2015 Southern Hemisphere influenza vaccine (A/Switzerland/9715293/2013). A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus. Of the 154 influenza B viruses tested, 107 (69%) belonged to the B/Yamagata lineage. Of these, 100 (94%) were characterized as B/Massachusetts/2/2012-like, the influenza B component of the 2014–15 Northern Hemisphere trivalent and quadrivalent influenza vaccines, and seven (6%) showed reduced titers to B/Massachusetts/2/2012. The remaining 47 (31%) influenza B viruses tested belonged to the B/Victoria lineage of viruses. Of these, 43 (91%) were antigenically characterized as B/Brisbane/60/2008-like, the influenza B component of the 2014–15 Northern Hemisphere quadrivalent influenza vaccine, and four (9%) showed reduced titers to B/Brisbane/60/2008.

Antiviral Resistance of Influenza Viruses

Since October 1, 2014, a total of 2,011 influenza viruses have been tested for resistance to influenza neuraminidase inhibitor antiviral medications, and the vast majority of circulating influenza viruses have been susceptible to these medications. Among the influenza A (H3N2) viruses, 1,762 were tested for oseltamivir or zanamivir resistance and 1,128 were tested for peramivir resistance, and none were resistant. Among 32 influenza A (H1N1)pdm09 viruses tested for resistance to oseltamivir or peramivir, one (3%) was found to be resistant, and of the 28 viruses tested for resistance to zanamivir, none were found to be resistant. None of the 217 influenza B viruses tested were resistant to oseltamivir, zanamivir, or peramivir. High levels of resistance to the adamantanes (amantadine and rimantadine) persist among influenza A (H1N1)pdm09 and influenza A (H3N2) viruses.

Outpatient Illness Surveillance

Since September 28, 2014, the weekly percentage of outpatient visits for influenza-like illness (ILI)[§] reported by approximately 1,800 U.S. Outpatient ILI Surveillance Network (ILINet) providers in 50 states, New York City, Chicago, the U.S. Virgin Islands, Puerto Rico, and the District of Columbia that comprise ILINet, has ranged from 1.2% to 6.0%. From the week ending November 22, 2014 (week 47) to February 21, 2015 (week 7), the percentage equaled or exceeded the national baseline[¶] of 2.0% for 14 consecutive weeks (Figure 2). During the 2001–02 through 2013–14 seasons, peak weekly percentages of outpatient visits for ILI ranged from 2.4% to 7.7% and remained above baseline levels for an average of 13 weeks (range = 1–19 weeks). For the week ending February 21, 2015 (week 7), all 10 U.S. Department of Health and Human Services regions** continued to report ILI activity at or above region-specific baseline levels.

§ Defined as a temperature ≥100°F (≥37.8°C), oral or equivalent, and cough and/or sore throat, without a known cause other than influenza.

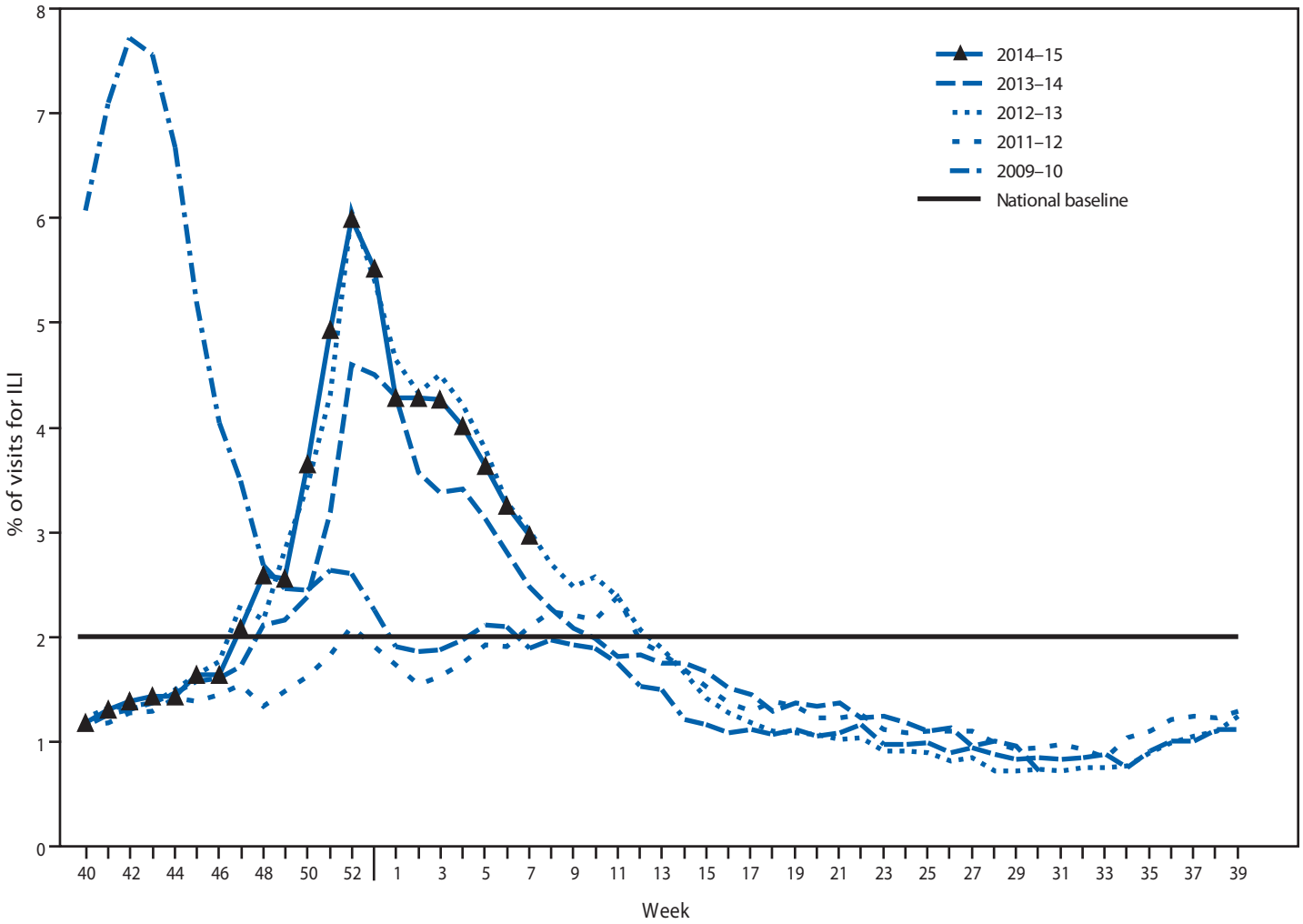
¶ The national and regional baselines are the mean percentage of visits for ILI during non-influenza weeks for the previous three seasons plus two standard deviations. Non-influenza weeks are defined as periods of 2 or more consecutive weeks in which each week accounted for less than 2% of the season's total number of specimens that tested positive for influenza. National and regional percentages of patient visits for ILI are weighted on the basis of state population. Use of the national baseline for regional data is not appropriate.

** The 10 regions include the following jurisdictions: Region 1: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont; Region 2: New Jersey, New York, Puerto Rico, and the U.S. Virgin Islands; Region 3: Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia; Region 4: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee; Region 5: Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin; Region 6: Arkansas, Louisiana, New Mexico, Oklahoma, and Texas; Region 7: Iowa, Kansas, Missouri, and Nebraska; Region 8: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming; Region 9: Arizona, California, Hawaii, Nevada, American Samoa, Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Guam, Marshall Islands, and Republic of Palau; Region 10: Alaska, Idaho, Oregon, and Washington.

Data collected in ILINet are used to produce a measure of ILI activity[††] by jurisdiction. During the week ending February 21, 2015 (week 7), 11 states and Puerto Rico experienced high ILI activity (Arkansas, Connecticut, Kansas, Louisiana, Mississippi, New Jersey, New York, North Carolina, Oklahoma, Texas, and West Virginia), three states experienced moderate ILI activity (Colorado, Idaho, and Nevada), 16 states experienced low ILI activity (Alabama, California, Georgia, Hawaii, Massachusetts, Minnesota, Missouri, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont, Virginia, and Wyoming), and 20 states and New York City experienced minimal ILI activity (Alaska, Arizona, Delaware, Florida, Illinois, Indiana, Iowa, Kentucky, Maine, Maryland, Michigan, Montana, Nebraska, New Hampshire, New Mexico, North Dakota, Ohio, Oregon, Washington, and Wisconsin). As of February 21, 2015, the largest total number of jurisdictions experiencing high ILI activity in a single week occurred during the weeks ending December 27, 2014 (week 52) and January 24, 2015 (week 3), when a total of 31 states and Puerto Rico experienced high ILI activity. A total of 45 jurisdictions have experienced high ILI activity at least 1 week this season. The peak number of jurisdictions experiencing high ILI activity in a single week during the last five influenza seasons has ranged from four during the 2011–12 season to 44 during the 2009–10 season.

[††] Activity levels are based on the percentage of outpatient visits in a state attributed to ILI and are compared with the average percentage of ILI visits that occur during weeks with little influenza virus circulation. Activity levels range from minimal, which would correspond to ILI activity from outpatient clinics being below or only slightly above the average, to high, which would correspond to ILI activity from outpatient clinics being much higher than the average.

FIGURE 2. Percentage of visits for influenza-like illness (ILI)* reported to CDC, by surveillance week — Outpatient Influenza-Like Illness Surveillance Network, United States, 2014–15 influenza season and selected previous influenza seasons



* Defined as a fever (≥100°F [≥37.8°C]), oral or equivalent, and cough and/or sore throat, without a known cause other than influenza.

Geographic Spread of Influenza

For the week ending February 21, 2015 (week 7), the geographic spread of influenza[§§] was reported as widespread in Guam and 20 states (Alabama, California, Connecticut, Delaware, Idaho, Indiana, Iowa, Maine, Maryland, Massachusetts, Mississippi, Montana, New Hampshire, New Jersey, New York, North Carolina, Oklahoma, Rhode Island, Vermont, and Virginia), regional in Puerto Rico, the U.S. Virgin Islands, and 25 states (Arizona, Arkansas, Florida, Georgia, Hawaii, Kansas, Kentucky, Louisiana, Michigan, Missouri, Nebraska, Nevada, New Mexico, North Dakota, Ohio, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Utah, Washington, West Virginia, Wisconsin, and Wyoming), and local in the District of Columbia and five states (Alaska, Colorado, Illinois, Minnesota, and South Dakota). As of February 21, 2015, the number of jurisdictions reporting influenza activity as widespread peaked during the weeks ending January 3, 2015 (week 53) and January 10, 2015 (week 1), when a total of 47 jurisdictions reported influenza activity as widespread. During the previous five seasons, the peak number of jurisdictions reporting widespread activity has ranged from 20 in the 2011–12 season to 49 in the 2010–11 season.

Influenza-Associated Hospitalizations

CDC monitors hospitalizations associated with laboratory-confirmed influenza infection in adults and children through the Influenza Hospitalization Surveillance Network (FluSurv-NET),[¶¶] which covers approximately 9% of the U.S. population. From October 1, 2014, through February 21, 2015, a total of 14,162 laboratory-confirmed influenza-associated hospitalizations were reported, with a cumulative rate thus far for all age groups of 51.7 per 100,000 population. The most affected age group was adults aged ≥65 years, accounting for more than 60% of reported influenza-associated hospitalizations. The cumulative hospitalization rate (per 100,000 population) from October 1, 2014, through February 21, 2015, was 45.7 among children aged <5 years, 12.9 among children aged 5–17 years, 15.0 among adults aged 18–49 years, 41.2 among adults aged 50–64 years, and 258.0 among adults aged ≥65 years (Figure 3). During the past three influenza seasons (2011–12 through 2013–14), end-of-season overall cumulative hospitalization rates ranged from 8.7 to 43.9 per 100,000 population, and age-specific cumulative hospitalization rates ranged from 16.0 to 67.0 per 100,000 population for ages <5 years, 4.0 to 14.6 for ages 5–17 years, 4.2 to 21.5 for ages 18–49 years, 8.1 to 53.7 for ages 50–64 years, and 30.2 to 183.2 for ages ≥65 years. Among all hospitalizations reported during the 2014–15 influenza season, 13,416 (94.8%) were associated with influenza A, 625 (4.4%) with influenza B, 46 (0.3%) with influenza A and B coinfection, and 67 (0.5%) had no virus type information. Among those with influenza A virus subtype information, 4,000 (99.7%) were A (H3N2) and 10 (0.2%) were A (H1N1)pdm09.

As of February, 21, 2015, and based on 3,118 (22.0%) cases with complete medical chart abstraction, the most commonly reported underlying medical conditions among hospitalized adults were cardiovascular disease, metabolic disorders, and obesity. The most commonly reported underlying medical conditions in hospitalized children were asthma, neurologic disorders, and immune suppression. Seven percent of adults and 39% of hospitalized children had no identified underlying medical conditions that placed them at higher risk for influenza complications.[***] Among 253 hospitalized women of childbearing age (15–44 years), 67 (26%) were pregnant.

Pneumonia and Influenza–Associated Mortality

For the week ending February 21, 2015 (week 7), pneumonia and influenza (P&I) was reported as an underlying or

[§§] Levels of activity are 1) no activity; 2) sporadic: isolated laboratory-confirmed influenza cases or a laboratory-confirmed outbreak in one institution, with no increase in activity; 3) local: increased ILI, or at least two institutional outbreaks (ILI or laboratory-confirmed influenza) in one region of the state, with recent laboratory evidence of influenza in that region; virus activity no greater than sporadic in other regions; 4) regional: increased ILI activity or institutional outbreaks (ILI or laboratory-confirmed influenza) in at least two but less than half of the regions in the state with recent laboratory evidence of influenza in those regions; and 5) widespread: increased ILI activity or institutional outbreaks (ILI or laboratory-confirmed influenza) in at least half the regions in the state, with recent laboratory evidence of influenza in the state.

[¶¶] FluSurv-NET conducts population-based surveillance for laboratory-confirmed influenza-associated hospitalizations in children aged <18 years (since the 2003–04 influenza season) and adults aged ≥18 years (since the 2005–06 influenza season). FluSurv-NET covers approximately 70 counties in the 10 Emerging Infections Program states (California, Colorado, Connecticut, Georgia, Maryland, Minnesota, New Mexico, New York, Oregon, and Tennessee) and additional Influenza Hospitalization Surveillance Project (IHSP) states. IHSP began during the 2009–10 season to enhance surveillance during the 2009 H1N1 pandemic. IHSP sites included Iowa, Idaho, Michigan, Oklahoma, and South Dakota during the 2009–10 season; Idaho, Michigan, Ohio, Oklahoma, Rhode Island, and Utah during the 2010–11 season; Michigan, Ohio, Rhode Island, and Utah during the 2011–12 season; Iowa, Michigan, Ohio, Rhode Island, and Utah during the 2012–13 season; and Michigan, Ohio, and Utah during the 2013–14 and 2014–15 seasons. Incidence rates are calculated using CDC's National Center for Health Statistics population estimates for the counties included in the surveillance catchment area. Laboratory confirmation is dependent on clinician-ordered influenza testing, and testing for influenza often is underutilized because of the poor reliability of rapid test results and greater reliance on clinical diagnosis for influenza. As a consequence, cases identified as part of influenza hospitalization surveillance likely are an underestimation of the actual number of persons hospitalized with influenza.

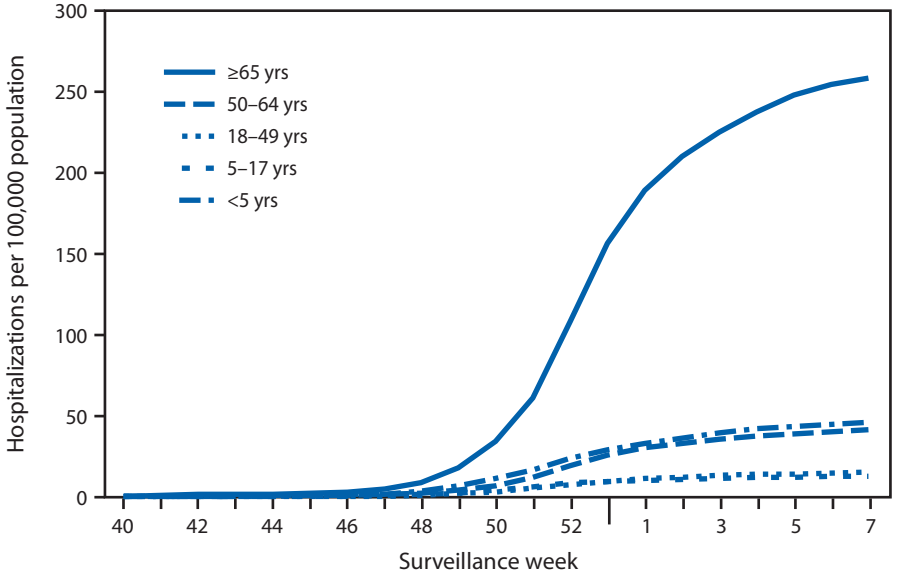
[***] Persons at higher risk include children aged <5 years (especially those aged <2 years); adults aged ≥65 years; persons with chronic pulmonary (including asthma), cardiovascular (except hypertension alone), renal, hepatic, hematologic (including sickle cell disease), metabolic disorders (including diabetes mellitus), or neurologic and neurodevelopment conditions (including disorders of the brain, spinal cord, peripheral nerve, and muscle, such as cerebral palsy, epilepsy [seizure disorders], stroke, intellectual disability [mental retardation], moderate to severe developmental delay, muscular dystrophy, or spinal cord injury); persons with immunosuppression, including that caused by medications or by human immunodeficiency virus infection; women who are pregnant or postpartum (within 2 weeks after delivery); persons aged ≤18 years who are receiving long-term aspirin therapy; American Indians/Alaska Natives; persons who are morbidly obese (i.e., body mass index ≥40); and residents of nursing homes and other chronic care facilities.

contributing cause of death for 7.4% of all deaths reported to the 122 Cities Mortality Reporting System (Figure 4). This percentage is above the epidemic threshold of 7.2% for that week.††† Since September 28, 2014, the weekly percentage of deaths attributed to P&I ranged from 5.0% to 9.3%, and as of February 21, 2015 (week 7), had exceeded the epidemic threshold for 8 consecutive weeks (weeks ending January 3–February 21, 2015 [weeks 53–7]). The peak weekly percentages of deaths attributed to P&I for the previous five seasons ranged from 7.9% during the 2011–12 season to 9.9% during the 2012–13 season.

Influenza-Associated Pediatric Mortality

As of February 21, 2015, a total of 92 laboratory-confirmed influenza-associated pediatric deaths that occurred during the 2014–15 season were reported to CDC from New York City and 31 states. The mean and median ages of children reported to have died were 7.2 and 5.9 years, respectively; 10 children were aged <6 months, 15 were aged 6–23 months, 14 were aged 2–4 years, 30 were aged 5–11 years, and 23 were aged 12–17 years. Of the 92 deaths, 43 were associated with an influenza A (H3N2) virus infection, 40 deaths were associated with an influenza A virus infection that was not subtyped, six deaths were associated with an influenza B infection, two deaths were associated with an influenza A and B coinfection, and one death was associated with an influenza virus for which the type was not determined. Since influenza-associated pediatric mortality became a nationally notifiable disease in 2004, the total number of influenza-associated pediatric deaths has ranged from 37 to 171 per season; excluding the 2009 pandemic, when 358 pediatric deaths were reported to CDC during April 15, 2009, through October 2, 2010.

FIGURE 3. Cumulative rates of hospitalization for laboratory-confirmed influenza, by age group and surveillance week — FluSurv-NET,* 2014–15 influenza season†



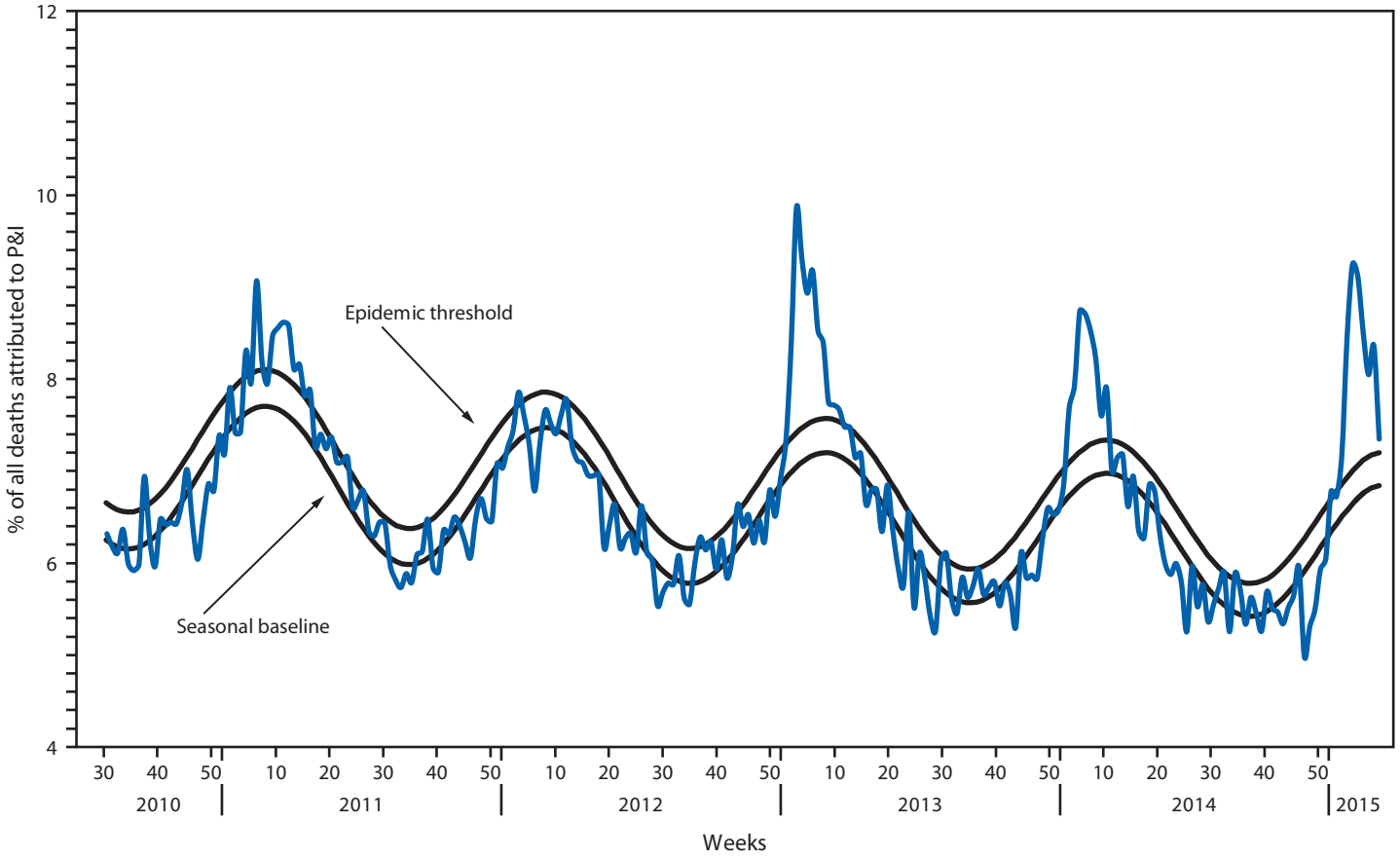
* FluSurv-NET conducts population-based surveillance for laboratory-confirmed influenza-associated hospitalizations among children aged <18 years (since the 2003–04 influenza season) and adults aged ≥18 years (since the 2005–06 influenza season). FluSurv-NET covers approximately 70 counties in the 10 Emerging Infections Program states (California, Colorado, Connecticut, Georgia, Maryland, Minnesota, New Mexico, New York, Oregon, and Tennessee) and additional Influenza Hospitalization Surveillance Project states (Michigan, Ohio, and Utah).
† Data as of February 21, 2015.

Discussion

The 2014–15 influenza season began early and, as of February 21, 2015, activity remained elevated across the United States. Influenza A (H3N2) viruses have been predominant overall, though in recent weeks an increasing proportion of influenza B viruses have been detected. Influenza A (H1N1)pdm09 viruses have been reported only rarely. Previous seasons during which influenza A (H3N2) viruses have predominated have often been associated with increased hospitalizations and deaths, especially among children aged <5 years and adults aged ≥65 years (*3–5*). The most recent previous season during which influenza A (H3N2) viruses predominated was in 2012–13. Although the current season has exhibited similar timing, data to date suggest it is more severe than the 2012–13 season for adults aged ≥65 years. The percentage of outpatient visits for ILI first exceeded the national baseline in mid-November (week 47) and, as of February 21, 2015, had remained above baseline for 14 consecutive weeks with a peak during late December. During the 2012–13 influenza season, similar ILI patterns were observed: the percentage of outpatient visits for ILI remained at or above baseline for 17 consecutive weeks, suggesting that influenza activity in the United States could continue this season for several more weeks. The highest rates of influenza-associated hospitalizations are generally observed among adults aged ≥65 years and children aged <5 years, and during seasons when influenza A (H3N2) viruses have predominated, higher hospitalization rates and mortality have been observed among these groups (*3,6*). This season, the highest rates of hospitalization have been among adults aged ≥65 years and are five-fold or greater than the overall and other age group-specific hospitalization rates. Through February 21, 2015, the cumulative rate of influenza-associated hospitalizations among this age group was 258.0 per 100,000 population, exceeding the cumulative total

††† The seasonal baseline proportion of P&I deaths is projected using a robust regression procedure in which a periodic regression model is applied to the observed percentage of deaths from P&I that were reported by the 122 Cities Mortality Reporting System during the preceding 5 years. The epidemic threshold is set at 1.645 standard deviations above the seasonal baseline.

FIGURE 4. Percentage of all deaths attributable to pneumonia and influenza (P&I), by surveillance week and year* — 122 Cities Mortality Reporting System, United States, 2010–2015



* Data as of February 21, 2015.

of 183.2 per 100,000 population for the entire 2012–13 season, which had been the highest previous recorded laboratory-confirmed influenza-associated hospitalization rate since this type of surveillance began in 2005. Among children aged <5 years, the cumulative hospitalization rate through February 21, 2015 (week 7) (45.7 per 100,000 population) is slightly less than that observed during the same week of the 2012–13 season (51.9 per 100,000 population). As of February 21, 2015, approximately 79% of the P&I deaths this season have occurred in adults aged ≥65 years and is similar to what was observed during the 2012–13 influenza season. However, the peak weekly percentage of deaths attributed to P&I for the current influenza season (9.3%) did not exceed the peak observed during the 2012–13 influenza season (9.9%).

A notable characteristic of the 2014–15 influenza season is that antigenic and genetic characterization of influenza-positive respiratory specimens submitted to CDC indicate that most of the circulating influenza A (H3N2) viruses are antigenically or genetically drifted from the influenza A (H3N2) component of the 2014–15 Northern Hemisphere vaccines (A/Texas/50/2012). Among the drifted viruses, most were antigenically similar to the influenza A (H3N2) virus selected for the 2015 Southern Hemisphere influenza vaccine (A/Switzerland/9715293/2013). A/Switzerland-like H3N2 viruses were first detected in the United States in small numbers in March 2014 and began to increase from July to September 2014 (*1*).

The predominance of drifted influenza A (H3N2) viruses has resulted in reduced vaccine effectiveness this season. Updated interim estimates of data collected from November 10, 2014 through January 30, 2015 indicate that overall the influenza vaccine was 19% (95% confidence interval (CI) = 7%-29%) effective in preventing medical visits across all age groups, and specifically, was 18% (CI = 6%-29%) and 45% (CI = 14%-65%) effective in preventing medical visits associated with influenza A (H3N2) and influenza B (Yamagata lineage), respectively (*7*). Although protection is reduced compared with previous seasons when most circulating and vaccine strain viruses were well-matched, influenza vaccination can still provide protection against vaccine-like influenza A (H3N2) viruses that have not undergone significant antigenic

drift and influenza B viruses, which have predominated at the end of many influenza seasons (*1,3,6*). Although health care providers should continue to offer vaccine to all unvaccinated persons aged ≥6 months, antiviral medications are more important than usual as an adjunct to vaccination in the treatment and prevention of influenza. Recommended neuraminidase inhibitor antiviral medications include oseltamivir (Tamiflu), zanamivir (Relenza), and peramivir (Rapivab). Adamantane antiviral medications (rimantadine and amantadine) are not recommended because high levels of resistance persist among circulating influenza A viruses and they are not effective against influenza B viruses. Early treatment with antiviral medication can shorten the duration of influenza symptoms and reduce the risk for severe complications (*8*). A recent meta-analysis using individual patient data from published and unpublished randomized controlled clinical trials found that use of oseltamivir for the treatment of laboratory-confirmed influenza in adults reduced the time for symptoms to resolve by 21%, reduced the risk for lower respiratory tract complications by 44%, and reduced the risk for hospitalization by 63% compared with those treated with a placebo (*9*).

CDC recommends that antiviral treatment should be initiated as soon as possible after illness onset (ideally within 48 hours of symptom onset) for any patient with confirmed or suspected influenza who is hospitalized, has severe, complicated, or progressive illness, or is at high risk for influenza-associated complications, including children aged <2 years and adults aged ≥65 years. However, even when started after 48 hours of illness onset, antiviral treatment might still be beneficial in patients with severe, complicated, or progressive illness and in hospitalized patients. Antiviral treatment decisions should not be delayed awaiting laboratory confirmation of influenza (*8*).

Influenza surveillance reports for the United States are posted online weekly and are available at http://www.cdc.gov/flu/weekly. Additional information regarding influenza viruses, influenza surveillance, influenza vaccine, influenza antiviral medications, and novel influenza A infections in humans is available at http://www.cdc.gov/flu.

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What is already known on this topic?

CDC collects, compiles, and analyzes data on influenza activity year-round in the United States. The timing and severity of circulating influenza viruses can vary by geographic location and season.

What is added by this report?

Influenza activity in the United States began to increase in mid-November, remained elevated through February 21, 2015, and is expected to continue for several more weeks. This has been an especially severe season for adults aged ≥65 years; this group has the highest recorded influenza-associated hospitalization rate and accounts for the majority of pneumonia and influenza–associated deaths this season. During September 28, 2014–February 21, 2015, influenza A (H3N2) viruses predominated. Characterization data indicate that most of the influenza A (H3N2) viruses have antigenically or genetically drifted and are different from the influenza A (H3N2) component of the 2014–15 Northern Hemisphere vaccines. The vast majority of currently circulating influenza viruses are sensitive to oseltamivir, zanamivir, and peramivir.

What are the implications for public health practice?

Although vaccine effectiveness is reduced this season, influenza vaccination remains the most effective way to prevent influenza illness. Antiviral medications are more important than usual as an adjunct to vaccination in the treatment and prevention of influenza. Early antiviral treatment is recommended for patients with severe, complicated, or progressive influenza illness and those at higher risk for influenza complications, including adults aged ≥65 years.

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Infant and Maternal Characteristics in Neonatal Abstinence Syndrome — Selected Hospitals in Florida, 2010–2011

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Neonatal abstinence syndrome (NAS) is a constellation of physiologic and neurobehavioral signs exhibited by newborns exposed to addictive prescription or illicit drugs taken by a mother during pregnancy (*1*). The number of hospital discharges of newborns diagnosed with NAS has increased more than 10-fold (from 0.4 to 4.4 discharges per 1,000 live births) in Florida since 1995, far exceeding the three-fold increase observed nationally (*1,2*). In February 2014, the Florida Department of Health requested the assistance of CDC to 1) assess the accuracy and validity of using Florida's hospital inpatient discharge data, linked to birth and infant death certificates, as a means of NAS surveillance and 2) describe the characteristics of infants with NAS and their mothers. This report focuses only on objective two, describing maternal and infant characteristics in the 242 confirmed NAS cases identified in three Florida hospitals during a 2-year period (2010–2011). Infants with NAS experienced serious medical complications, with 97.1% being admitted to an intensive care unit, and had prolonged hospital stays, with a mean duration of 26.1 days. The findings of this investigation underscore the important public health problem of NAS and add to current knowledge on the characteristics of these mothers and infants. Effective June 2014, NAS is now a mandatory reportable condition in Florida. Interventions are also needed to 1) increase the number and use of community resources available to drug-abusing and drug-dependent women of reproductive age, 2) improve drug addiction counseling and rehabilitation referral and documentation policies, and 3) link women to these resources before or earlier in pregnancy.

For this study, six hospitals in two Florida counties with high numbers of NAS births were identified using Florida's hospital inpatient discharge data; of these, three hospitals were able to provide data needed for this investigation. Three data sources were used to identify infants with possible NAS: linked administrative data (Florida's linked hospital inpatient discharge, birth certificate, and infant death certificate data), data collected through neonatal intensive care unit (NICU) admission logs, and inpatient pharmacy data. The linked administrative data selection criteria were maternal residency in Florida, nonadoption status of the infant, and birth of the infant at one of the three participating hospitals during 2010–2011. Infants with an *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM) discharge diagnosis code of 779.5 (drug withdrawal syndrome in a newborn) or 760.72 (narcotics affecting fetus or newborn via placenta or breast milk) were considered to have possible NAS. NICU staff provided the investigation team with a list of infants admitted to the NICU for NAS treatment, based on documentation in NICU admission logs. Additionally, inpatient pharmacy dispensing data were used to identify infants treated with morphine, methadone, or clonidine during the 2-year period.

Infant and maternal medical records were abstracted. Infants meeting all three of the following criteria were classified as having confirmed NAS (hereafter referred to as NAS): 1) presence of a constellation of clinical signs consistent with NAS (defined as a documented NAS score >8 [on a scale of 0–37]) (*3*), not explained by another etiology; 2) documented history of maternal use during pregnancy of prescription or illicit drugs associated with NAS (*1*) or laboratory confirmation of recent maternal drug use or fetal exposure to such drugs; and 3) a severity of illness that resulted in a prolonged (>2 days) neonatal hospitalization. Descriptive statistics for infants with NAS were calculated by comparing infant data abstracted from medical records with data obtained from the linked administrative data on all infants (excluding medical record numbers of infants with NAS) born at the participating hospitals during the 2-year period. Z-tests were used to compare population proportions, and t-tests were used to compare means.

The linked administrative data identified 179 infants with ICD-9-CM codes 779.5 or 760.72. An additional 234 unique infants were identified from the NICU and pharmacy data, for a total of 413 infants with possible NAS whose medical records were reviewed, along with their mother's medical record (when available). Of the 413 infants, 242 infants were classified as having NAS. There were 22,285 infants without NAS identified in the linked administrative data.

The mean age of mothers of infants with NAS was slightly younger, at 27.4 years, compared with 28.2 years for mothers of infants without NAS (p=0.01) (Table 1). Most of the infants with NAS (82.6%) were non-Hispanic white, compared with 56.7% of infants without NAS (p<0.01). There was a significantly higher percentage of low birth weight (<2500 grams; 19.4% versus 8.0%) and preterm (<37 weeks

TABLE 1. Selected characteristics of infants with confirmed neonatal abstinence syndrome (NAS) compared with infants without NAS — selected hospitals in Florida, 2010–2011

Characteristic	Confirmed NAS* (N = 242)		Non-NAS† (N = 22,285)		p-value§
	No.	(%)	No.	(%)	
Mother's age (yrs), mean ±SD	**27.4 ±4.9**		**28.2 ±6.1**		**0.01**
Sex					
Male	136	(56.2)	11,466	(51.5)	0.14
Female	106	(43.8)	10,819	(48.6)	0.14
Race/Ethnicity					
White, non-Hispanic	200	(82.6)	12,645	(56.7)	<0.01
Black, non-Hispanic	3	(1.2)	3,851	(17.3)	<0.01
Hispanic	18	(7.4)	4,031	(18.1)	<0.01
Other	13	(5.4)	1,729	(7.8)	0.10
Unknown/Missing	8	(3.3)	29	(0.1)	0.01
Birth weight					
<2500 grams (low)	47	(19.4)	1,785	(8.0)	<0.01
≥2500 grams (normal)	195	(80.6)	20,500	(92.0)	<0.01
Gestational age					
<37 weeks (preterm)	44	(18.2)	2,730	(12.3)	0.02
≥37 weeks (term)	198	(81.8)	19,551	(87.8)	0.02
5-minute APGAR score, mean ±SD	**8.8 ±0.6**		**8.9 ±0.6**		**0.06**
NICU admission					
Yes	235	(97.1)	1,386	(6.2)	<0.01
No	7	(2.9)	20,899	(93.8)	<0.01
Infant death					
Yes	0	(0.0)	103	(0.5)	<0.01
No	242	(100.0)	22,182	(99.5)	<0.01

Abbreviations: NICU = neonatal intensive care unit; SD = standard deviation.

* Case definition of confirmed NAS, based on hospital medical record abstraction; all three of the following conditions must be met: 1) presence of a constellation of clinical signs consistent with NAS, not explained by another etiology; 2) documented history of maternal use of prescription or illicit drugs normally associated with NAS during pregnancy and/or laboratory confirmation of recent maternal drug use or fetal exposure to such drugs; and 3) a level of severity of signs that result in a neonatal hospitalization beyond the first few days of life (defined as a hospital stay >2 days).

† Data on the infants without NAS were obtained from Florida's linked administrative data and includes all births at the selected hospitals during 2010–2011, excluding infants with confirmed NAS.

§ Z-tests were used to compare population proportions. T-tests were used to compare means.

gestation) delivery (18.2% versus 12.3%) among infants with NAS compared with infants without NAS. Almost all infants with NAS (97.1%) were admitted to the NICU, compared with 6.2% of infants without NAS. None of the infants with NAS died during their birth hospitalization.

The mean of the first documented NAS score >8 was 11.5 (Table 2). Urine toxicology screens were the most common type of screen performed on infants with NAS, with 86.4% of infants with NAS screened for substance exposure. Pharmacologic therapy to control signs of NAS was used in 89.7% of infants, with morphine being the most commonly selected treatment (used in 87.6% of cases), followed by phenobarbital (used in 36.8% of cases). The mean NICU length of stay for infants with NAS was 26.1 days, and their mean age at discharge was 27.4 days. At discharge, most infants with NAS were receiving formula only (94.6%), approximately 4% were receiving both breast milk and formula, and none were documented as being exclusively breastfed.

There was documentation in the medical records of opioid use during pregnancy for nearly all (99.6%) mothers of infants with NAS. Approximately 82% of mothers were reported as using one or more opioid such as oxycodone, morphine, hydrocodone, hydromorphone, tramadol, or meperidine; 59.9% as using methadone; and 3.7% as using buprenorphine. Less than 1% of mothers were reported to have used heroin during pregnancy. Benzodiazepines were the second most commonly reported substances used (40.5%), followed by tobacco (39.7%), marijuana (24.4%), and cocaine (14.1%). Reasons reported for opioid use included illicit (i.e., nonmedical) (55.0%), drug abuse treatment (41.3%), and chronic pain treatment (21.5%). The reason for opioid use during pregnancy was unknown for 10.3% of NAS mothers. Urine toxicology screens were performed on 86.8% of the mothers of infants with NAS; of these, 90.5% had positive urine screen results. Lastly, 10.3% of mothers had documentation in the medical records that they had received or were referred for drug addiction rehabilitation or counseling during the infant's birth hospitalization.

Discussion

Infants with NAS have prolonged hospital stays, they experience serious medical complications, and their treatment is very costly (*2,4*). Overall, 242 infants with NAS were identified

TABLE 2. Selected characteristics of infants with confirmed neonatal abstinence syndrome (NAS) and their mothers — selected hospitals in Florida, 2010–2011

Infant characteristics	Confirmed NAS* (N = 242) No.	(%)
First documented NAS score >8, mean ±SD†	**11.5 ±2.6**	
Toxicology screens performed§		
Urine	209	(86.4)
Meconium	74	(30.6)
Umbilical cord tissue	63	(26.0)
Pharmacologic therapy used for NAS§		
Any type of pharmacologic therapy	217	(89.7)
Morphine sulfate	212	(87.6)
Phenobarbital	89	(36.8)
Clonidine	9	(3.7)
Methadone	3	(1.2)
Midazolam	2	(0.8)
Fentanyl	2	(0.8)
Chloral hydrate	1	(0.4)
NICU length of stay (days), mean ±SD	**26.1 ±15.3**	
Age at discharge (days), mean ±SD	**27.4 ±15.6**	
Feeding methods on day of discharge		
Breastfeeding only	0	(0.0)
Formula only	229	(94.6)
Mixed breastfeeding and formula	9	(3.7)
Other/Unknown	4	(1.7)

See table footnotes in next column.

TABLE 2. (*Continued*) Selected characteristics of infants with confirmed neonatal abstinence syndrome (NAS) and their mothers — selected hospitals in Florida, 2010–2011

Maternal characteristics	Confirmed NAS* (N = 242) No.	(%)
Substances used during pregnancy§		
Opioids	241	(99.6)
Other opioids¶	198	(81.8)
Methadone	145	(59.9)
Buprenorphine	9	(3.7)
Heroin	2	(0.8)
Benzodiazepines	98	(40.5)
Tobacco	96	(39.7)
Marijuana/Hashish	59	(24.4)
Cocaine	34	(14.1)
Antidepressants	17	(7.0)
Other	16	(6.6)
Barbiturates	12	(5.0)
Methamphetamine	8	(3.3)
Other amphetamines/CNS stimulants	8	(3.3)
Alcohol	5	(2.1)
Other sedative-hypnotics	2	(0.8)
Reasons for opioid use§		
Illicit	133	(55.0)
Drug abuse treatment	100	(41.3)
Chronic pain	52	(21.5)
Unknown	25	(10.3)
Urine toxicology screen performed		
Yes	210	(86.8)
No/Unknown	32	(13.2)
Positive urine toxicology screen		
Yes	190	(90.5)
No/Unknown	20	(9.5)
Services received during birth hospitalization§		
Referral for drug addiction rehabilitation	15	(6.2)
Drug addiction counseling/Counseling on substance use and abuse	10	(4.1)

Abbreviations: NICU = neonatal intensive care unit; SD = standard deviation; CNS = central nervous system.

* Case definition of confirmed NAS, based on hospital medical record abstraction; all three of the following conditions must be met: 1) presence of a constellation of clinical signs consistent with NAS, not explained by another etiology; 2) documented history of maternal use of prescription or illicit drugs normally associated with NAS during pregnancy and/or laboratory confirmation of recent maternal drug use or fetal exposure to such drugs; and 3) a level of severity of signs that result in a neonatal hospitalization beyond the first few days of life (defined as a hospital stay >2 days).

† Scores can range from 0 to 37; scores >8 are typically considered indicative of NAS.

§ More than one response possible; therefore, percentages might not sum to 100%.

¶ Including oxycodone, morphine, hydrocodone, hydromorphone, tramadol, and meperidine.

in this investigation of three Florida hospitals over a 2-year period. The majority of these infants were admitted to the NICU, where the mean length of stay was 26.1 days. Nearly all infants with NAS were exposed to opioids in utero (99.6%), highlighting the issue of opioid use in women of childbearing age (*5*). Additionally, it has been reported that women face many barriers in accessing any type of substance abuse treatment (*6*), which might also be reflected in the finding that only 10.3% of mothers of infants with NAS received or were referred for drug addiction rehabilitation or counseling during their infant's birth hospitalization, despite a high percentage of mothers with positive urine toxicology screen results. Medication assisted treatment (MAT) is recommended as the standard of care for pregnant women with opioid addiction*; comprehensive MAT coupled with prenatal care can reduce complications associated with untreated opioid use disorder (*1,7*). None of the infants with NAS were documented to be exclusively breastfed at discharge, and only 3.7% of these infants were receiving any breast milk. There is some evidence that breastfeeding or the feeding of human milk might result in decreased intensity and severity of NAS (*8–10*), and current recommendations are that when possible, and not otherwise contraindicated, mothers in supervised drug treatment programs be encouraged to breastfeed (*1*).

* Additional information on substance use disorder during pregnancy is available at http://www.samhsa.gov.

The findings in this report are subject to at least five limitations. First, this investigation was conducted in three Florida hospitals and might not be representative of the state overall or other hospitals in Florida. Second, during the 2-year period, NAS scoring tools were not routinely included in electronic medical records at the participating hospitals; therefore, some infants with a NAS score >8 might have been missed if not documented somewhere in the medical record. Third, the

What is already known on this topic?

Infants with neonatal abstinence syndrome (NAS) have prolonged hospital stays, experience serious medical complications, and are very costly to treat.

What is added by this report?

During a 2-year period (2010–2011), a total of 242 confirmed NAS cases were identified in three Florida hospitals. Nearly all infants with NAS (99.6%) were exposed to opioids during pregnancy and experienced serious medical complications, with 97.1% being admitted to an intensive care unit, where the mean length of stay was 26.1 days.

What are the implications for public health practice?

Interventions are needed to 1) increase the number and use of community resources available to drug-abusing and drug-dependent women of reproductive age, 2) improve drug addiction counseling and rehabilitation referral and documentation policies, and 3) link women to these resources before or earlier in pregnancy. Encouraging breastfeeding of infants with NAS, when mothers are in supervised drug treatment programs and when not otherwise contraindicated, might also be considered.

hospitals were only able to provide pharmacy data based on the medication dispense date, not infant date of birth. Infants born near the end of 2011, but not dispensed pharmacologic treatment for NAS until 2012 might not have been included. Fourth, because NAS can be associated with a wide variety of pharmaceuticals and other substances and there was no "probable" case definition, the number of infants with NAS might be an underestimate of cases in the participating hospitals. Finally, only the feeding method on the day of discharge was collected; feeding methods during the infant's birth hospitalization and reasons for not breastfeeding at discharge are unknown.

Other analyses from this investigation will evaluate the use of Florida's linked administrative data for NAS surveillance. The findings of this report enhance current clinical and public health knowledge on infants with NAS. When not otherwise contraindicated, encouraging mothers in supervised drug treatment programs to breastfeed, increasing the number and use of community resources available to women of reproductive age for substance abuse treatment and smoking cessation, improving drug addiction counseling and rehabilitation referral and documentation policies, and linking women to these resources before or earlier in pregnancy are all options that should be considered when addressing NAS prevention and management measures.

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Vital Signs: Seat Belt Use Among Long-Haul Truck Drivers — United States, 2010

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Abstract

Background: Motor vehicle crashes were the leading cause of occupational fatalities in the United States in 2012, accounting for 25% of deaths. Truck drivers accounted for 46% of these deaths. This study estimates the prevalence of seat belt use and identifies factors associated with nonuse of seat belts among long-haul truck drivers (LHTDs), a group of workers at high risk for fatalities resulting from truck crashes.

Methods: CDC analyzed data from its 2010 national survey of LHTD health and injury. A total of 1,265 drivers completed the survey interview. Logistic regression was used to examine the association between seat belt nonuse and risk factors.

Results: An estimated 86.1% of LHTDs reported often using a seat belt, 7.8% used it sometimes, and 6.0% never. Reporting never using a belt was associated with often driving ≥10 mph (16 kph) over the speed limit (adjusted odds ratio [AOR] = 2.9), working for a company with no written safety program (AOR = 2.8), receiving two or more tickets for moving violations in the preceding 12 months (AOR = 2.2), living in a state without a primary belt law (AOR = 2.1); and being female (AOR = 2.3).

Conclusions: Approximately 14% of LHTDs are at increased risk for injury and death because they do not use a seat belt on every trip. Safety programs and other management interventions, engineering changes, and design changes might increase seat belt use among LHTDs.

Implications for Public Health: Primary state belt laws can help increase belt use among LHTDs. Manufacturers can use recently collected anthropometric data to design better-fitting and more comfortable seat belt systems.

Introduction

In 2012, motor vehicle crash fatalities (1,153) accounted for 25% of all occupational fatalities (4,628) in the United States.* Of these motor vehicle crash fatalities, 46% of the decedents were truck drivers. In 2012, 2.6 million truck drivers were employed in the United States; 1.7 million drove heavy trucks and tractor-trailers with gross vehicle weight rating (GVWR) >26,000 pounds, and another 840,000 drove medium-sized trucks with GVWR between 10,001 and 26,000 pounds.† The majority of heavy and tractor-trailer truck drivers were long-haul truck drivers (LHTDs), meaning they delivered goods over intercity routes that can span more than one state.

After decreasing to the lowest level ever in 2009, large-truck (GVWR greater than 10,000 pounds)§ occupant deaths have been increasing (*1*). In 2012, 697 occupants of large trucks died in crashes, and another 26,000 were injured (*1*). About 41% of truck drivers who lost ≥1 work day from a motor vehicle crash in 2012 missed ≥31 days.¶ Federal regulations require drivers of large trucks to wear a seat belt.** But at least 35% of the truck drivers who died in 2012 were not wearing a seat belt (*2*). This report estimates the prevalence of seat belt use and identifies factors associated with nonuse of seat belts among LHTDs.

* The Bureau of Labor Statistics administers the Census of Fatal Occupational Injuries, which enumerates all fatal occupational injuries in the United States using multiple data sources. The most recent final Census of Occupational Injuries data are for the year 2012 and are posted on the Bureau of Labor Statistics website (http://www.bls.gov/iif/oshcfoir1.htm) in several tables, including: Table A-2. Fatal occupational injuries resulting from transportation incidents and homicides, all United States, 2012, and Table A-6. Fatal occupational injuries resulting from transportation incidents and homicides by occupation, all United States, 2012.

† The Bureau of Labor Statistics Occupational Outlook Handbook provides estimated numbers of jobs by occupation. Additional information regarding transportation and material moving occupations is available at http://www.bls.gov/ooh/transportation-and-material-moving/home.htm.

§ Federal statistics on truck crashes combine data for medium (10,001–26,000 pounds gross vehicle weight rating) and heavy (>26,000 pounds) trucks into the single category, large trucks.

¶ The Bureau of Labor Statistics conducts the annual Survey of Occupational Injuries and Illnesses from a nationally representative sample of employer-collected records to estimate occupational injuries and illnesses, including those resulting in >1 day away from work. These data do not include self-employed workers such as independent truck drivers. The BLS provided these unpublished data at CDC's request.

** 49 CFR § 392.16: Use of seat belts. Washington, DC: Federal Motor Carrier Safety Administration; 1995. Available at http://www.fmcsa.dot.gov/regulations/title49/section/392.16.

Methods

In 2010, CDC conducted a nationally representative, personal interview survey of LHTD behavioral characteristics and risk factors at 32 truck stops along interstate highways across the contiguous United States (*3*). LHTDs were eligible for the survey if they: 1) had driven a truck with three or more axles as their main job for 12 months or more, and 2) took at least one mandatory 10-hour rest period away from home during each delivery run. Eligible drivers were recruited to participate in the survey when they entered the truck stop. Of 3,759 eligible drivers approached, 1,670 (44.4%) participated, of whom 1,265 (75.7%) completed the interview. Self-reported data were collected regarding LHTD crashes, demographics, working conditions, and other risk factors. Details of the sampling design, truck stop selection, survey administration, probability weighting for national estimates, and 95% confidence interval computation have been described (*3*).

National estimates for LHTD demographics, employment and truck-crash history, and prevalence of seat belt use were analyzed. Logistic regression analyses were performed using unweighted data to examine the association between seat belt nonuse and potential risk factors. Risk factors examined in this analysis included known risk factors (i.e., age, primary enforcement seat belt laws, and sex) and hypothesized risk factors, such as body mass index, ever smoked (yes, no), frequency of driving ≥10 mph over the speed limit (often, sometimes, or never), number of tickets for moving violations received in the preceding 12 months (0, 1, or 2 or more), number of U.S. Department of Transportation recordable crashes[††] since working as an LHTD, whether their company had written safety programs (yes, no), and frequency of receiving self-perceived unrealistically tight delivery schedules (often, sometimes, or never) (*5,6*).

Body mass index was calculated as weight (kg)/height $(m)^2$. Values for state primary and secondary laws were derived from drivers' self-reported state of residence and state data.[§§] The logistic regression modeled the probability of never (versus often) using a seatbelt while driving a truck for work. LHTDs who reported sometimes using a seat belt were excluded from the logistic regression analysis because of the binary nature of the outcome variable and because it was not clear whether LHTDs who reported sometimes wearing a seat belt should be combined with LHTDs who reported "often" or "never" wearing a seat belt. LHTDs with missing values for any risk factors of interest also were excluded from analysis. Owner-operators who operated under their own authority were not asked whether their company had a written safety program, and as a result were also excluded from the logistic regression analysis. After all exclusions, data for 1,040 LHTDs were used in the logistic regression analysis.

Results

Participating LHTDs had a mean age of 47.8 years, and the majority (93.5%) were male (Table 1). Among the drivers, 73.5% were white, 17.1% were black or African American, and 6.9% reported other or multiple races; 8.6% were of Hispanic or Latino ethnicity. An estimated 86.1% of LHTDs often used a seat belt while driving a truck at work, 7.8% used it sometimes, and 6.0% never. On average, these workers had worked 16.4 years as an LHTD. They had worked an average of 60.4 hours in the past 7 days, 46.2 hours of which were spent driving. An estimated 62.9% had slept at home ≤6 days in the past 30 days. On average, they had driven 107,700 miles in the past 12 months. An estimated 34.9% of LHTDs had been involved in at least one crash while working as a LHTD, and 11.9% had been involved in two or more.

Multiple logistic regression results indicated that never using a seat belt while driving a truck was significantly associated with often driving ≥10 mph over the speed limit (adjusted odds ratio [AOR] = 2.9), working for a company that had no written safety policies/programs (AOR = 2.8), receiving two or more moving violation tickets in the preceding 12 months (AOR = 2.2), living in a state without a primary seat belt law (AOR = 2.1), and being female (AOR = 2.3) (Table 2). Never using a seat belt was not significantly associated with body mass index, ever smoking, the number of recordable crashes since working as a LHTD, or perceived unrealistically tight delivery schedules (Table 2).

Conclusions and Comments

Using a seat belt has been proven to reduce injury and death in the event of a motor vehicle crash for drivers of passenger vehicles and trucks (*4,5*), and LHTDs are required by federal regulations to use a seat belt.[¶¶] Findings from this survey suggest, however, that approximately 14% of LHTDs never or only sometimes use a seat belt. This, coupled with the fact that 34.9% of LHTDs had been involved in at least one U.S. Department of Transportation recordable crash while working as an LHTD and 11.9% had been involved in two or more crashes, underscores the importance of wearing a seat belt.

[††] A U.S. Department of Transportation recordable crash occurs when the crash results in one of the following: a fatality; an injury to a person requiring immediate treatment away from the scene of the accident; or disabling damage to a vehicle, requiring it to be towed.

[§§] State primary seat belt laws allow law enforcement officers to issue tickets for nonuse of a seat belt; states with secondary seat belt laws can only issue tickets in conjunction with another traffic offense. At present, 33 states and the District of Columbia have primary seat belt laws for front seat occupants, 16 states have secondary laws, and one state has not enacted a primary or a secondary seat belt law for adults. Additional information available at http://www.ghsa.org/html/stateinfo/laws/seatbelt_laws.html.

[¶¶] 49 CFR § 392.16: Use of seat belts. Washington, DC: Federal Motor Carrier Safety Administration; 1995. Available at http://www.fmcsa.dot.gov/regulations/title49/section/392.16.

TABLE 1. Selected demographic and employment characteristics, and truck crashes among long-haul truck drivers (LHTDs) — United States, 2010

Characteristic	No. of LHTDs responding	Weighted national estimate*	(95% confidence interval)
Mean age (yrs)	1,265	47.8 yrs	(46.4–49.1)
Mean number of yrs worked as an LHTD	1,265	16.4 yrs	(14.4–18.5)
Sex			
Male	1,184	93.5%	(91.3–95.6)
Female	81	6.5%	(4.4–8.7)
Hispanic or Latino ethnicity	106	8.6%	(5.2–12.1)
Race			
White	923	73.5%	(69.9–77.2)
Black or African American	196	17.1%	(10.6–23.6)
Other or multiple race†	106	6.9%	(3.4–10.4)
Unknown	40	2.5%	(0.5–4.5)
Employment			
Company employee	816	64.5%	(59.7–69.4)
Owner-operator who leased to a motor carrier	360	28.0%	(22.4–33.6)
Owner-operator who operated under own authority	99	7.4%	(3.6–11.3)
Mean no. of hrs worked in the past 7 days	1,265	60.4 hrs	(56.3–64.5)
Average hrs on task in the past 7 days			
Driving	1,265	46.2 hrs	(44.2–48.2)
Waiting for dispatcher, completing paperwork	968	7.3 hrs	(6.0–8.6)
Loading/unloading/ securing the load	592	2.9 hrs	(1.8–3.9)
Truck maintenance	553	1.8 hrs	(0.7–2.8)
No. of days sleeping at home in past 30 days			
0	250	18.3%	(14.1–22.5)
1–6	558	44.6%	(39.8–49.5)
≥7	456	37.1%	(30.3–43.9)
Hrs usually driven before stopping for a break or fuel			
≤4	594	49.3%	(45.9–52.6)
5–8	545	42.0%	(39.6–44.4)
≥8	109	7.2%	(5.2–9.3)
Mean miles driven in past 12 months	1,262	107,700	(101,400–113,900)
How often do you wear a seat belt while driving a truck at work?			
Often	1,078	86.1%	(81.6–90.7)
Sometimes	102	7.8%	(6.5–9.1)
Never	82	6.0%	(2.3–9.8)
Number of DOT recordable truck crashes since working as an LHTD			
≥2	151	11.9%	(8.1–15.8)
1	285	23.0%	(18.5–27.5)
0	829	65.1%	(61.2–69.0)

Abbreviation: DOT = U.S. Department of Transportation.
* Weighted national estimates using 1,265 survey responses.
† Other race includes Asian, American Indian/Alaska Native, Native Hawaiian or Pacific Islander.

Never using a seat belt was significantly associated with the absence of a primary enforcement seat belt law in the LHTD's state of residence. As more states have added primary enforcement seat belt laws, observed seat belt use for drivers of large trucks and buses also has increased (48% in 2003 to 84% in 2013) (*5,6*). Similar findings have also been reported for belt use by auto drivers by state (*7*). Belt use among LHTDs might increase further if all states were to adopt primary enforcement belt laws.

Results of this survey also showed a significant association between never using a seat belt and the absence of a written employer safety program. A requirement that drivers and all passengers use their seat belts is an important component of a comprehensive motor vehicle safety management program. Companies can establish and enforce belt-use requirements and give incentives or recognition for compliance or consequences for noncompliance (*8*). Involving workers in development and implementation of these programs can increase their effectiveness (*9,10*). In a 2005 survey of truck drivers, 44% reported that their employer imposed no penalties for nonuse of seat belts, and 43% indicated that their employer offered no educational or incentive programs to promote seat belt use (*11*). Comprehensive safety programs also can address unsafe driving behaviors such as speeding and other moving violations, both of which were found in this survey to be associated with never using a seat belt.

Engineering and design changes also might increase seat belt use among LHTDs. Previous studies identified personal choice and discomfort related to belt positioning, tightness, range of motion, and rubbing as primary reasons not to wear a seat belt (*11*). It was also reported that seat belts in trucks were uncomfortable for women and shorter drivers (*5*). CDC recently collected anthropometric data from a nationally representative sample of 1,950 truck drivers (1,779 males and 171 females) (*12*). These new data can be used by vehicle manufacturers to develop better fitting and more comfortable seat belt systems. Improvements in belt design might help increase belt use among LHTDs, especially female truck drivers, who were shown in this survey to be more likely than males to never use a seat belt.

In addition to nonuse of seat belts, other risk factors, notably drowsy and distracted driving, have been linked to fatal large-truck crashes. A case-control study comparing fatal and nonfatal truck crashes using collision reports for 1998–2002 in Kentucky found that the odds of a fatal crash were 8.2 times higher when the truck driver was unbelted, 3.2 times higher when the truck driver was distracted, and 21 times higher when the truck driver was fatigued or fell asleep (*13*). In addition to ensuring that truck drivers follow federal regulations*** that limit hours of driving, employers can help reduce drowsy

*** 49 CFR § 395.3: Maximum driving time for property-carrying vehicles. Washington, DC: Federal Motor Carrier Safety Administration; 2013. Available at http://www.fmcsa.dot.gov/regulations/title49/section/395.3.

TABLE 2. Seat belt use among U.S. long-haul truck drivers (LHTDs), by selected characteristics — United States, 2010

Characteristic*	No. of LHTDs used in the regression analysis (n = 1,040)	No. of LHTDs who reported using a seat belt often	No. of LHTDs who reported never using a seat belt	Univariate model		Multivariate model	
				COR	(95% CI)	AOR	(95% CI)
Sex							
Female	69	61	8	1.9	(0.9–4.1)	2.3†	(1.02–5.3)
Male	971	908	63	Ref		Ref	
Body mass index							
Extremely obese	135	128	7	0.6	(0.2–1.6)	0.7	(0.2–1.9)
Obese	465	431	34	0.9	(0.4–1.8)	0.9	(0.4–1.9)
Overweight	320	300	20	0.7	(0.3–1.6)	0.7	(0.3–1.7)
Normal weight	120	110	10	Ref		Ref	
Ever smoked							
Yes	712	655	57	2.0†	(1.1–3.6)	1.8	(0.99–3.4)
No	328	314	14	Ref		Ref	
Number of DOT recordable crashes since working as an LHTD							
≥2	115	106	9	1.4	(0.6–2.9)	1.4	(0.6–3.1)
1	228	207	21	1.6	(0.9–2.8)	1.7	(0.9–3.0)
0	697	656	41	Ref		Ref	
Received unrealistically tight delivery schedule							
Often	189	168	21	2.9†	(1.4–6.3)	2.2	(0.97–5.0)
Sometimes	581	542	39	1.7	(0.9–3.4)	1.7	(0.8–3.4)
Never	270	259	11	Ref		Ref	
Drive 10 mph or more over the speed limit							
Often	56	45	11	4.5†	(2.2–9.4)	2.9†	(1.3–6.7)
Sometimes	224	203	21	1.9†	(1.1–3.3)	1.5	(0.8–2.7)
Never	760	721	39	Ref		Ref	
Number of moving violations received in the past 12 mos							
≥2	67	56	11	3.0†	(1.5–6.0)	2.2†	(1.04–4.7)
1	133	125	8	1.0	(0.5–2.1)	0.9	(0.4–2.0)
0	840	788	52	Ref		Ref	
Company has written safety programs							
No	158	135	23	3.0†	(1.7–5.0)	2.8†	(1.5–5.0)
Yes	882	834	48	Ref		Ref	
State of residence has primary seat belt use law							
No	253	227	26	1.9†	(1.1–3.1)	2.1†	(1.2–3.6)
Yes	787	742	45	Ref		Ref	

Abbreviations: COR = crude odds ratio; AOR = adjusted odds ratio; CI = confidence interval; Ref = referent; DOT = U.S. Department of Transportation.
* Age was examined as a continuous variable in the model and was not found to be significantly associated with seat belt use (p=0.2).
† COR and AOR are statistically significant at p<0.05 level. COR and AOR are modeling the probability of reporting never using a seat belt.

driving by allowing enough time for regular rest. Employers can provide education to increase drivers' awareness of the impact of long work hours and driving at night on driver fatigue. Free online fatigue management training is available for managers and drivers.†††

The findings in this report are subject to at least six limitations. First, because this was a cross-sectional study, causality could not be determined. Second, the survey was conducted at truck stops, which might be more likely to be used by independent owner-operators and drivers for small companies. Drivers for large companies are more likely to stop at company terminals. Third, self-reported data are subject to recall and interviewer bias. To minimize these biases, this survey employed experienced interviewers, standard interview protocols, and survey-specific training. Fourth, findings might be biased away from the null because respondents might have provided socially and legally appropriate answers to questions regarding speeding, moving violations, or seat belt use. This "social desirability" bias was minimized by the anonymous nature of this survey and by assuring respondents that results would be published only in aggregate form. Fifth, nonresponse bias is possible because only one of three eligible drivers asked to participate completed the interview. Finally, results of the logistic regression analysis might not be applicable to owner-operators who operated under their own authority.

Truck driver safety is important for public health because of the high death toll of truck crashes among both drivers and occupants of other vehicles and the economic burden of truck

††† North American Fatigue Management Program. A comprehensive approach for managing commercial driver fatigue; 2015. Available at http://www.nafmp.com/en.

crashes on society. An estimated 317,000 motor vehicle crashes involving a large truck were reported to police in the United States in 2012 (*1*). In the aggregate, for each large-truck driver death, six other persons (persons in other vehicles, pedestrians, or cyclists) died in truck crashes (*1*). Fatal motor vehicle crashes involving large trucks and buses cost the U.S. economy an estimated $40 billion in 2012. The total cost, $99 billion, is much higher when crashes with injuries or property damage are also included (*14*). Improving truck driver safety calls for multifaceted interventions that include federal regulations, state traffic laws, employer safety programs, improved individual driving behaviors, and updated vehicle designs. To increase seat belt use and reduce drowsy and distracted driving, employers can establish and enforce comprehensive safety programs with belt-use requirements, emphasize belt use in training and safety meetings, schedule adequate rest periods, and prohibit texting or using a handheld phone while driving. States and law enforcement officials can mount targeted and high-visibility enforcement efforts. Vehicle manufacturers can use new anthropometric data to design truck cabs and seat belt systems that better fit contemporary drivers (*12*).

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Systems for Rapidly Detecting and Treating Persons with Ebola Virus Disease — United States

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The U.S. Department of Health and Human Services (HHS), CDC, other U.S. government agencies, the World Health Organization (WHO), and international partners are taking multiple steps to respond to the current Ebola virus disease (Ebola) outbreak in West Africa to reduce its toll there and to reduce the chances of international spread. At the same time, CDC and HHS are working to ensure that persons who have a risk factor for exposure to Ebola and who develop symptoms while in the United States are rapidly identified and isolated, and safely receive treatment. HHS and CDC have actively worked with state and local public health authorities and other partners to accelerate health care preparedness to care for persons under investigation (PUI) for Ebola or with confirmed Ebola. This report describes some of these efforts and their impact.

Traveler Screening

Since the beginning of August 2014, CDC, WHO, and other global partners have assisted the ministries of health of the three countries with widespread transmission (Guinea, Liberia, and Sierra Leone) and Mali (during November 17, 2014–January 5, 2015) to develop and implement exit screening intended to reduce the likelihood of international spread of Ebola (*1*). Exit screening procedures include administering a health questionnaire, measuring body temperature, and, if there is a fever, conducting an assessment of the likelihood of the fever being caused by Ebola. Travelers who have fever or symptoms compatible with Ebola or who report a high risk for exposure to Ebola are denied boarding on international flights (*1*). In addition, enhanced screening of all travelers arriving in the United States from the three countries with widespread transmission is being conducted (i.e., entry screening) (*1*). This program allows federal authorities to assess arriving travelers and link them with state and local partners to facilitate ongoing health monitoring and prompt referral to care if appropriate. Currently, all travelers from Guinea, Liberia, and Sierra Leone are routed to arrive in five designated U.S. international airports (New York's John F. Kennedy, Washington-Dulles, Newark's Liberty, Chicago's O'Hare, and Atlanta's Hartsfield-Jackson airports), where they undergo enhanced screening upon arrival (*1*). Any of these travelers who have a possible risk for having been exposed to Ebola virus are referred to CDC public health officers stationed at the airport for a more detailed risk assessment. Travelers who have fever or other symptoms compatible with Ebola are also promptly referred to CDC on-site for further evaluation and subsequently for medical evaluation and care at a local hospital if needed. During October 11, 2014–January 31, 2015, a total of 7,587 persons arriving from affected countries* have been screened upon entry to the United States. Of these, 543 (7.2%) were referred to on-site CDC screening at the airport for additional exposure risk assessment. At the time of assessment, 12 (0.16%) travelers were referred for medical evaluation at a local hospital, and none had Ebola diagnosed.

CDC notifies state and local public health officials within hours of entry into the United States of all arriving travelers entering their jurisdiction from the affected countries who require monitoring (*2*). Public health departments then monitor these travelers until 21 days have elapsed since their departure from an Ebola-affected country (*2*). Travelers are required to measure their temperature a minimum of twice per day and monitor themselves daily for other symptoms of Ebola. Certain travelers (and others identified by public health authorities) at greater risk for exposure (e.g., persons who had provided health care to a patient with Ebola) are required to report twice daily to public health authorities; one daily report must include direct visual contact (*2*). This active monitoring effort aims to rapidly identify any recently arrived traveler who develops signs and symptoms compatible with Ebola so they can be appropriately referred for medical evaluation and diagnosis.

Any person with an epidemiologic risk factor† within the preceding 21 days who develops symptoms compatible with

* Additional information on countries affected by Ebola outbreaks is available at http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/distribution-map.html#areas.

† Additional information on epidemiologic risk factors for Ebola is available at http://www.cdc.gov/vhf/ebola/exposure/risk-factors-when-evaluating-person-for-exposure.html.

Ebola is considered a PUI.[§] During October 11, 2014–January 31, 2015, at least 136 persons were identified as PUIs and were referred for evaluation and treatment. None of these PUIs had Ebola; the most common diagnoses were malaria and influenza (*3*).

U.S. Hospital and Health Care Facility Preparedness: A Tiered Approach

Active monitoring by public health officials aims to identify persons who are at risk for Ebola and might be developing early symptoms of Ebola so they can be isolated and receive immediate evaluation and care. Rapid and careful treatment of persons with confirmed Ebola by appropriately trained health care personnel reduces the possibility of secondary transmission and might lead to improved outcomes. Although Ebola infections in the United States are extremely rare, the disease is typically very severe and can present a risk for transmission in health care settings, particularly in the later stages of illness. Management of infected persons requires dedicated facilities, highly trained staff, and use of recommended personal protective equipment (PPE) (*4,5*).

CDC and the Office of the Assistant Secretary for Preparedness and Response (ASPR) at HHS have developed a tiered approach to prepare U.S. health care facilities to safely and rapidly identify, isolate, evaluate, manage, and transfer (if needed) travelers or patients who have possible or confirmed Ebola (*6*). To ensure that a network of prepared facilities is available to serve in this capacity, CDC and ASPR, in collaboration with state and local public health authorities, rapidly provided technical assistance to hospitals that are strategically located near airports with a large number of travelers returning from Ebola-affected countries and in communities where large numbers of persons from these West African countries reside.

Acute health care facilities serve one of three roles: frontline health care facilities, Ebola assessment hospitals, and Ebola treatment centers. Some hospitals serve simultaneously as Ebola assessment hospitals and Ebola treatment centers. CDC and ASPR's framework for this national approach includes:

- **Frontline health care facilities.** Most U.S. acute care facilities that are equipped for emergency care (e.g., hospital-based emergency departments and other emergency care settings, including urgent care clinics) are in this tier. Because PUIs will be directed to other designated facilities and travelers returning from West Africa are being screened and monitored, patients with unrecognized Ebola are unlikely to present to frontline health care facilities without notification of their arrival, although the possibility exists. However, patients might be temporarily referred to a frontline health care facility when it is not feasible to refer to other designated facilities based on distance, bed availability, or other considerations. Therefore, frontline health care facilities should be prepared to rapidly identify and isolate patients who might have Ebola and promptly inform the hospital/facility infection control program and state and local public health agencies (*7*). Frontline health care facilities will quickly transfer these patients to an Ebola assessment hospital or Ebola treatment center as recommended by state and local public health authorities.
- **Ebola assessment hospitals.** These facilities are prepared to receive and isolate a PUI and care for the patient until a diagnosis of Ebola can be confirmed or ruled out and until discharge or transfer is completed, which can take up to 96 hours (*8*). Ebola assessment hospitals should also be equipped to effectively evaluate and treat other conditions (e.g., malaria and influenza) using appropriate diagnostics and therapies. Patients with confirmed Ebola should be transferred to an Ebola treatment center, according to the state's plan. Nearly every state has identified at least one Ebola assessment hospital.
- **Ebola treatment centers.** These hospitals are prepared to provide comprehensive care to persons diagnosed with Ebola for the duration of a patient's illness (*9*). State and local health officials, in consultation with hospital leadership and CDC, have currently designated Ebola treatment centers and have conducted extensive preparedness activities. As of February 18, 2015, there were 55 U.S. hospitals with Ebola treatment centers (*10*). Most Ebola treatment centers have agreed to serve as a resource for their state; a smaller number are likely to be willing to care for patients from outside their state or outside the United States. The three U.S. biocontainment units (Emory University Hospital, the National Institutes of Health Clinical Center, and Nebraska Medicine) also serve as Ebola treatment centers.

Preparing Ebola Treatment Centers in the United States

Although all health care facilities should be able to quickly identify a patient with a history or symptoms consistent with Ebola, limited numbers are needed to further assess a patient for Ebola or manage an Ebola patient for the course of their illness. Designating a facility as an Ebola treatment center has

[§] A person who has signs or symptoms consistent with Ebola (i.e., elevated body temperature or subjective fever or symptoms [including severe headache, fatigue, muscle pain, vomiting, diarrhea, abdominal pain, or unexplained hemorrhage] and an epidemiologic risk factor within the 21 days before the onset of symptoms) should be considered a PUI.

been a collaborative decision made jointly by state and local health authorities and the hospital administration. These decisions have been informed by the results of CDC site visits conducted by interdisciplinary teams of subject matter experts. CDC assembled Rapid Ebola Preparedness (REP) teams that have visited more than 80 hospitals in 20 states and the District of Columbia. REP teams have assessed facilities' infection control readiness at the request of local and state health authorities; however, public health officials and the health systems within their jurisdictions identified the hospitals that are best suited to safely care for PUIs or patients with confirmed Ebola and are ultimately responsible for designating Ebola treatment centers. REP teams usually consisted of 4–10 persons, with a CDC employee serving as the lead and included CDC staff members, ASPR staff, professional partners from the Association for Professionals in Infection Control and Epidemiology, the Infectious Diseases Society of America, and the Society for Healthcare Epidemiology of America, experts in clinical care from the three U.S. biocontainment units with experience treating Ebola patients, and additional federal partners (e.g., the U.S. Department of Veterans Affairs and the U.S. Department of Labor's Occupational Safety and Health Administration).

REP teams offered technical assistance and guidance, including recommendations for additional training and technical support. During the visits, REP teams helped hospitals identify gaps in their Ebola-specific infection control plans; focal areas included infection control practices, worker safety, diagnostics, laboratory processes, waste management, and other key areas (*9*). Follow-up and technical support was provided to these hospitals to facilitate implementation of REP team recommendations.

Next Steps

Many Ebola treatment centers have been designated, particularly in the geographic regions that have the largest numbers of West African travelers and expatriates. To ensure effective evaluation and treatment of PUIs, increased focus is being placed on the identification and evaluation of Ebola assessment hospitals. Because persons might require care anywhere in the United States, public health authorities will be promptly directing those persons to Ebola assessment hospitals for evaluation as soon as they report one or more symptoms. These assessment facilities must be available and prepared to evaluate a patient with little advance notice, if necessary.

In addition, experts in caring for Ebola patients and stakeholder groups have suggested that, to the extent possible, care of patients with Ebola should be concentrated in a small number of well-prepared facilities. Therefore, building upon the state-based and jurisdiction-based tiered hospital approach, ASPR is developing a regional approach to caring for future patients with Ebola, in which up to 10 Ebola treatment centers will be designated to serve as regional Ebola and other special pathogens treatment centers (one in each of the 10 HHS regions).¶ These regional centers will have enhanced capacity and capabilities to care for patients with Ebola and other highly infectious diseases, and they will be ready within a few hours to receive a patient with confirmed illness from their region or from across the United States, or a patient who has been medically evacuated from outside of the United States. Patients with confirmed Ebola will be preferentially referred to one of these regional centers, as necessary. Finally, CDC Ebola response teams are deployed by request, to any Ebola treatment center or hospital with a confirmed or highly suspected case of Ebola to provide technical assistance for infection control procedures, clinical care, and logistics of managing a patient with Ebola.

Conclusion

As the Ebola outbreak in West Africa continues, the United States will need to maintain capabilities to detect and manage persons with possible or confirmed Ebola. Current efforts to improve health care facility readiness for Ebola will continue to be responsive to the current situation in West Africa and will continue to evolve as the situation changes. The efforts and infrastructure being developed to rapidly identify, evaluate, and treat persons with possible Ebola in the United States will likely improve the outcomes of these patients, reduce the spread of Ebola to others, and also help prepare for future emerging infectious disease threats.

¶ Additional information available at http://www.grants.gov/web/grants/view-opportunity.html?oppId=274709.

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Notes from the Field

Adverse Events Associated with Administration of Simulation Intravenous Fluids to Patients — United States, 2014

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On December 23, 2014, the New York State Department of Health (NYSDOH) was notified of adverse health events in two patients who had been inadvertently administered nonsterile, simulation 0.9% sodium chloride intravenous (IV) fluids at an urgent care facility. Simulation saline is a nonsterile product not meant for human or animal use; it is intended for use by medical trainees practicing IV administration of saline on mannequins or other training devices. Both patients experienced a febrile illness during product administration and were hospitalized; one patient developed sepsis and disseminated intravascular coagulation. Neither patient died. Staff members at the clinic reported having ordered the product through their normal medical supply distributor and not recognizing during administration that it was not intended for human use.

On December 24, NYSDOH and CDC began a collaborative investigation. A review of customer order records identified four additional New York facilities, all outpatient clinical settings, which had received Wallcur simulation saline (Wallcur LLC, San Diego, California) since May 22, 2014, when the company began shipping the product. Staff members at the four clinics reported that they had not intentionally ordered a simulation product and were not aware they had a simulation product until NYSDOH notification; those clinics had not yet administered the product to patients. Two facilities reported receiving an electronic alert that their regular saline product was not available when ordering from their distributor, and were directed to select an alternative. Wallcur manufactures multiple simulation IV products; however, only the simulated 0.9% saline product was reported to have been administered to patients. NYSDOH issued a state health advisory and posted a report on CDC's Epidemic Information Exchange (Epi-X) to inform public health personnel and medical providers of the potential for inadvertent administration of this product to patients. On December 30, Wallcur issued a request for distributors and customers to return all simulation saline products. Simultaneously, the Food and Drug Administration issued an alert, warning health care professionals not to use any Wallcur simulation IV products in human or animal patients.* On January 6, 2015, Wallcur began a voluntary recall of all its simulation saline products.†

In collaboration with state health departments, CDC conducted a national investigation to assess use of Wallcur simulation 0.9% saline products among patients. Two distributors that had sold the products to clinical facilities were identified. Customer order records from the two distributors revealed that 43 clinical facilities in 23 states had purchased Wallcur simulation saline from the date of first shipment (May 22, 2014) until the date the product recall was initiated (January 6, 2015). All identified clinical facilities were contacted by CDC, or by state or local health departments, informed that Wallcur simulation saline products were not intended for human use, and instructed to observe the product recall. The clinical facilities receiving simulation saline products were outpatient settings, including primary care or family medicine (18 facilities), medical or surgical specialty clinics (17), urgent care (three), rehabilitation or pain clinics (two), chiropractic (two), and clinical research (one). None of the clinical facilities were aware at the time of purchase that this saline product was for simulation and not meant for human use. Ten health care facilities from nine states might have administered the simulation 0.9% saline product to 45 patients (i.e., simulation saline was either administered or reported to be in the facility at the time of saline administration), although the total number of patients nationwide receiving the simulation product is unknown. As of February 9, adverse events had been reported for 25 persons, including 11 hospitalizations. Two deaths occurred among patients administered the product, although it is not known whether the deaths were related to use of the product.

Wallcur simulation products closely resemble IV fluid products intended for clinical use. The bag is labeled "PRACTI-0.9% Sodium Chloride" and the phrase "Practi-Products for Clinical Simulation" is printed in letters <2 mm in height under the Wallcur logo at the bottom of the bag (Figure). No additional warnings or markings on the product indicate that it should not be administered to patients.

This investigation demonstrates the potential for simulation medical products to enter the clinical supply chain, be inadvertently used on patients, and cause harm. This report adds to previously described incidents in which medical training products have been incorrectly used and highlights the potential

* Available at http://www.fda.gov/Drugs/DrugSafety/ucm428431.htm.
† Available at http://www.fda.gov/Safety/Recalls/ucm429724.htm.

for future risk to patients (*1–3*). Health care providers should remain aware that simulation products exist and are reminded to examine the labeling of medical products carefully to ensure that they are intended for human use before purchase and administration. FDA has been working closely with Wallcur to make several changes to its labeling and distribution practices to prevent future occurrences. Further investigation into how simulation products entered the clinical supply chain, including any potential role played by recent national shortages in saline for infusion,[§] is ongoing.

[§] Additional information available at http://www.fda.gov/Drugs/DrugSafety/ucm382255.htm.

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FIGURE. A sample of the simulated saline product inadvertently administered to multiple patients as sterile intravenous fluid, with reported adverse events — United States, 2014

Notes from the Field

Increase in Reported Crimean-Congo Hemorrhagic Fever Cases — Country of Georgia, 2014

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During January–September 2014, Georgia's National Centers for Disease Control and Public Health (NCDC) detected 22 cases of Crimean-Congo hemorrhagic fever (CCHF) in the country. CCHF is caused by infection with a tickborne virus of the *Bunyaviridae* family (*1–3*). Transmission occurs from the bite of an infected tick or from crushing an infected tick with bare skin. Secondary transmission can result from contact with blood or tissues of infected animals and humans. CCHF initially manifests as a nonspecific febrile illness that progresses to a hemorrhagic phase, marked by rapidly developing symptoms leading to multiorgan failure, shock, and death in severe cases (*2*). The clinical severity, transmissibility, and infectiousness of CCHF are responsible for its categorization as a viral hemorrhagic fever high-priority bioterrorism agent (*4*).

The first case of CCHF in Georgia was detected in 2009 when Georgia initiated passive CCHF surveillance. During 2009–2013, the surveillance system detected a median of one case per year (range = 0–13 cases). A case is defined as fever (temperature >100.4ºF [>38ºC]), at least one hemorrhagic sign (petechial or purpural rash, bleeding, or thrombocytopenia), and a positive CCHF nucleic acid amplification test or anti-CCHF immunoglobulin M titer in a resident of Georgia. Although CCHF is endemic in the Caucasus region, the 22 cases detected in the first 9 months of 2014 are the highest number of cases reported in that time frame, suggesting a change in either the epidemiology of the disease or the national surveillance system.

To determine the source, mode of transmission, and risk factors for each case, NCDC in collaboration with CDC examined 2014 surveillance data. Case reports were extracted from NCDC's Electronic Integrated Disease Surveillance System. Additionally, NCDC and national reference laboratory staff members were interviewed to identify changes in disease surveillance that might have increased the system's sensitivity.

Among 22 patients, the mean age was 45 years (range = 4–77 years); 13 (59%) were male. Most (91%) cases occurred during May 1–August 31; 18 (82%) occurred in rural villages. Preceding their illness, 14 (64%) patients reported a tick bite or removal, and three (14%) reported exposure to animal blood. The mean incubation period was 4 days (range = 1–17 days). Of those responding, 19 of 21 (90%) patients had fever, 17 of 18 (94%) had thrombocytopenia, and 13 of 20 (65%) had bleeding. The case-fatality rate was 14%. Interviews revealed recent activities that have led to increased CCHF testing; these have included a nationwide educational campaign in 2012 to increase CCHF physician awareness and testing for CCHF in two acute febrile illness studies through NCDC and other partners during 2008-2011, and from 2014 to present (*5*).

Since surveillance for CCHF began in Georgia in 2009, annual case counts have increased progressively. This trend might reflect improving surveillance sensitivity, which could have been stimulated by the educational campaign and acute febrile illness studies. Thus, the 2014 increase in cases might be an artifact of improved surveillance system sensitivity, rather than an actual increase in incidence. Overall, the increasing annual case count highlights the importance of ongoing CCHF surveillance in Georgia as well as expanding current efforts to continue improving surveillance sensitivity.

Despite increased surveillance system sensitivity, underreporting likely still exists. Hemorrhagic signs in CCHF are a predictor of mortality (*2,6*). In 2014, CCHF patients in Georgia had a higher frequency of hemorrhagic signs compared with those displayed by CCHF patients in neighboring Turkey during 2002–2007 (65% versus 23%, respectively) (*7*). This might indicate that a more virulent strain of the virus exists in Georgia, or the greater severity of the reported cases could indicate that milder CCHF cases are not being detected. To reduce the likelihood of underreporting, ongoing physician educational campaigns should encourage CCHF diagnostic testing in patients with milder symptoms.

Human exposure to infected ticks and animals are likely principal risk factors for CCHF transmission in Georgia. The seasonal distribution of CCHF cases in Georgia corresponds to months of predicted peak tick activity. Additionally, all 2014 CCHF patients resided along a major herding corridor in Georgia. Public health interventions in Georgia need to target these exposures. Specifically, ongoing educational campaigns might intensify focus on 1) preventing tick exposure and encouraging safe tick handling practices among herders, farmers, and veterinarians; and 2) minimizing contact with infected animal blood and tissues among herders, slaughterhouse workers, veterinarians, and health care workers.

A seroprevalence survey in the rural villages reporting a 2014 CCHF case is under way. Further investigations in Georgia should be considered to determine whether CCHF incidence exceeds that reported through the surveillance system and to estimate the overall burden of CCHF in Georgia. Additionally, cattle and tick testing in the affected villages should be considered. These findings will help direct future public health planning with the goal of reducing CCHF infection in the Georgia population.

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Announcement

Ground Water Awareness Week — March 8–14, 2015

CDC is collaborating with the National Ground Water Association to highlight National Ground Water Awareness Week, March 8–14, 2015. Water is essential for life. However, many persons are not aware that much of the water they use flows from below ground to the surface to public water systems and private wells. The National Ground Water Association uses this week to stress ground water's importance to the health and well-being of humans and the environment (*1*).

The majority of public water systems in the United States use ground water as their primary source, providing drinking water to almost 90 million persons in nearly 34 million households (*2,3*). An additional 34 million persons in approximately 13 million households use private wells (*3,4*).

Ground water in the United States generally is considered safe to use. However, ground water is susceptible to naturally occurring or man-made contamination. Contamination can be from arsenic; pesticides; industrial, agricultural, and resource extraction wastes; and municipal sewage as a result of failures in treatment or improper disposal into the environment. The exposure to contaminants at harmful levels can lead to acute and chronic illness (*5,6*).

The U.S. Environmental Protection Agency has implemented new regulations to provide increased protection against microbial pathogens in public water systems that use ground water sources (*7*). Private ground water wells (serving fewer than 25 persons or having less than 15 connections) might not be regulated but nonetheless must be properly maintained by well owners to ensure that the water remains free from harmful chemicals and pathogens.* Resources are available from state and local health departments and nonprofit organizations to help homeowners protect their ground water.†

* Additional information available at http://www.cdc.gov/healthywater/drinking/private/wells/index.html.

† Additional information available at http://www.cdc.gov/healthywater/drinking/training-education.html#webtraining.

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Announcement

National Kidney Month — March 2015

March is designated National Kidney Month to raise awareness about the prevention and early detection of kidney disease. In 2012, kidney diseases were the ninth leading cause of death in the United States (*1*). More than 10% (more than 20 million) of U.S. adults aged ≥20 years have chronic kidney disease (CKD), and most of them are unaware of their condition (*2*,*3*). Major risk factors for CKD include aging, diabetes, and high blood pressure. If left untreated, CKD can lead to kidney failure, requiring dialysis or transplantation for survival. However, controlling diabetes and high blood pressure can prevent or delay CKD and improve health outcomes (*2*).

In collaboration with partner agencies and organizations, CDC supports and maintains the CKD Surveillance Project website (http://nccd.cdc.gov/CKD/default.aspx) to document and monitor over time the burden of CKD in the United States, and to track progress in achieving *Healthy People 2020* objectives to prevent, detect, and manage CKD (*4*). CDC and its partners developed and disseminated the *National Chronic Kidney Disease Fact Sheet, 2014*, a consensus document about the burden of CKD in the United States that includes data on prevalence by race/ethnicity, risk factors, and health consequences (*2*). The National Kidney Disease Education Program developed *Making Sense of CKD: A Concise Guide for Managing Chronic Kidney Disease in the Primary Care Setting* (*5*) to help primary care providers identify, manage, and educate adult CKD patients. Information about kidney disease prevention and control is available at http://www.nkdep.nih.gov. Information about CDC's CKD Initiative is available at http://www.cdc.gov/ckd.

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Errata

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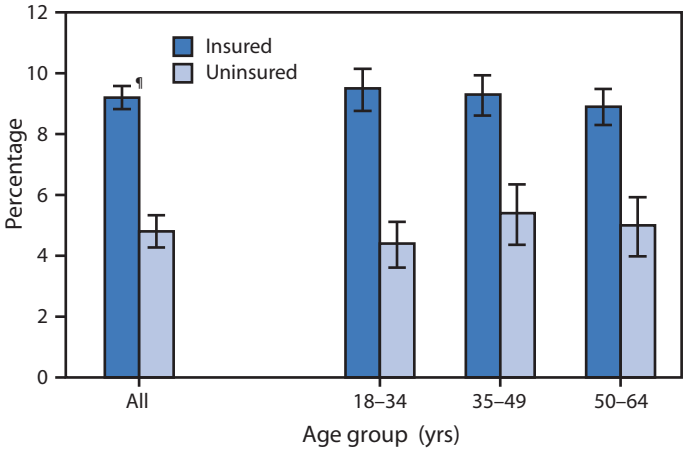
In the QuickStats, "Percentage of Adults Aged 18–64 Years Who Have Seen or Talked with a Mental Health Professional* in the Past 12 Months, by Health Insurance Status† and Age Group — National Health Interview Survey, United States, 2012–2013,§" data were incorrect. The corrected bar chart and text are below.



* Based on response to the question, "During the past 12 months, have you seen or talked to any of the following health care providers about your own health? A mental health professional such as a psychiatrist, psychologist, psychiatric nurse, or clinical social worker."

† Health insurance status is coverage at the time of interview. Persons were defined as uninsured if they did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program, state-sponsored or other government-sponsored health plan, or military plan. Persons also were defined as uninsured if they had only Indian Health Service coverage or had only a private plan that paid for one type of service.

§ Estimates are based on household interviews of a sample of the noninstitutionalized U.S. civilian population and are derived from the National Health Interview Survey sample adult component.

¶ 95% confidence interval.

During 2012–2013, the percentage of adults aged 18–64 years with health insurance who reported seeing or talking with a mental health professional in the past 12 months (9.2%) was approximately twice the percentage for uninsured adults (4.8%). The percentages of adults who reported seeing or talking with a mental health professional did not vary significantly by age group, and the difference between insured and uninsured adults was consistent across age groups.

Source: National Health Interview Survey, 2012–2013. Available at http://www.cdc.gov/nchs/nhis.htm.

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