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Great American Smokeout — November 20, 2014

The Great American Smokeout, sponsored by the American Cancer Society, is an annual event that encourages smokers to make a plan to quit, or to plan in advance and quit smoking on that day, in an effort to stop permanently (*1*). The 39th annual Great American Smokeout will be held on November 20, 2014.

In the 50 years since the first Surgeon General's report on smoking and health, cigarette smoking among U.S. adults has been reduced by half. However, more than 20 million persons have died because of smoking, the leading preventable cause of disease, disability, and death in the United States (*2*).

Nearly two out of three adult smokers want to quit smoking, and more than half had made a quit attempt in the preceding year (*2*). However, almost one out of five U.S. adults regularly uses one or more combustible tobacco products, such as cigarettes, cigars, pipes, and hookahs (*3*).

Quitting smoking is beneficial to health at any age and has immediate and long-term benefits. Cutting back rather than quitting completely does not produce significant health benefits. Getting proven, effective help through counseling and medications can increase the chances of quitting successfully two- to three-fold (*4*).

Additional information and support for quitting is available by telephone (800-QUIT-NOW [800-784-8669]). CDC's Tips from Former Smokers campaign features real persons living with the consequences of smoking-related diseases and offers additional quit resources at http://www.cdc.gov/tips.

References

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Tobacco Use Among Middle and High School Students — United States, 2013

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Tobacco use is the leading preventable cause of disease and death in the United States, and nearly all tobacco use begins during youth and young adulthood (*1,2*). Among U.S. youths, cigarette smoking has declined in recent years; however, the use of some other tobacco products has increased (*3*), and nearly half of tobacco users use two or more tobacco products (*4*). CDC analyzed data from the 2013 National Youth Tobacco Survey* to determine the prevalence of ever (at least once) and current (at least 1 day in the past 30 days) use of one or more of 10 tobacco products (cigarettes, cigars, hookahs, smokeless tobacco, electronic cigarettes [e-cigarettes], pipes, snus, bidis, kreteks, and dissolvable tobacco) among U.S. middle school (grades 6–8) and high school (grades 9–12) students. In 2013, 22.9% of high school students reported current use of any tobacco product, and 12.6% reported current use of two or more tobacco products; current use of combustible products

* Additional information available at http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/index.htm.

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(i.e., cigarettes, cigars, pipes, bidis, kreteks, and/or hookahs) was substantially greater (20.7%) than use of other types of tobacco. Also, 46.0% of high school students reported having ever tried a tobacco product, and 31.4% reported ever trying two or more tobacco products. Among middle school students, 3.1% reported current use of cigars, and 2.9% reported current use of cigarettes, with non-Hispanic black students more than twice as likely to report current use of cigars than cigarettes. Monitoring the prevalence of the use of all available tobacco products, including new and emerging products, is critical to support effective population-based interventions to prevent and reduce tobacco use among youths as part of comprehensive tobacco prevention and control programs.

The National Youth Tobacco Survey is a cross-sectional, school-based, self-administered, pencil-and-paper questionnaire administered to U.S. middle school (grades 6–8) and high school (grades 9–12) students. Information is collected on tobacco control outcome indicators to monitor the impact of comprehensive tobacco control policies and programs (*5*) and regulatory authorities of the Food and Drug Administration (FDA) (*6*). A three-stage cluster sampling procedure was used to generate a nationally representative sample of students in grades 6–12. Of 250 schools selected for the 2013 National Youth Tobacco Survey, 187 (74.8%) participated, with a sample of 18,406 (90.7%) among 20,301 eligible students[†]; the overall response rate was 67.8%. Participants were asked about ever and current use of cigarettes, cigars (defined as cigars, cigarillos, or little cigars), smokeless tobacco (defined as chewing tobacco, snuff, or dip), pipes, bidis, kreteks, hookah, snus, dissolvable tobacco, and e-cigarettes. Ever use was defined as ever trying a product, and current use was defined as using a product on 1 or more days during the past 30 days. For both ever use and current use, any tobacco use was defined as reporting the use of one or more tobacco products; use of two or more tobacco products was defined as reporting the use of two or more tobacco products in the specified time, current (in the past 30 days) or ever. Combustible tobacco was defined as cigarettes, cigars, pipes, bidis, kreteks, and/or hookahs. Noncombustible tobacco was defined as smokeless tobacco, snus, and/or dissolvable tobacco. A separate category was created for e-cigarette use. Data were adjusted for nonresponse and weighted to provide national prevalence estimates with 95% confidence intervals; statistically significant ($p<0.05$) differences between population subgroups were assessed using a t-test. Estimates for ever and current use are presented for each type of product, for any tobacco use, and for the use of two or more tobacco products by selected demographics for each school level (middle and high).

In 2013, 22.9% of high school students reported current use of a tobacco product, including 12.6% who reported current use of two or more tobacco products. Among all high school students, cigarettes (12.7%) and cigars (11.9%) were the most commonly reported tobacco products currently used, followed

[†] Additional information available at http://www.cdc.gov/tobacco/data_statistics/surveys/nyts/index.htm.

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by smokeless tobacco (5.7%), hookahs (5.2%), e-cigarettes (4.5%), pipes (4.1%), snus (1.8%), kreteks (0.8%), bidis (0.6%), and dissolvable tobacco (0.4%) (Table 1). Among high school students who identified as non-Hispanic white or Hispanic, cigarettes were the product most commonly used, whereas cigar use was more common for all other race/ethnicities. Cigar use among non-Hispanic black students was nearly 50% higher than cigarette use. Younger children are less likely to try tobacco than older children with the proportions of current any tobacco users and current users of two or more tobacco products being lower among middle school students (6.5% and 2.9%, respectively) than high school students (22.9% and 12.6%, respectively). Cigars (3.1%) and cigarettes (2.9%) were the most commonly reported tobacco products currently used by middle school students, followed by pipes (1.9%); smokeless tobacco (1.4%); e-cigarettes and hookahs (1.1%); and bidis, kreteks, and snus (0.4%). The proportions of ever users of any tobacco product and ever users of two or more tobacco products were higher among high school (46.0% and 31.4%, respectively) than middle school (17.7% and 9.4%, respectively) students (Table 2).

Combustible tobacco products were the most commonly used form of tobacco among both current and ever tobacco users (Figure). Among high school students, 20.7% currently used combustible products (13.5% combustible only; 3.4% combustible and noncombustible only; 2.7% combustible and e-cigarettes only; and 1.1% combustible, noncombustible, and e-cigarettes). Of all middle school students, 5.4% currently used combustible products (4.0% combustible only; 0.8% combustible and noncombustible only; 0.4% combustible and e-cigarettes only; and 0.2% combustible, noncombustible, and

TABLE 1. Percentage of current use* of tobacco, by product, school level, sex, and race/ethnicity — National Youth Tobacco Survey, United States, 2013

			Sex				Race/Ethnicity							
	Total		Female		Male		White, non-Hispanic		Black, non-Hispanic		Hispanic		Other race, non-Hispanic	
Tobacco product	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Middle school students														
Cigarettes	2.9	(2.3–3.6)	2.8	(2.1–3.8)	3.0	(2.3–3.8)	2.6	(1.9–3.6)	1.7	(1.1–2.8)	5.1	(3.9–6.7)	—†	—
Cigars	3.1	(2.4–3.9)	2.9	(2.1–4.0)	3.3	(2.6–4.2)	2.2	(1.4–3.3)	4.5	(3.0–6.7)	4.7	(3.7–6.0)	—	—
Smokeless tobacco	1.4	(0.9–2.0)	0.8	(0.6–1.2)	1.9	(1.2–2.8)	1.4	(0.8–2.5)	—	—	1.8	(1.2–2.8)	—	—
Pipes	1.9	(1.4–2.4)	2.2	(1.5–3.2)	1.6	(1.1–2.2)	—	—	1.7	(1.1–2.7)	4.3	(3.2–5.7)	—	—
Bidis	0.4	(0.3–0.6)	0.4	(0.2–0.6)	0.5	(0.3–0.8)	—	—	—	—	—	—	—	—
Kreteks	0.4	(0.3–0.5)	—	—	0.5	(0.3–0.8)	0.2	(0.1–0.5)	—	—	—	—	—	—
Hookah	1.1	(0.8–1.5)	1.3	(0.8–1.9)	0.9	(0.6–1.4)	0.7	(0.4–1.2)	—	—	2.4	(1.5–3.6)	—	—
Snus	0.4	(0.3–0.6)	—	—	0.7	(0.4–1.0)	0.3	(0.2–0.6)	—	—	—	—	—	—
Dissolvable tobacco	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Electronic cigarettes	1.1	(0.8–1.5)	0.9	(0.6–1.4)	1.4	(1.0–1.9)	0.9	(0.6–1.4)	—	—	1.8	(1.1–2.7)	—	—
Any tobacco product use§	**6.5**	**(5.4–7.8)**	**6.5**	**(5.3–7.9)**	**6.5**	**(5.3–8.0)**	**5.6**	**(4.2–7.3)**	**6.8**	**(5.4–8.6)**	**9.7**	**(8.0–11.7)**	**3.5**	**(2.0–6.0)**
≥2 tobacco product use¶	**2.9**	**(2.3–3.7)**	**2.6**	**(1.8–3.8)**	**3.2**	**(2.5–4.0)**	**2.2**	**(1.6–3.1)**	**2.3**	**(1.4–3.9)**	**5.5**	**(4.4–6.9)**	**—**	**—**
High school students														
Cigarettes	12.7	(11.3–14.2)	11.2	(9.8–12.9)	14.1	(12.3–16.1)	14.0	(12.2–16.0)	9.0	(7.0–11.5)	13.4	(11.1–16.2)	7.6	(4.9–11.6)
Cigars	11.9	(10.8–13.2)	8.3	(6.9–9.8)	15.4	(13.9–17.0)	11.4	(10.2–12.8)	14.7	(12.3–17.4)	12.1	(10.2–14.3)	8.5	(5.0–14.0)
Smokeless tobacco	5.7	(4.5–7.2)	1.7	(1.2–2.3)	9.6	(7.6–12.0)	7.5	(5.6–9.8)	2.4	(1.5–3.9)	4.0	(3.1–5.0)	—	—
Pipes	4.1	(3.5–4.9)	3.3	(2.7–4.0)	5.0	(4.1–6.0)	3.7	(2.9–4.7)	3.5	(2.6–4.7)	6.5	(5.5–7.7)	—	—
Bidis	0.6	(0.5–0.9)	0.5	(0.3–0.8)	0.8	(0.6–1.2)	0.6	(0.4–0.9)	—	—	0.7	(0.4–1.2)	—	—
Kreteks	0.8	(0.6–1.1)	0.5	(0.3–0.8)	1.2	(0.8–1.6)	1.0	(0.7–1.4)	—	—	0.7	(0.4–1.2)	—	—
Hookah	5.2	(4.6–6.0)	4.8	(4.1–5.7)	5.6	(4.7–6.7)	5.3	(4.6–6.2)	2.4	(1.6–3.4)	7.1	(5.8–8.6)	6.4	(3.6–11.1)
Snus	1.8	(1.4–2.3)	0.9	(0.6–1.4)	2.7	(2.1–3.5)	2.4	(1.8–3.2)	—	—	1.3	(0.9–2.0)	—	—
Dissolvable tobacco	0.4	(0.3–0.6)	—	—	0.6	(0.4–0.9)	0.3	(0.2–0.6)	—	—	0.5	(0.3–0.9)	—	—
Electronic cigarettes	4.5	(3.8–5.3)	3.5	(2.8–4.3)	5.5	(4.5–6.8)	4.8	(3.8–6.1)	2.7	(1.9–3.9)	5.3	(4.2–6.6)	4.0	(2.3–6.8)
Any tobacco product use§	**22.9**	**(21.1–24.8)**	**18.5**	**(16.8–20.2)**	**27.2**	**(24.6–30.0)**	**24.0**	**(21.6–26.5)**	**21.0**	**(18.3–23.9)**	**23.9**	**(21.6–26.4)**	**14.8**	**(10.2–21.0)**
≥2 tobacco product use¶	**12.6**	**(11.5–13.8)**	**8.7**	**(7.7–9.8)**	**16.4**	**(14.7–18.2)**	**14.0**	**(12.5–15.6)**	**8.2**	**(6.7–10.1)**	**13.5**	**(11.7–15.6)**	**8.7**	**(5.5–13.6)**

Abbreviation: CI = confidence interval.

* Current use of cigarettes was determined by asking, "During the past 30 days, on how many days did you smoke cigarettes?"; Current use of cigars was determined by asking, "During the past 30 days, on how many days did you smoke cigars, cigarillos, or little cigars?"; Current use of smokeless tobacco was determined by asking, "During the past 30 days, on how many days did you use chewing tobacco, snuff, or dip?"; Current use of pipe was determined by asking, "During the past 30 days, on how many days did you smoke tobacco in a pipe?"; Current use of bidis, kreteks, hookah, snus, dissolvable tobacco, and electronic cigarettes were determined by asking, "During the past 30 days, which of the following products have you used on at least 1 day?". Any respondent who responded affirmatively to any of these questions was considered a current user of tobacco.

† Data are statistically unstable because sample size <50 or relative standard error >0.3.

§ Any tobacco product use is current use of cigarettes, cigars, smokeless tobacco, tobacco pipes, bidis, kreteks, hookah, snus, dissolvable tobacco, and/or electronic cigarettes.

¶ Two or more tobacco product use is current use of products from two or more of the following categories: cigarettes, cigars, smokeless tobacco, tobacco pipes, bidis, kreteks, hookah, snus, dissolvable tobacco, and/or electronic cigarettes.

TABLE 2. Percentage of ever use* of tobacco, by product, school level, sex, and race/ethnicity — National Youth Tobacco Survey, United States, 2013

			Sex				Race/Ethnicity							
	Total		Female		Male		White, non-Hispanic		Black, non-Hispanic		Hispanic		Other race, non-Hispanic	
Tobacco product	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Middle school students														
Cigarettes	12.7	(10.9–14.8)	12.0	(10.1–14.1)	13.5	(11.5–15.7)	11.0	(8.9–13.4)	13.2	(9.7–17.8)	18.9	(15.8–22.4)	9.0	(6.6–12.2)
Cigars	8.9	(7.5–10.5)	7.5	(6.2–9.1)	10.2	(8.7–12.1)	6.8	(5.6–8.3)	13.6	(9.4–19.3)	12.4	(10.3–15.0)	6.4	(4.1–9.9)
Smokeless tobacco	3.6	(2.8–4.6)	1.9	(1.3–2.7)	5.2	(4.0–6.8)	3.8	(2.7–5.3)	—†	—	4.6	(3.3–6.2)	2.6	(1.4–4.6)
Pipes	4.1	(3.3–5.0)	4.1	(3.1–5.4)	4.0	(3.2–5.1)	3.4	(2.6–4.3)	3.5	(2.3–5.3)	7.1	(5.3–9.4)	—	—
Bidis	0.8	(0.6–1.1)	0.6	(0.4–0.9)	1.1	(0.7–1.6)	0.6	(0.3–0.9)	—	—	1.5	(1.0–2.3)	—	—
Kreteks	0.6	(0.5–0.8)	0.5	(0.3–0.8)	0.8	(0.5–1.3)	0.6	(0.4–1.0)	—	—	1.0	(0.5–1.7)	—	—
Hookahs	3.0	(2.4–3.7)	3.0	(2.2–4.1)	2.9	(2.3–3.8)	2.4	(1.8–3.2)	—	—	5.9	(4.5–7.8)	—	—
Snus	1.3	(1.0–1.7)	0.9	(0.6–1.5)	1.7	(1.2–2.3)	1.6	(1.1–2.3)	—	—	1.7	(1.0–2.7)	—	—
Dissolvable tobacco	0.5	(0.3–0.8)	—	—	0.8	(0.5–1.2)	—	—	—	—	—	—	—	—
Electronic cigarettes	3.0	(2.5–3.5)	2.8	(2.3–3.5)	3.1	(2.6–3.9)	3.0	(2.4–3.7)	2.7	(1.9–3.7)	3.9	(2.9–5.2)	—	—
Any tobacco product use§	**17.7**	**(15.6–19.9)**	**16.2**	**(14.1–18.6)**	**19.0**	**(16.7–21.6)**	**15.4**	**(13.0–18.0)**	**20.3**	**(15.9–25.5)**	**23.9**	**(21.0–27.2)**	**11.7**	**(8.5–15.8)**
≥2 tobacco product use¶	**9.4**	**(7.9–11.1)**	**8.5**	**(7.0–10.4)**	**10.2**	**(8.6–12.1)**	**8.0**	**(6.4–9.9)**	**9.5**	**(6.5–13.7)**	**14.9**	**(12.5–17.6)**	**5.9**	**(3.8–9.2)**
High school students														
Cigarettes	34.7	(31.8–37.7)	33.0	(29.8–36.2)	36.3	(33.0–39.8)	33.9	(30.2–37.8)	33.8	(29.3–38.7)	40.2	(36.4–44.1)	24.6	(18.3–32.1)
Cigars	30.5	(28.4–32.8)	24.5	(22.3–26.8)	36.4	(33.6–39.3)	30.4	(28.0–32.9)	34.9	(30.3–39.7)	30.4	(27.3–33.7)	20.3	(13.5–29.3)
Smokeless tobacco	13.4	(11.3–15.7)	5.6	(4.3–7.3)	20.8	(17.7–24.3)	17.5	(14.7–20.7)	6.6	(5.0–8.6)	8.7	(7.1–10.5)	5.8	(3.6–9.3)
Pipes	9.7	(8.6–11.0)	7.4	(6.3–8.6)	12.0	(10.4–13.7)	10.5	(9.1–12.0)	6.1	(4.9–7.6)	11.1	(9.4–13.1)	6.3	(3.7–10.5)
Bidis	2.6	(2.1–3.2)	1.4	(1.0–1.9)	3.8	(3.1–4.6)	2.8	(2.2–3.7)	2.1	(1.5–2.9)	2.8	(2.2–3.5)	—	—
Kreteks	2.8	(2.3–3.4)	1.4	(1.0–1.9)	4.2	(3.4–5.1)	3.7	(2.9–4.5)	1.6	(1.0–2.4)	1.7	(1.2–2.5)	—	—
Hookahs	14.3	(12.7–16.0)	13.5	(11.7–15.4)	15.1	(13.2–17.2)	15.5	(14.0–17.3)	7.4	(5.1–10.5)	17.4	(14.9–20.2)	11.0	(7.1–16.7)
Snus	6.2	(5.1–7.5)	2.9	(2.3–3.7)	9.4	(7.5–11.6)	8.5	(7.0–10.3)	1.6	(0.9–2.8)	4.3	(3.3–5.6)	—	—
Dissolvable tobacco	1.0	(0.8–1.3)	0.4	(0.3–0.7)	1.6	(1.2–2.2)	1.1	(0.8–1.5)	0.9	(0.6–1.6)	1.0	(0.6–1.6)	—	—
Electronic cigarettes	11.9	(10.5–13.5)	9.9	(8.3–11.7)	13.8	(12.1–15.7)	14.7	(12.8–16.9)	4.9	(3.6–6.5)	10.4	(8.6–12.5)	8.3	(5.3–12.7)
Any tobacco product use§	**46.0**	**(43.4–48.7)**	**41.8**	**(38.8–44.8)**	**50.1**	**(47.0–53.2)**	**45.2**	**(41.8–48.7)**	**48.3**	**(43.6–53.1)**	**49.9**	**(47.2–52.5)**	**33.4**	**(25.2–42.8)**
≥2 tobacco product use¶	**31.4**	**(29.0–33.9)**	**26.4**	**(24.1–28.7)**	**36.2**	**(33.2–39.3)**	**33.3**	**(30.2–36.5)**	**26.6**	**(23.9–29.5)**	**33.5**	**(30.4–36.8)**	**18.8**	**(13.1–26.1)**

* Ever use of cigarettes was determined by asking, "Have you ever tried cigarette smoking, even one or two puffs?"; Ever use of cigars was determined by asking, "Have you ever tried smoking cigars, cigarillos, or little cigars, such as Black and Milds, Swisher Sweets, Dutch Masters, White Owl, or Phillies Blunts, even one or two puffs?; Ever use of smokeless tobacco was determined by asking, "Have you ever used chewing tobacco, snuff, or dip, such as Redman, Levi Garrett, Beechnut, Skoal, Skoal Bandits, or Copenhagen, even just a small amount?"; Ever use of pipe was determined by asking, "Have you ever tried smoking tobacco in a pipe, even one or two puffs?"; Ever use of bidis, kreteks, hookah, snus, dissolvable tobacco, and electronic cigarettes were determined by asking, "Which of the following tobacco products have you ever tried, even just one time: bidis, kreteks, hookah, snus, dissolvable tobacco, and electronic cigarettes?". Any respondent who answered affirmatively was considered to have ever used the product.

† Data are statistically unstable because sample size <50 or relative standard error >0.3.

§ Any tobacco product use is current use of cigarettes, cigars, smokeless tobacco, tobacco pipes, bidis, kreteks, hookah, snus, dissolvable tobacco, and/or electronic cigarettes.

¶ Two or more tobacco product use is current use of products from two or more of the following categories: cigarettes, cigars, smokeless tobacco, tobacco pipes, bidis, kreteks, hookah, snus, dissolvable tobacco, and/or electronic cigarettes.

e-cigarettes). Current use of only e-cigarettes was 0.6% among high school students and 0.4% among middle school students.

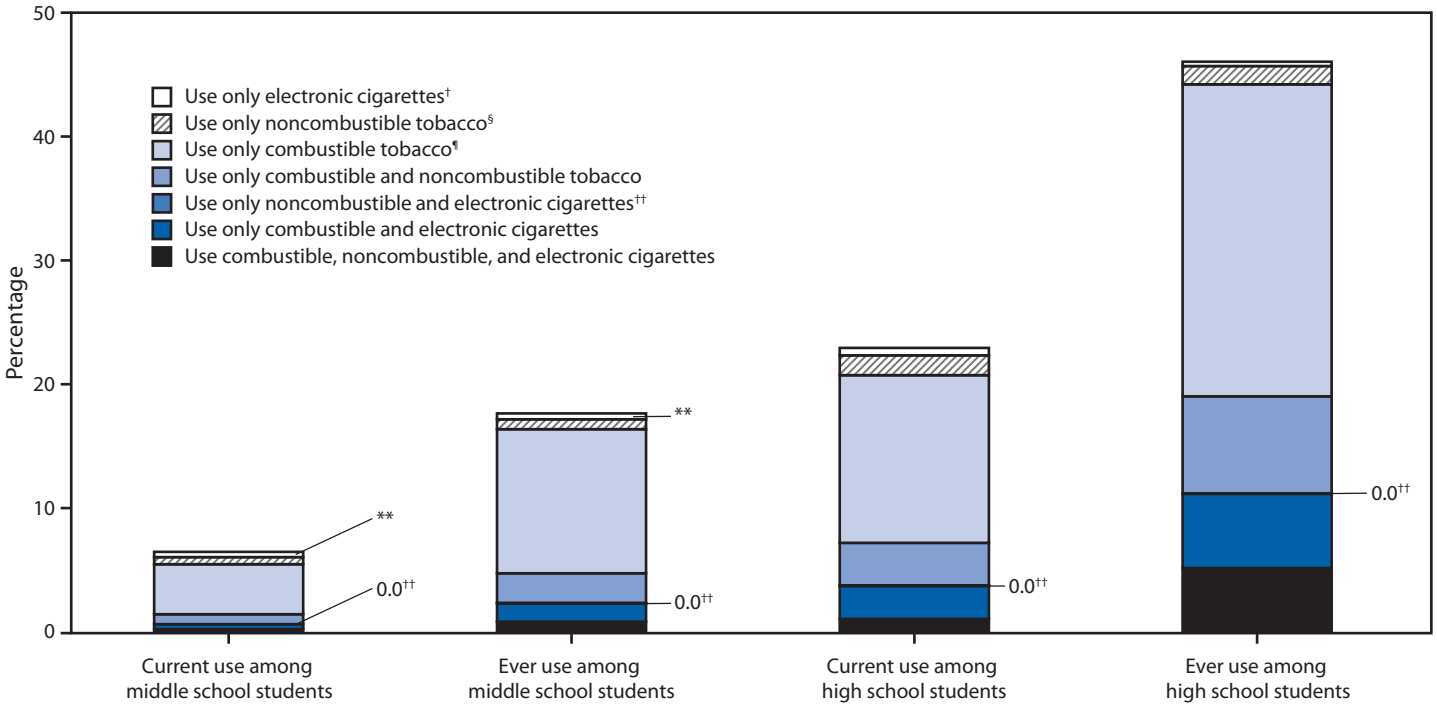
Discussion

In 2013, more than one in five high school students (22.9%) and more than one in 20 middle school students (6.5%) reported using a tobacco product on 1 or more days during the past 30 days. In addition, nearly half of high school students (46.0%) and almost one in five of middle school students (17.7%) had ever used tobacco. These findings indicate that continued efforts are needed to monitor and prevent the use of all forms of tobacco use among youths.

Combustible tobacco use remains the most common type of tobacco use and causes most tobacco-related disease and death in the United States (*1*). Nine out of 10 high school current and ever tobacco users used a combustible tobacco product (Figure). There was lower use of only noncombustible tobacco products or only e-cigarettes among both current and ever tobacco users. However, noncombustible products also pose health risks (*7*). Smokeless tobacco is not a safe alternative to combustible tobacco because it causes cancer and nicotine addiction (*7*). In addition, although the long-term impact of e-cigarette use on public health overall remains uncertain, the 2014 Surgeon General's report found that nicotine use can have adverse effects on adolescent brain development; therefore, nicotine use by youths in any form (whether combustible, smokeless, or electronic) is unsafe (*1*).

Most youths who currently use tobacco believe that they will be able to stop using tobacco in the near future; unfortunately, however, many continue use well into adulthood (*2*). Youths who report use of multiple tobacco products are at higher risk for developing nicotine dependence; about two thirds

FIGURE. Tobacco use* among middle and high school students — National Youth Tobacco Survey, United States, 2013



* Tobacco is use of cigarettes, cigars, smokeless tobacco, tobacco pipes, bidis, kreteks, hookah, snus, dissolvable tobacco, and/or electronic cigarettes.
† Only electronic cigarette use is exclusive use of only electronic cigarettes. It does not include use of any other product.
§ Only noncombustible tobacco use is exclusive use of only smokeless tobacco, snus, and/or dissolvable tobacco. It does not include use of combustible products or electronic cigarettes.
¶ Only combustible tobacco use is exclusive use of only cigarettes, cigars, pipes, bidis, kreteks, and/or hookah. It does not include use of noncombustible products or electronic cigarettes.
** Data statistically unstable because relative standard error is >0.3.
†† Percentages for only noncombustible and electronic cigarettes are minimal but are indicated between only combustible and noncombustible use and only combustible and electronic cigarette use. Data are statistically unstable because relative standard error is >0.3.

(62.9%) of youths who use more than one tobacco product report tobacco dependence symptoms, compared with 36.0% of those who use one tobacco product (*8*). Thus, youths who use multiple tobacco products might be more likely to continue using tobacco into adulthood. Comprehensive youth tobacco prevention programs that prevent initiation of all types of tobacco products are critical to protect youths from tobacco use and nicotine dependence.

The findings in this report are subject to at least five limitations. First, data were only collected from youths who attended either public or private schools and might not be generalizable to all middle and high school-aged youths. Second, data were self-reported; thus, the findings are subject to recall and/or response bias. Third, current and ever tobacco use were estimated by including students who responded to using at least one of the 10 tobacco products included in the survey but might have had missing responses to any of the other nine tobacco products; missing responses were considered as nonuse, which might have resulted in conservative estimates. Fourth, nonresponse bias might have affected the results because the survey response rate was only 67.8%. Finally, estimates might differ from those derived from other nationally representative youth surveillance systems, in part because of differences in survey methods, survey type and topic, and age and setting of the target population. However, overall prevalence estimates are similar across the various youth surveys (*2*).

Although substantial progress has been made in decreasing cigarette use among youths (*2*), overall tobacco use is still high, with one in five high school students currently using tobacco and nearly half reporting they have ever used a tobacco product. Ever using a tobacco product is a concern because even one-time use of tobacco is associated with increased long-term risks for becoming a regular user (*2*). In April 2014, FDA issued a proposed rule to extend its jurisdiction over the manufacture, marketing, and distribution of tobacco products not currently regulated by FDA, which includes cigars, e-cigarettes, pipes, and hookahs (*9*). FDA is reviewing the comments received on this proposed rule. Full implementation of comprehensive tobacco control programs at CDC-recommended funding levels would be expected to result in further reductions in tobacco

use and changes in social norms regarding the acceptability of tobacco use among U.S. youths (*1,2,10*). Additionally, considering how trends in tobacco product use and tobacco marketing changes, rigorous surveillance of all available forms of tobacco use by youths, particularly emerging products such as e-cigarettes, is essential. Rigorous surveillance of the use of all types of tobacco will inform enhanced prevention efforts that could protect the estimated 5.6 million youths in the United States currently projected to die prematurely from a smoking-related disease (*1*).

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What is already known on this topic?

Nearly all tobacco use begins during youth and young adulthood. Among U.S. youths, declines have occurred in the prevalence of cigarette smoking in recent years; however, the use of some other tobacco products has increased, and nearly half of tobacco users use two or more tobacco products.

What is added by this report?

In 2013, 22.9% of high school students reported current use (use on 1 or more days in the past 30 days) of any tobacco product, and 12.6% reported current use of two or more tobacco products. Forty-six percent of high school students reported having ever tried a tobacco product, and 31.4% reported ever trying two or more tobacco products. The most common types of tobacco products currently used by high school students were combustibles (i.e., cigarettes, cigars, pipes, bidis, kreteks, and/or hookahs) (20.7%). Among middle school students, 3.1% reported current use of cigars, and 2.9% reported current use of cigarettes.

What are the implications for public health practice?

Despite recent reductions in tobacco use, the one in five high school students who reported current use of tobacco and the almost half who reported ever using a tobacco product remain at risk for nicotine dependence and the adverse health consequences of tobacco use. Considering how trends in tobacco product use and tobacco marketing changes, rigorous surveillance of all available forms of tobacco use by youths, particularly use of emerging products such as e-cigarettes, is essential.

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Estimated Burden of Keratitis — United States, 2010

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Keratitis, inflammation of the cornea, can result in partial or total loss of vision and can result from infectious agents (e.g., microbes including bacteria, fungi, amebae, and viruses) or from noninfectious causes (e.g., eye trauma, chemical exposure, and ultraviolet exposure). Contact lens wear is the major risk factor for microbial keratitis (*1–3*); outbreaks of *Fusarium* and *Acanthamoeba* keratitis have been associated with contact lens multipurpose solution use (*4,5*), and poor contact lens hygiene is a major risk factor for a spectrum of eye complications, including microbial keratitis and other contact lens–related inflammation (*3,6,7*). However, the overall burden and the epidemiology of keratitis in the United States have not been well described. To estimate the incidence and cost of keratitis, national ambulatory-care and emergency department databases were analyzed. The results of this analysis showed that an estimated 930,000 doctor's office and outpatient clinic visits and 58,000 emergency department visits for keratitis or contact lens disorders occur annually; 76.5% of keratitis visits result in antimicrobial prescriptions. Episodes of keratitis and contact lens disorders cost an estimated $175 million in direct health care expenditures, including $58 million for Medicare patients and $12 million for Medicaid patients each year. Office and outpatient clinic visits occupied over 250,000 hours of clinician time annually. Developing effective prevention messages that are disseminated to contact lens users and investigation of additional preventive efforts are important measures to reduce the national incidence of microbial keratitis.

Because a specific *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM) code for microbial keratitis does not exist, a set of keratitis-related codes that could apply to microbial keratitis patients was developed with clinician input. Codes included corneal ulcer (370.0), other forms of keratitis resulting from an underlying condition (370.8 used in conjunction with a second diagnostic code for the underlying condition [e.g., *Acanthamoeba* or *Fusarium* infection]), unspecified keratitis (370.9), and corneal disorders involving contact lens use (371.82). For office and outpatient visits, "contact lens problems" as a reason for the visit also were included in the contact lens category. The 2010 Marketscan Commercial Claims and Encounters database* was used to characterize the number of visits per person and episode length of keratitis and contact lens related–problems in 2010. The Marketscan Commercial, Medicare, and Medicaid databases also were used to estimate costs per visit for office, outpatient, or emergency department visits that did not result in hospital admission for keratitis, by insurance source. Data from the 2006–2010 National Ambulatory Medical Care Survey (NAMCS), National Hospital Ambulatory Care Medical Survey of Outpatient Departments (NHAMCS-OPD),† and 2010 Nationwide Emergency Department Sample§ were used to generate annual estimates of office, outpatient, and emergency department visits for the ICD-9-CM codes of interest. Statistical software was used to apply sampling weights and account for the complex sample design of these surveys. To estimate the total cost of annual visits, the total number of annual visits was multiplied by the cost per visit.

In 2010, the mean cost of a visit to a doctor's office for a keratitis-related diagnostic code was $151, and the mean cost of an emergency department visit was $587 (Table 1). Most patients in 2010 made only a single visit, but a small proportion had numerous follow-up visits (maximum 49 total visits). Based on NAMCS and NHAMCS-OPD data, an estimated 700,000 doctor's office and outpatient clinic visits for keratitis occurred in 2010, including 280,000 visits for corneal ulcers (Table 2). The majority of visits (76.5%) were associated with antimicrobial prescriptions. Separately, an estimated 230,000 doctor's office and outpatient clinic visits for corneal disorders involving contact lenses occurred, with the majority (70.0%) resulting in antimicrobial prescriptions. Among emergency department visits, 19,000 visits for corneal disorders involving contact lenses and 41,000 visits for keratitis occurred in 2010, including 25,000 visits for corneal ulcers. Approximately 1% of office visits and 4% of emergency department visits involved both categories of diagnosis codes. Women made 63.3% of office visits and 54.7% of emergency department visits. Persons aged <25 years made 20.5% of all visits, persons aged 25–44 years made 29.2% of visits, persons aged 45–64 years made 25.3% of visits, and persons aged ≥65 years made 25.1% of visits.

* The Marketscan Commercial Claims and Encounters, Medicare Supplemental, and Multistate Medicaid databases, from Truven Health analytics, include insurance claims and payments. Costs are the sum of 2010 insurer and out-of-pocket payments for office, outpatient, or emergency department visits per patient.

† CDC's national sample of visits to nonfederally employed, office-based physicians (NAMCS) and outpatient departments of nonfederal, general, and short-stay hospitals (NHAMCS-OPD), from the National Center for Health Statistics. Multiple years of data were used to increase sample size. Data for 2010 are the most recent year available.

§ A national sample of hospital-based emergency department visits from the Healthcare Cost and Utilization Project, Agency for Healthcare Research and Quality.

TABLE 1. Estimated episode characteristics and cost of visits to doctor's offices, outpatient clinics, and emergency departments involving keratitis-related diagnostic codes — United States, 2010*

Diagnosis	Median no. of visits per episode (range)	Median episode length (range)	Cost per visit: Doctor's office/ Outpatient clinic ($)	Cost per visit: Emergency department ($)
Corneal disorder due to contact lens (ICD-9-CM code 371.82)	1 (1–10)	1 day (1–343)	104	505
Keratitis (370.0, 370.8, 370.9)	1 (1–49)	1 day (1–359)	157	622
Corneal ulcer (370.0)	2 (1–48)	3 days (1–359)	155	658
Other forms of keratitis (370.8)	1 (1–18)	1 day (1–345)	247	672
Unspecified keratitis (370.9)	1 (1–25)	1 day (1–359)	152	564
Any contact lens or keratitis related diagnosis (371.82, 370.0, 370.8, 370.9)	1 (1–49)	1 day (1–359)	151	587

Abbreviation: ICD-9-CM = *International Classification of Diseases, Ninth Revision, Clinical Modification.*

* **Source:** Marketscan Commercial Claims and Encounters and Medicare Supplemental and Multistate Medicaid databases.

TABLE 2. Estimated number of visits to doctor's offices, outpatient clinics, and emergency departments for keratitis-related diagnostic codes — United States, 2010

Diagnosis	No. of doctor's office/ Outpatient clinic visits* (95% CI)	No. of emergency department visits† (95% CI)
Corneal disorder due to contact lens (ICD-9-CM code 371.82)	230,000 (130,000–340,000)	19,000 (14,000–25,000)
Keratitis (370.0, 370.8, 370.9)	700,000 (510,000–890,000)	41,000 (30,000–52,000)
Corneal ulcer (370.0)	280,000 (170,000–390,000)	25,000 (18,000–33,000)
Other forms of keratitis (370.8)	—§	7,000 (3,000–12,000)
Unspecified keratitis (370.9)	380,000 (250,000–520,000)	8,000 (7,000–9,000)
Any contact lens or keratitis related diagnosis (371.82, 370.0, 370.8, 370.9)	930,000 (690,000–1,170,000)	58,000 (43,000–72,000)

Abbreviations: ICD-9-CM = *International Classification of Diseases, Ninth Revision, Clinical Modification;* CI = confidence interval.

* **Source:** 2006–2010 National Ambulatory Medical Care Survey/National Hospital Ambulatory Care Medical Survey of Outpatient Departments.

† **Source:** 2010 Nationwide Emergency Department Sample.

§ Data not reported because of small sample size.

TABLE 3. Estimated total annual cost of visits in millions of dollars, by insurance source, to doctor's offices, outpatient clinics, and emergency departments involving keratitis-related diagnostic codes — United States, 2010*

Diagnosis	Insurance source (millions of $): Private	Medicare	Medicaid	Other†	Total
Corneal disorder due to contact lens (ICD-9-CM code 371.82)	21.5	3.9	4.6	3.6	**33.5**
Keratitis (370.0, 370.8, 370.9)	62.5	49.3	5.4	18.0	**135.3**
Any contact lens or keratitis related diagnosis (371.82, 370.0, 370.8, 370.9)§	83.8	58.0	11.9	21.2	**174.9**

Abbreviation: ICD-9-CM = *International Classification of Diseases, Ninth Revision, Clinical Modification.*

* **Sources:** 2006–2010 National Ambulatory Medical Care Survey/National Hospital Ambulatory Care Medical Survey of Outpatient Departments, 2010 Nationwide Emergency Department Sample, and 2010 Marketscan Commercial Claims and Encounters, Medicare Supplemental and Multistate Medicaid databases.

† Includes patients with other types of insurance (e.g., Tricare, the military health plan), uninsured patients, and patients with an unknown source of insurance.

§ The amount for any diagnosis does not equal the sum of visits with a corneal disorder caused by contact lens use diagnosis and visits with a keratitis diagnosis because approximately 1% of office visits and 4% of emergency department visits involved both categories of diagnosis codes.

The total cost of the estimated 988,000 visits to doctor's offices, outpatient clinics, and emergency departments for keratitis and contact lens related diagnostic codes was $174.9 million, including $58.0 million in costs for Medicare patients and $11.9 million in costs for Medicaid patients (Table 3). Office and outpatient clinic visits occupied over 250,000 hours of clinician time annually.

Discussion

Nearly 1 million clinical visits for keratitis occur annually. The largest single risk factor for microbial keratitis is contact lens wear (*1*). Among the estimated 38 million contact lens wearers in the United States (*8*), poor storage case hygiene, infrequent storage case replacement, and overnight lens wear are established preventable risk factors for microbial keratitis, contact lens–related inflammation, and other eye complications (*3,6,7*).

In this analysis, the proportion of visits varied by age and sex. This likely reflects differences in contact lens use and inclination toward seeking health care as well as differences in risk factors for keratitis. The incidence of microbial keratitis reported previously ranged from 0.4 to 5.2 per 10,000 person-years for rigid gas-permeable and soft contact lens wearers to >20 per 10,000 person-years for overnight soft contact lens wearers (*9*); one population-based study in California estimated that 71,000 cases of severe microbial keratitis could occur per year (*10*). This study is the first attempt to characterize the overall burden of keratitis on the U.S. health care system. To help direct future prevention efforts for microbial keratitis, the current epidemiology of keratitis in the United States and its impact on the U.S. health care system must be understood and

quantified. Additionally, development and dissemination of effective prevention messages to contact lens users is essential.

The findings in this report are subject to at least four limitations. First, the estimated prevalence of visits for keratitis-related diagnostic codes is likely to be an underestimate, because the datasets used in this analysis capture few visits to optometrists. Although most persons with sight-threatening cases of microbial keratitis would be expected to visit an ophthalmologist, persons with less complicated infections might only interact with an optometrist, and those visits would not be included in the datasets used. Second, not all keratitis visits were for microbial keratitis; some keratitis does not result from infection. Many ICD-9-CM codes for keratitis identify keratitis by anatomic location (e.g., central corneal ulcer compared with marginal corneal ulcer) rather than by etiologic agent; therefore, visits that involved microbial keratitis could not be specifically identified. Although a large percentage of patients received antimicrobial treatment, and ICD-9-CM codes specific for noninfectious keratitis were excluded from the analysis, the proportion of keratitis caused by infectious agents is unknown. The percentage of patients receiving antimicrobial treatment is likely an underestimate because Marketscan does not record prescriptions not covered by insurance (i.e., compounded prescriptions or prescriptions that cost less than the copay amount). Third, this analysis was not able to directly identify contact lens wearers. Some visits for keratitis likely occurred among persons who do not wear contact lenses, but that proportion is unknown. Conversely, visits for corneal disorders involving contact lens wear are not all caused by microbial keratitis (e.g. an unknown proportion were caused by corneal abrasions), although the majority received topical antimicrobials. Finally, because the demographics of contact lens wearers in the United States are not known, rates of visits by age or sex among contact lens wearers could not be calculated.

Keratitis associated with poor contact lens hygiene is preventable. Prevention efforts should include surveillance, improved estimates of the burden of disease, and vigorous health promotion activities focused on contact lens users and eye care professionals (ophthalmologists, optometrists, and opticians). Increased surveillance capacity is needed for microbial keratitis, in particular data from optometrist visits. Current recommendations for proper contact lens wear and care are available (Box).¶

¶ Available at http://www.cdc.gov/contactlenses.

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BOX. Recommendations for contact lens wear and care to reduce the risk for microbial keratitis*

Contact lens habits and hygiene

- Wash hands with soap and water. Dry hands well with a clean cloth before touching contact lenses each time they are inserted or removed.
- Don't sleep in contact lenses unless prescribed to do so by an eye care provider.
- Keep water away from contact lenses. Avoid showering while wearing contact lenses, and remove them before using a hot tub or swimming.

Contact lenses and supplies

- Rub and rinse contact lenses with contact lens disinfecting solution, never water or saliva, to clean them each time they are removed.
- Never store contact lenses in water.
- Replace contact lenses as often as recommended by an eye care provider.
- Rub and rinse contact lens case with contact lens solution, never water, and then empty and dry with a clean tissue. Store upside down with the caps off after each use.
- Replace contact lens case at least once every 3 months.
- Don't "top off" solution. Use only fresh contact lens solution in the case. Never mix fresh solution with old or used solution.
- Use only the contact lens solution recommended by an eye care provider.

Eye care provider involvement

- Visit an eye care provider yearly or as often as recommended by your primary health care provider.
- Ask an eye care provider about how to care for contact lenses and supplies.
- Remove contact lenses immediately and call an eye care provider if experiencing eye pain, discomfort, redness, or blurred vision.
- Carry a backup pair of glasses with a current prescription in case contact lenses need to be removed.

Additional information about healthy contact lens wear and care is available at http://www.cdc.gov/contactlenses and http://www.cdc.gov/contactlenses/show-me-the-science.html.

* These recommendations were developed by CDC in collaboration with a workgroup that included members from the Food and Drug Administration, the American Academy of Ophthalmology, the American Academy of Optometry, the American Optometric Association, the Contact Lens Association of Ophthalmologists, the Contact Lens Society of America, and the National Academy of Opticianry.

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What is already known on this topic?

Microbial keratitis is an infection of the cornea caused by bacteria, fungi, amebae, or viruses and can result in vision loss or blindness. Improper contact lens wear, particularly poor storage case hygiene, infrequent storage case replacement, and overnight lens wear, is the largest risk factor for microbial keratitis.

What is added by this report?

Each year, an estimated 930,000 doctor's office and outpatient clinic visits and 58,000 emergency department visits for keratitis and conditions caused by contact lens wear cost $175 million in direct health care expenditures and occupy over 250,000 hours of clinician time.

What are the implications for public health practice?

Increased surveillance capacity, identification of additional preventive measures, and further quantification of the burden of keratitis can help to direct prevention efforts. Development of effective prevention messages for dissemination to contact lens users and eye care professionals, including ophthalmologists and optometrists, is important to reduce microbial keratitis.

Possible Eradication of Wild Poliovirus Type 3 — Worldwide, 2012

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In 1988, the World Health Assembly resolved to eradicate polio worldwide. Since then, four of the six World Health Organization (WHO) regions have been certified as polio-free: the Americas in 1994 (*1*), the Western Pacific Region in 2000 (*2*), the European Region in 2002 (*3*), and the South-East Asia Region in 2014 (*4*). Currently, nearly 80% of the world's population lives in areas certified as polio-free. Certification may be considered when ≥3 years have passed since the last isolation of wild poliovirus (WPV) in the presence of sensitive, certification-standard surveillance (*1–4*).* Although regional eradication has been validated in the European Region and the Western Pacific Region, outbreaks resulting from WPV type 1 (WPV1) imported from known endemic areas were detected and controlled in these regions in 2010 and 2011, respectively (*5*). The last reported case associated with WPV type 2 (WPV2) was in India in 1999, marking global interruption of WPV2 transmission (*6*). The completion of polio eradication was declared a programmatic emergency for public health in 2012, and the international spread of WPV1 was declared a public health emergency of international concern in May 2014. The efforts needed to interrupt all indigenous WPV1 transmission are now being focused on the remaining endemic countries: Nigeria, Afghanistan, and Pakistan. WPV type 3 (WPV3) has not been detected in circulation since November 11, 2012. This report summarizes the evidence of possible global interruption of transmission of WPV3, based on surveillance for acute flaccid paralysis (AFP) and environmental surveillance.

Poliovirus Surveillance

Since the launch of the Global Polio Eradication Initiative in 1988, progress toward eradication has been tracked by detection and investigation of AFP cases and testing of stool specimens for polioviruses by accredited laboratories of the WHO Global Polio Laboratory Network (*7*). AFP surveillance has been supplemented by environmental surveillance (i.e., testing of sewage samples) in 25 countries, including Pakistan, since 2009, Nigeria since 2011, and Afghanistan since 2013 (*7*). Environmental surveillance often can detect evidence of WPV infections even in the absence of AFP cases, which is especially important for detection of WPV3, whose case-to-infection ratio (approximately one paralytic case in 1,000 infections) is about one fifth that of WPV1 (approximately one in 200) (*8*). The quality of AFP surveillance is monitored with performance indicators for detection sensitivity and investigation timeliness (*7*).

WPV3 Cases

No WPV3 cases have been detected globally since November 2012 (Figure 1). The latest WPV3 in Asia was isolated from a child aged 1 year in the Federally Administered Tribal Area of Pakistan who had onset of AFP on April 18, 2012, and the latest environmental WPV3 isolate in Asia was from a sample collected in Karachi, Pakistan, on October 7, 2010. The latest WPV3 in Africa was isolated from an infant aged 11 months in Yobe, Nigeria, who had onset of paralysis on November 10, 2012, and the latest environmental WPV3 isolate in Africa was from a sample collected in Lagos, Nigeria, on November 11, 2012. The number of countries reporting WPV3 cases changed from five in 2001, to 12 in 2008, to seven in 2010, and to two in 2012 (Figure 1). During 2010–2013, the number of WPV3 isolated globally in stool specimens collected from AFP patients declined from 87 to zero, whereas the number of AFP cases with specimens tested increased from 98,788 in 2010 to 101,701 in 2013.

The genetic diversity of WPV3 isolates has fallen steadily worldwide since 1988. The number of distinct WPV3 genotypes (≥15% nucleotide sequence divergence) detected globally declined from 17 in 1988, to five in 2001, to three in 2010, and to two in 2012 (Figure 2). In Pakistan, WPV3 clusters (approximately 5% nucleotide sequence divergence) within genotypes declined from four in 2010, to one in 2011, and to one in 2012. In Nigeria, the number of WPV3 clusters declined from nine in 2010, to six in 2011, and to two in 2012.

Discussion

WPV3 has not been detected since November 2012, suggesting that global WPV3 transmission has been interrupted. In regions and areas where the transmission of all three indigenous WPV serotypes has been interrupted, the order of disappearance was first WPV2, then WPV3, and then WPV1. The rapidly declining genetic diversity of WPV3 isolates during the last decade is consistent with progress toward eradication

* The Global Polio Eradication Initiative sets operational targets for countries in regions with current or recent WPV transmission, both nationally and in each province/state, as ≥2 cases per 100,000 population aged <15 years of nonpolio AFP, and adequate stool specimen collection from ≥80% of AFP cases, in which two specimens are collected ≥24 hours apart, both within 14 days of paralysis onset, shipped on ice or frozen ice packs, and arriving in good condition (without leakage or desiccation) at a WHO-accredited laboratory.

and was observed during a period of improving surveillance performance in Pakistan and Nigeria, the two countries which harbored the last known WPV3 reservoirs (*5,7*). The possible interruption of WPV3 transmission is a historic milestone for the Global Polio Eradication Initiative and demonstrates that full implementation of the national emergency action plans[†] in the three remaining polio-endemic countries (Pakistan, Afghanistan, and Nigeria) will also interrupt WPV1 transmission. If validated, the eradication of WPV3 would mark the third time that transmission of a distinct human pathogen (the others are smallpox virus and WPV2) has been interrupted through immunization. The last isolation of WPV2 occurred 15 years ago from a case with onset in October 1999 (*6*).

In the pre-vaccine era, WPV3 had a worldwide distribution (Figure 2). Although WPV3, for reasons unknown, is less able than WPV1 to spread over wide geographic areas and cause explosive outbreaks, long-range WPV3 exportations and regional outbreaks have occurred (*5,9*). The substitution of bivalent oral poliovirus vaccine (types 1 and 3) for monovalent oral poliovirus vaccines and trivalent oral poliovirus vaccine (types 1, 2, and 3) in supplementary immunization activities in late 2009 led to the rapid collapse of WPV3 transmission in India the following year, and to the steady decline of WPV3 detection elsewhere (*4,5*).

Continued sensitive surveillance is needed before the evidence of WPV3 eradication is conclusive, particularly given evidence of remaining limitations of surveillance in Pakistan, Nigeria, and elsewhere (*7*). The low

[†] Emergency action plans have been devised and are revised annually in each endemic country and include all programmatic steps planned to interrupt WPV transmission and respond to outbreaks.

FIGURE 1. Reported wild poliovirus type 3 (WPV3) cases and countries with reported WPV3 cases, by year — worldwide, 2001–2012

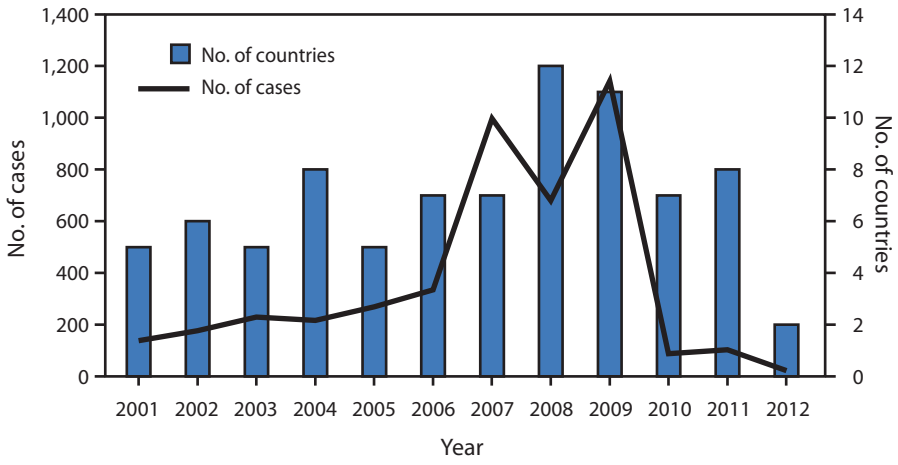
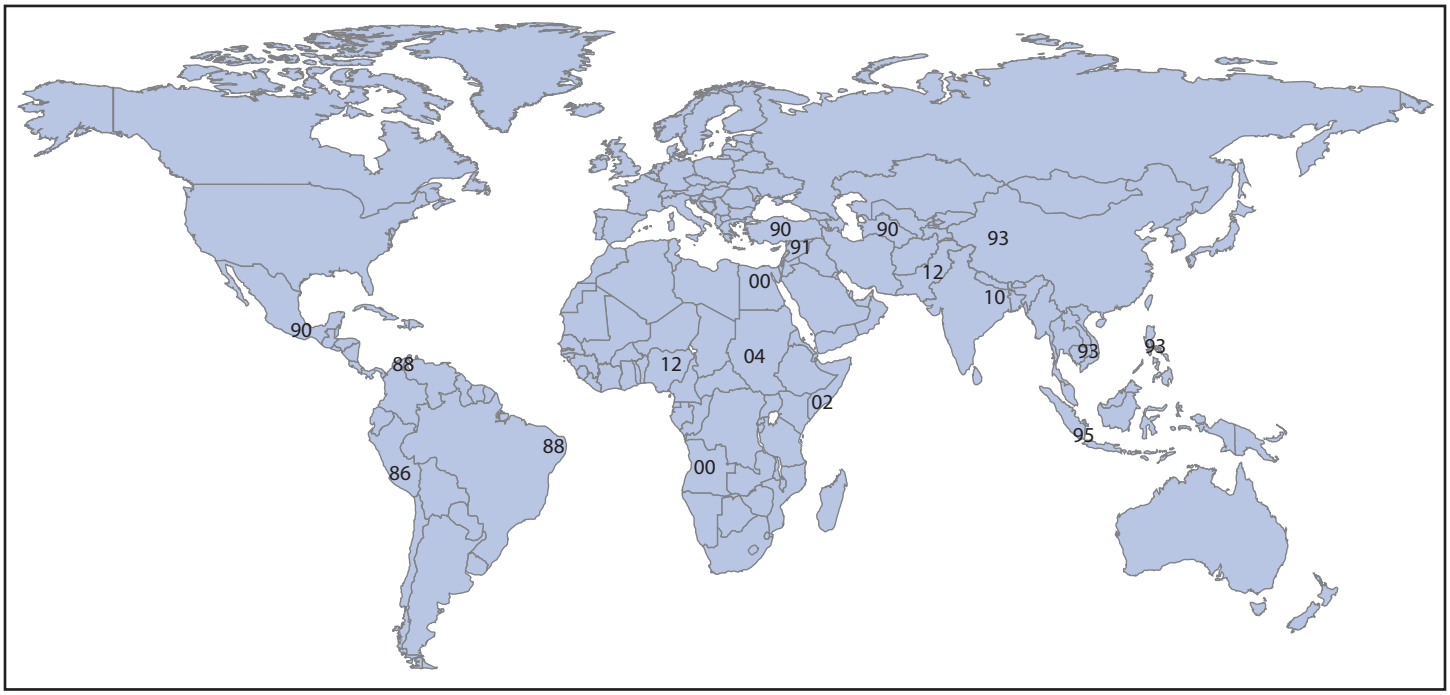


FIGURE 2. Eradication of wild poliovirus type 3 (WPV3) genotypes — worldwide, 1986–2012*



* The two digits represent the last two digits of the year when each WPV3 genotype was last detected.

case-to-infection ratio for WPV3 infections requires higher surveillance sensitivity for detection than that required for WPV1. However, the case-to-infection ratio is lowest for WPV2 (*8*), and no reappearance has been detected since 1999. High levels of population immunity to poliovirus type 3 should be maintained, both to protect against any residual WPV3 infections and to prevent the emergence and spread of type 3 circulating vaccine-derived polioviruses, a rare event (*10*).

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What is already known on this topic?

Four of the six World Health Organization regions have been certified as polio-free: the Americas in 1994, the Western Pacific Region in 2000, the European Region in 2002, and the South-East Asia Region in 2014. The last detection of wild poliovirus type 2 was in 1999.

What is added by this report?

No type 3 wild poliovirus (WPV3) infections have been detected globally since November 2012, suggesting that transmission might have been interrupted. The number of countries reporting WPV3 isolates declined from seven in 2010 to zero in 2013. During 2010–2013, the number of WPV3 isolated globally in stool specimens collected from patients with acute flaccid paralysis declined from 87 to zero, whereas the number of acute flaccid paralysis cases with specimens tested increased from 98,788 in 2010 to 101,701 in 2013.

What are the implications for public health practice?

Transmission of WPV3 might be interrupted worldwide. Continued sensitive surveillance is needed before the evidence of WPV3 eradication is conclusive, particularly given evidence of limitations of surveillance in Pakistan, Nigeria, and elsewhere.

Progress Toward Regional Measles Elimination — Worldwide, 2000–2013

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In 2012, the World Health Assembly endorsed the Global Vaccine Action Plan* with the objective to eliminate measles in four World Health Organization (WHO) regions by 2015. Member states of all six WHO regions have adopted measles elimination goals. In 2010, the World Health Assembly established three milestones for 2015: 1) increase routine coverage with the first dose of measles-containing vaccine (MCV1) for children aged 1 year to ≥90% nationally and ≥80% in every district; 2) reduce global annual measles incidence to <5 cases per million; and 3) reduce global measles mortality by 95% from the 2000 estimate (*1*).† This report updates the 2000–2012 report (*2*) and describes progress toward global control and regional measles elimination during 2000–2013. During this period, annual reported measles incidence declined 72% worldwide, from 146 to 40 per million population, and annual estimated measles deaths declined 75%, from 544,200 to 145,700. Four of six WHO regions have established regional verification commissions (RVCs); in the European (EUR) and Western Pacific regions (WPR), 19 member states successfully documented the absence of endemic measles. Resuming progress toward 2015 milestones and elimination goals will require countries and their partners to raise the visibility of measles elimination, address barriers to measles vaccination, and make substantial and sustained additional investments in strengthening health systems.

Immunization Activities

WHO and the United Nations Children's Fund (UNICEF) use data from administrative records and surveys reported annually by member states to estimate coverage with MCV1 and the second dose of MCV (MCV2) through routine immunization services.§ Since 2003, member states also have reported the number of districts with ≥80% MCV1 coverage. Estimated MCV1 coverage increased globally from 73% to 83% from 2000 to 2009, then remained at 83%–84% through 2013 (Table 1). The number of member states with ≥90% MCV1 coverage increased from 84 (44%) in 2000 to 131 (68%) in 2012, then decreased to 129 (66%) in 2013. Among member states with ≥90% MCV1 coverage nationally, the proportion having ≥80% MCV1 coverage in all districts increased from 17% (18 of 104) in 2003 to 43% (56 of 131) in 2012, then declined to 37% (48 of 129) in 2013. Of the estimated 21.5 million infants not receiving MCV1 through routine immunization services in 2013, approximately 13.2 million (62%) were in six member states: India (6.4 million), Nigeria (2.7 million), Pakistan (1.7 million), Ethiopia (1.1 million), Indonesia (0.7 million), and the Democratic Republic of the Congo (0.7 million).

From 2000 to 2013, the number of member states providing MCV2 through routine immunization services increased from 96 (50%) to 148 (76%), with four member states introducing MCV2 in 2013. Estimated global MCV2 coverage increased from 15% in 2000 to 53% in 2013. During 2013, approximately 205 million children received MCV during supplementary immunization activities (SIAs) conducted in 34 member states.¶ Of these, 16 states (47%) reported ≥95% SIA coverage, and 21 (62%) provided one or more additional child health interventions during the SIA (Table 2).

Disease Incidence

Countries report annually to WHO and UNICEF the number of measles cases from either case-based or aggregate surveillance systems.** Effective measles surveillance includes case-based surveillance with laboratory testing to confirm cases. In 2013, a total of 187 (96%)†† member states used case-based

* The Global Vaccine Action Plan is the implementation plan of the Decade of Vaccines, a collaboration between WHO; UNICEF; the Bill and Melinda Gates Foundation; Gavi, the Vaccine Alliance; the U.S. National Institute of Allergy and Infectious Diseases; the African Leaders Malaria Alliance; and others to extend, by 2020 and beyond, the full benefit of immunization to all persons. Additional information is available at http://www.who.int/immunization/global_vaccine_action_plan/en and at http://apps.who.int/gb/ebwha/pdf_files/wha65/a65_22-en.pdf.

† Whereas the coverage milestone is to be met by every member state, the incidence and mortality reduction milestones are to be met globally.

§ For MCV1, among children aged 1 year or, if MCV1 is given at age ≥1 year, among children aged 24 months. For MCV2, among children at the recommended age of administration of MCV2, as per the national immunization schedule. WHO/UNICEF estimates of national immunization coverage are available at http://www.who.int/immunization_monitoring/routine/immunization_coverage/en/index4.htm.

¶ SIAs generally are carried out using two target age ranges. An initial, nationwide catch-up SIA targets all children aged 9 months–14 years, with the goal of eliminating susceptibility to measles in the general population. Periodic follow-up SIAs then target all children born since the last SIA. Follow-up SIAs generally are conducted nationwide every 2–4 years and target children aged 9–59 months; their goal is to eliminate any measles susceptibility that has developed in recent birth cohorts and to protect children who did not respond to the first measles vaccination.

** Available at http://apps.who.int/immunization_monitoring/globalsummary/timeseries/tsincidencemeasles.html.

†† Member states without case-based measles surveillance in 2013 were Djibouti, India, Mauritius, Seychelles, Sao Tome and Principe, Somalia, and South Sudan.

TABLE 1. Estimates of coverage with the first dose (MCV1) and second dose (MCV2) of measles-containing vaccine administered through routine immunization services among children aged 1 year, reported measles cases and incidence,by World Health Organization (WHO) region, 2000 and 2013

	2000							
WHO region	% coverage with MCV1*	% member states with coverage ≥90%	% coverage with MCV2	No. of reported measles cases†	Measles incidence (cases per million population)§¶	% member states with incidence <5 per million	Estimated no. of measles deaths	
							No.	(95% CI)
African	53	9	5	520,102	841	8	342,300	(224,600–570,600)
Americas	93	63	45	1,754	2.1	89	<100	—
Eastern Mediterranean	72	57	28	38,592	90	17	54,100	(32,900-87,600)
European	91	60	48	37,421	50	48	300	(100–1,500)
South-East Asia	65	30	3	78,558	51	0	137,100	(101,000–184,100)
South-East Asia (excluding India)	78	—	9	39,723	80	0	52,300	*(32,700–80,300)*
India	59	—	0	38,835	37	0	84,700	(68,200–103,700)
Western Pacific	85	43	2	177,052	105	30	10,400	(5,800–47,700)
Total	**73**	**43**	**15**	**853,479**	**146**	**38**	**544,200**	**(364,300–891,500)**

	2013												
WHO region	% coverage with MCV1*	% member states with coverage ≥90%	% coverage with MCV2	No.of reported measles cases†	% decline from 2000	Measles incidence (cases per million population)§¶	% decline from 2000	% member states with incidence <5 per million	Reported measles geno-types**	Estimated measles deaths		% mortality reduction 2000 to 2013	% total measles deaths in 2013
										No.	(95% CI)		
African	74	32	7	171,905	67	185	78	53	B3	74,200	(41,600–165,000)	84	51
Americas	92	80	46	490	72	0.5	76	100	B3, D4 D8, D9, H1	<100		—	0
Eastern Mediterranean	78	57	65	20,885	46	35	61	32	B3, D4, D8	32,500	(18,600–61,900)	49	22
European	95	87	82	24,689	34	32	37	71	B3, D4, D8	100	(0–1,200)	65	0
South–East Asia	78	55	53	30,101	62	16	68	45	D4, D8, D9	37,500	(20,800–67,100)	63	26
South–East Asia (excluding India)	89	60	78	16,279	59	27	66	50		10,000	(3,300–27,300)	74	7
India	74	–	42	13,822	64	11	70	0		27,500	(17,500–39,800)	57	19
Western Pacific	97	81	92	31,706	82	17	84	68	B3, D8, D9, G3, H1	1,500	(100–40,100)	88	1
Total	**84**	**66**	**53**	**279,776**	**67**	**40**	**72**	**66**		**145,700**	**(81,100–335,400)**	**75**	**100**

Abbreviations: CI = confidence interval; UNICEF = United Nations Children's Fund.

* Based on WHO/UNICEF estimates of national immunization coverage, available at http://apps.who.int/immunization_monitoring/globalsummary/timeseries/tswucoveragemcv.html.

† Based on WHO reported measles case data, available at http://apps.who.int/immunization_monitoring/globalsummary/timeseries/tsincidencemeasles.html. Data for Region of the Americas available at http://www.paho.org/hq/index.php?option=com_docman&task=doc_view&itemid=270&gid=27446&lang=en.

§ Based on World Population Prospects: the 2013 Revision (CD-Rom edition). New York, United Nations Organization, Population Division, Department of Economic and Social Affairs, 2013.

¶ Any country not reporting data on measles cases for that year was removed from both the numerator and denominator.

** Reported to the Measles Nucleotide Surveillance (MeaNS) database, available at http://www.who-measles.org.

surveillance and 191 (98%)§§ had access to standardized quality-controlled testing through the WHO Measles and Rubella Laboratory Network.

During 2000–2013, the number of annual reported measles cases worldwide decreased 67%, from 853,479 to 279,776, and measles incidence decreased 72%, from 146 to 40 cases per million population (Table 1). The results for 2013 represent an increase from 227,739 reported cases and an incidence of 33 cases per million population in 2012, despite fewer member states reporting (189 in 2012 versus 176 in 2013).¶¶ The percentage of reporting member states with <5 cases per million increased from 64% in 2012 (120 of 189) to 66% in 2013 (116 of 176). During 2000–2013, the Region of the Americas maintained measles incidence at <5 cases per million.

§§ Member states without access to standardized quality-controlled testing by the WHO Measles and Rubella Laboratory Network in 2013 included Cape Verde, Sao Tome and Principe, and Seychelles.

¶¶ Countries not reporting in 2012 were Kenya from the African Region and Finland, France, Malta, and Uzbekistan from EUR. In 2013, countries not reporting were Libya and the United Arab Emirates from EMR, Austria, Bosnia and Herzegovina, Ireland, Italy, Malta, Monaco, San Marino, and Ukraine from EUR and Brunei Darussalam, Cook Islands, Fiji, the Marshall Islands, Nauru, Samoa, Singapore, and Tuvalu from WPR.

TABLE 2. Measles supplementary immunization activities (SIA) and delivery of other child health interventions, by World Health Organization (WHO) region and member state, 2013

WHO region/Member state	Age group targeted	Extent of SIA*	Children reached in targeted age group		Other interventions delivered
			No.	(%)†	
Africa					
Botswana	9–59 mos	National	198,341	(94)	
Cape Verde	9 mos–24 yrs	National	240,166	(95)	rubella vaccine
Central African Republic	9–59 mos	National	691,233	(87)	oral polio vaccine, vitamin A, anthelmintics
Comoros	9–59 mos	National	86,516	(86)	vitamin A, anthelmintics, TT vaccine
Republic of the Congo	6–59 mos	National	726,979	(92)	anthelmintics
DRC	9 mos–9 yrs 9 mos–14 yrs	Rollover (national)§	12,160,677	(101)	oral polio vaccine, vitamin A, anthelmintics
Ethiopia	9–59 mos	National	11,609,484	(98)	oral polio vaccine
Ghana	9 mos–14 yrs	National	11,062,605	(99)	rubella vaccine
Lesotho	9–59 mos	National	147,676	(72)	oral polio vaccine, vitamin A, anthelmintics
Madagascar	9–59 mos	National	3,316,542	(92)	anthelmintics, TT vaccine
Malawi	9–59 mos	National	2,405,018	(105)	oral polio vaccine, vitamin A, anthelmintics
Mozambique	6–59 mos	National	4,078,637	(102)	anthelmintics
Nigeria	6–59 mos 9–59 mos	National	31,777,071	(94)	oral polio vaccine, anthelmintics
Rwanda	9 mos–14 yrs	National	4,391,081	(103)	rubella and oral polio vaccines, vitamin A, anthelmintics
Senegal	9 mos–14 yrs	National	6,097,123	(101)	rubella vaccine
South Africa	6–59 mos	National	4,186,192	(100)	oral polio vaccine
Swaziland	6–59 mos	National	119,207	(97)	oral polio vaccine, vitamin A, anthelmintics
Togo	9 mos–9 yrs	Rollover (national)§	1,641,635	(96)	vitamin A, anthelmintics
Americas					
Guatemala	1–5 years	National	1,659,469	(91)	mumps, rubella and oral polio vaccines, vitamin A, anthelmintics
Eastern Mediterranean					
Afghanistan	9–59 mos	Subnational	875,874	(85)	oral polio and TT vaccines
Iraq	6–12 yrs	National	5,563,532	(96)	
Jordan	9 mos–14 yrs 6 mos–19 yrs	National	4,000,936	(102)	rubella and oral polio vaccines, vitamin A
Lebanon	9 mos–18 yrs 9 mos–14 yrs	National	662,616	(88)	rubella vaccine
Morocco	9 mos–19 yrs	National	10,191,571	(91)	rubella vaccine
Pakistan	9 m–9 yrs	Sindh and Punjab	30,988,259	(97)	oral polio vaccine
Somalia	9–59 mos	Subnational child health days and SIAs in newly accessible areas	744,077	(85)	oral polio vaccine, vitamin A, anthelmintics, TT vaccine
Sudan	9 mos–14 yrs	National	14,976,050	(98)	oral polio vaccine, vitamin A, anthelmintics
Syria	6–10 yrs 12–15 yrs	Subnational	1,549,105	(80)	rubella and mumps vaccines
Yemen	6 mos–10 yrs	Subnational	283,687	(93)	
European					
Georgia	2–14 yrs	National	31,385	(49)	rubella and mumps vaccines
South-East Asia					
India	9 months–10 years	Rollover (national)§	33,640,721	(82)	
Western Pacific					
Cambodia	9 mos–14 yrs	National	4,576,633	(105)	vitamin A, anthelmintics, rubella vaccine
Micronesia	12–47 mos	National	3,435	(95)	rubella and mumps vaccines
Vanuatu	12–59 mos	National	33,604	(102)	rubella vaccine
Total			**204,718,027**		

Abbreviations: TT = tetanus toxoid; DRC = Democratic Republic of the Congo.

* SIAs generally are carried out using two approaches. An initial, nationwide catch-up SIA targets all children aged 9 months to 14 years; it has the goal of eliminating susceptibility to measles in the general population. Periodic follow-up SIAs then target all children born since the last SIA. Follow-up SIAs are generally conducted nationwide every 2–4 years and generally target children aged 9–59 months; their goal is to eliminate any measles susceptibility that has developed in recent birth cohorts and to protect children who did not respond to the first measles vaccination. The exact age range for follow-up SIAs depends on the age-specific incidence of measles, coverage with 1 dose of measles-containing vaccine, and the time since the last SIA.

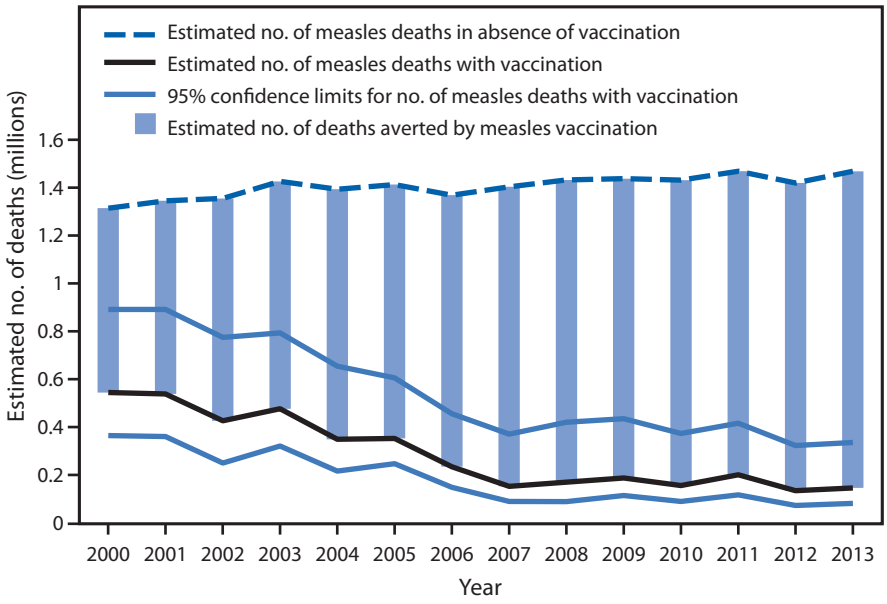
† Values >100% indicate that the intervention reached more persons than the estimated target population.

§ Rollover national campaigns started the previous year or will continue into the next year.

The increase in measles incidence in 2013 largely was the result of outbreaks reported in the Democratic Republic of the Congo (89,108 cases), Nigeria (52,852), China (26,883), Pakistan (8,749), Angola (8,523), Indonesia (8,419), Uganda (7,878), Georgia (7,872), and Turkey (7,405). Reported cases in India declined from 33,634 in 2011 to 13,833 in 2013.

Genotypes of measles virus sequences were reported by 61 (56%) of the 108 member states reporting measles cases in 2013. Of 2,301 measles virus sequences reported to WHO,*** the genotype was B3 for 438 sequences (31 member states), D4 for 127 (19 member states), D8 for 1,555 (40 member states), D9 for 82 (13 member states), G3 for 15 (one member state) and H1 for 81 (nine member states). Five genotypes were reported in the Region of the Americas and WPR; three genotypes were reported in the Eastern Mediterranean Region (EMR), EUR and the South-East Asia Region; and one genotype was reported in the African Region (Table 1).

FIGURE. Estimated number of measles deaths and number of deaths averted by measles vaccination — worldwide, 2000–2013



Mortality Estimates

WHO has developed a model to estimate measles mortality in member states using numbers and age distribution of reported cases, routine and SIA MCV coverage, and age-specific, country-specific case-fatality ratios (*3,4*). New measles vaccination coverage and case data for all member states during 2000–2013 led to a new series of mortality estimates. During this period, estimated measles deaths decreased 75%, from 544,200 to 145,700, and all regions had substantial reductions in estimated measles mortality (Table 1). Compared with no measles vaccination, an estimated 15.6 million deaths were prevented by measles vaccination during 2000–2013 (Figure).

Regional Verification of Measles Elimination

By 2013, RVCs had been established in the Region of the Americas, EUR, EMR, and WPR, and all RVCs have met except for EMR. The annual RVC report from the Region of the Americas indicated the region continues to have multiple measles virus importations, whereas three member states in WPR and 16 member states in EUR have documented the absence of endemic measles virus transmission to their RVC.

Discussion

During 2000–2013, coverage worldwide with both routine doses of MCV combined with SIAs contributed to a 72% decrease in reported measles incidence and a 75% reduction in estimated measles mortality. The decrease in measles mortality was one of three main contributors (along with decreases in pneumonia and diarrhea) to the decline in overall mortality in children aged <5 years and to progress toward the fourth Millennium Development Goal††† (*5*). During this period, measles vaccination prevented an estimated 15.6 million deaths. RVCs in EUR and WPR verified that 19 member states have successfully documented the absence of endemic measles. However, based on current trends of measles vaccination coverage and incidence, the WHO Strategic Advisory Group of Experts on Immunization concluded that the 2015 global targets will not be achieved on time; little progress has been made toward measles elimination in EMR and EUR, and progress in WPR is at risk (*6*).

The Democratic Republic of the Congo, Ethiopia, India, Indonesia, Nigeria, and Pakistan, together accounted for 28% of global population but >60% of children not reached with MCV1, and >70% of estimated global measles deaths in 2013. In these member states, child health systems will need to be

*** Sequences were for the 450 nucleotide carboxy-terminal of the nucleocapsid gene in the measles virus genome. Genotypes isolated from three cases of subacute sclerosing panencephalitis (D3, D6, and D7) were excluded from the total. Data as of October 7, 2014 from the Measles Nucleotide Surveillance (MeaNS) database, available at http://www.who-measles.org.

††† Additional information available at http://www.un.org/millenniumgoals.

What is already known on this topic?

During 2000–2009, global vaccination coverage with the first dose of measles-containing vaccine (MCV1) increased from 72% to 83%, and annual measles incidence decreased from 146 reported cases per million population in 2000 to 41 cases per million in 2009. During 2009–2012, MCV1 coverage remained at 83%–84%, the number of member states providing a second dose of measles-containing vaccine (MCV2) through routine immunization services increased from 134 (69%) to 144 (74%), and approximately 693 million children were vaccinated against measles during SIAs. Measles elimination in four of six WHO regions by 2015 is among the objectives of the Global Vaccine Action Plan.

What is added by this report?

During 2000–2013, an estimated 15.6 million deaths were prevented by measles vaccination. The number of member states providing MCV2 through routine immunization services increased to 148 (76%) in 2013, and global MCV2 coverage was 53%. During 2013, a total of 205 million children were vaccinated against measles during supplementary immunization activities. Large outbreaks continued in the Democratic Republic of the Congo (89,108 cases), India (13,822 cases), and Pakistan (8,749 cases), and new outbreaks were reported from Nigeria (52,852), and China (26,883).

What are the implications for public health practice?

The African, Eastern Mediterranean, and European regions are not progressing as expected to achieve their elimination targets, and the Western Pacific Region is at risk. To accelerate progress toward achieving these regional measles elimination targets, policy and practice gaps preventing reaching greater numbers of children will need to be addressed, visibility of measles elimination efforts increased, and adequate resources provided to strengthen health systems and achieve the objectives of the Global Vaccine Action Plan.

strengthened to ensure that their immunization programs reach ≥95% of children with 2 MCV doses through routine immunization services and high-quality SIAs.

The findings in this report are subject to at least three limitations. First, MCV coverage estimates are affected by inaccurate estimates of the size of target populations, inaccurate reporting of doses delivered, and reporting of SIA doses given to children outside the target group. Second, underestimation in surveillance data can occur because not all patients with measles seek care and not all of those who seek care are reported. Finally, some member states report aggregate, unconfirmed cases rather than case-based data.

To achieve measles elimination, all the strategies described in the Global Vaccine Action Plan and the 2012–2020 Global Measles and Rubella Strategic Plan (*8*) of the Measles & Rubella Initiative will need to be implemented.[§§§] Policy and practice gaps leading to missed opportunities for measles vaccination will need to be addressed, such as the reluctance of vaccinators to open 10-dose vials when few children are present or to vaccinate children aged ≥12 months through routine immunization services, and inappropriate contraindications to vaccination. The verification process (*9*) to document the absence of endemic measles virus in member states can be implemented in the African Region, South-East Asia Region, and EMR, and used to raise awareness of and advocate for solutions to programmatic gaps. To resume progress toward achieving the 2015 Millennium Development Goals, global measles control targets, and regional measles elimination goals, the visibility of measles elimination activities needs to be increased and investments made to strengthen health systems and achieve equitable access to immunization services.

[§§§] The Measles & Rubella Initiative is a partnership established in 2001 as the Measles Initiative, led by the American Red Cross, CDC, the United Nations Foundation, UNICEF, and WHO. Additional information is available at http://www.measlesrubellainitiative.org.

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Announcements

Contact Lens Health Week — November 17–21, 2014

November 17–21, 2014, marks the first annual Contact Lens Health Week. In close collaboration with partners from clinical, public health, industry, and regulatory sectors, CDC has developed a campaign to promote healthy contact lens wear and care practices that can help reduce the risk for eye infections and complications associated with poor contact lens hygiene.

Microbial keratitis is a serious, sometimes blinding, eye infection often associated with poor contact lens hygiene. CDC has published a report on the first estimate of the burden of keratitis, including microbial keratitis, and contact lens disorders in the United States, using data from national outpatient and emergency department databases (*1*). The report finds that episodes of keratitis and contact lens disorders result in an estimated 930,000 outpatient visits and 58,000 emergency department visits annually that cost $175 million in direct health care expenditures.

Established, modifiable risk factors for microbial keratitis, such as overnight contact lens wear, poor contact lens storage case hygiene, and infrequent storage case replacement (*2,3*), indicate that this serious and costly eye infection is largely preventable. As such, patient education about healthy contact lens wear and care practices is essential and warranted. Additional information on Contact Lens Health Week and the proper wear and care of contact lenses is available at http://www.cdc.gov/contactlenses.

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Recommendation Regarding Tobacco Use and Secondhand Smoke Exposure — Community Preventive Services Task Force

The Community Preventive Services Task Force recently posted new information on its website: "Reducing Tobacco Use and Secondhand Smoke Exposure: Comprehensive Tobacco Control Programs." The information is available at http://www.thecommunityguide.org/tobacco/comprehensive.html.

Established in 1996 by the U.S. Department of Health and Human Services, the task force is an independent, nonfederal, uncompensated panel of public health and prevention experts whose members are appointed by the Director of CDC. The task force provides information for a wide range of decision makers on programs, services, and policies aimed at improving population health. Although CDC provides administrative, research, and technical support for the task force, the recommendations developed are those of the task force and do not undergo review or approval by CDC.

Announcements

Get Smart About Antibiotics Week — November 17–23, 2014

Each year, an estimated 2 million persons in the United States are infected with antibiotic-resistant bacteria, and approximately 23,000 die as a result (*1*). The rise of antibiotic resistance represents a serious threat to human and animal health, national security, and economies worldwide.

The use of antibiotics is the single most important factor leading to antibiotic resistance around the world. In September, the White House issued an executive order and announced the National Strategy to Combat Antibiotic-Resistant Bacteria.* These actions provide goals and direction to help the nation contain the spread of resistant bacterial strains, manage existing antibiotics to preserve their effectiveness, and help ensure a steady pipeline of new, effective antibiotics and diagnostics.

CDC will leverage its expertise and build on core strengths to address the threat of antibiotic resistance to slow the development of resistant bacteria and prevent the spread of resistant infections by 1) strengthening national surveillance efforts to track resistant bacteria, 2) advancing development and use of rapid and innovative diagnostic tests for identification and characterization of resistant bacteria, and 3) improving international collaboration and capacities for antibiotic resistance prevention, surveillance, control, and antibiotic research and development.

This year, Get Smart About Antibiotics Week is being observed during November 17–23, 2014. This is an annual observance to raise awareness of the threat of antibiotic resistance and the importance of appropriate prescribing and use. The observance is a key component of CDC's efforts to improve antibiotic stewardship in communities, in health care facilities, and on farms in collaboration with state-based programs and others. Get Smart About Antibiotics Week coincides with many global antibiotic resistance observances, including those in Europe, Australia, and Canada. Information on scheduled activities and how to get involved in combating antibiotic resistance is available at http://www.cdc.gov/getsmart/week.

*Additional information available at http://www.whitehouse.gov/sites/default/files/docs/carb_national_strategy.pdf.

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World Day of Remembrance for Road Traffic Victims — November 16, 2004

Road traffic crashes kill nearly 3,500 persons each day worldwide and injure or disable an estimated 20–50 million persons each year (*1*). They are the leading cause of death among young persons aged 15–29 years worldwide, and the leading cause of death among those aged ≤30 years in the United States. CDC has declared motor vehicle injuries a "winnable battle" and supports efforts at the United Nations (UN) and World Health Organization (WHO) to dedicate 2011–2020 as the Decade of Action for Road Safety (*2*). The Decade of Action was launched in May 2011 in more than 100 countries with the goal of preventing 5 million road traffic deaths globally by 2020.

In October 2005, the UN General Assembly adopted a resolution (*3*) calling for governments and nongovernmental organizations to mark the third Sunday in November each year as the World Day of Remembrance for Road Traffic Victims. This day is dedicated to remembering the many millions killed or injured in road crashes and their families and communities. This World Day of Remembrance also pays tribute to the dedicated emergency responders, police, and medical professionals who deal with the traumatic aftermath of road death and injury.

CDC, WHO, and the UN Road Safety Collaboration encourage governments and nongovernmental organizations worldwide to observe November 16, 2014, as the World Day of Remembrance to call attention to road traffic crashes, their consequences and costs, and prevention measures. The theme of this year's World Day of Remembrance is "Speed kills: design out speeding." Ancillary materials are available to provide organizations with action strategies to support victims and survivors (*4*). Guidance for persons or groups on how to plan and organize events is available from WHO at http://whqlibdoc.who.int/publications/2006/9241594527_eng.pdf. Additional information about the World Day of Remembrance is available at http://www.worlddayofremembrance.org. Additional information about CDC's motor vehicle injury prevention activities is available at http://www.cdc.gov/motorvehiclesafety.

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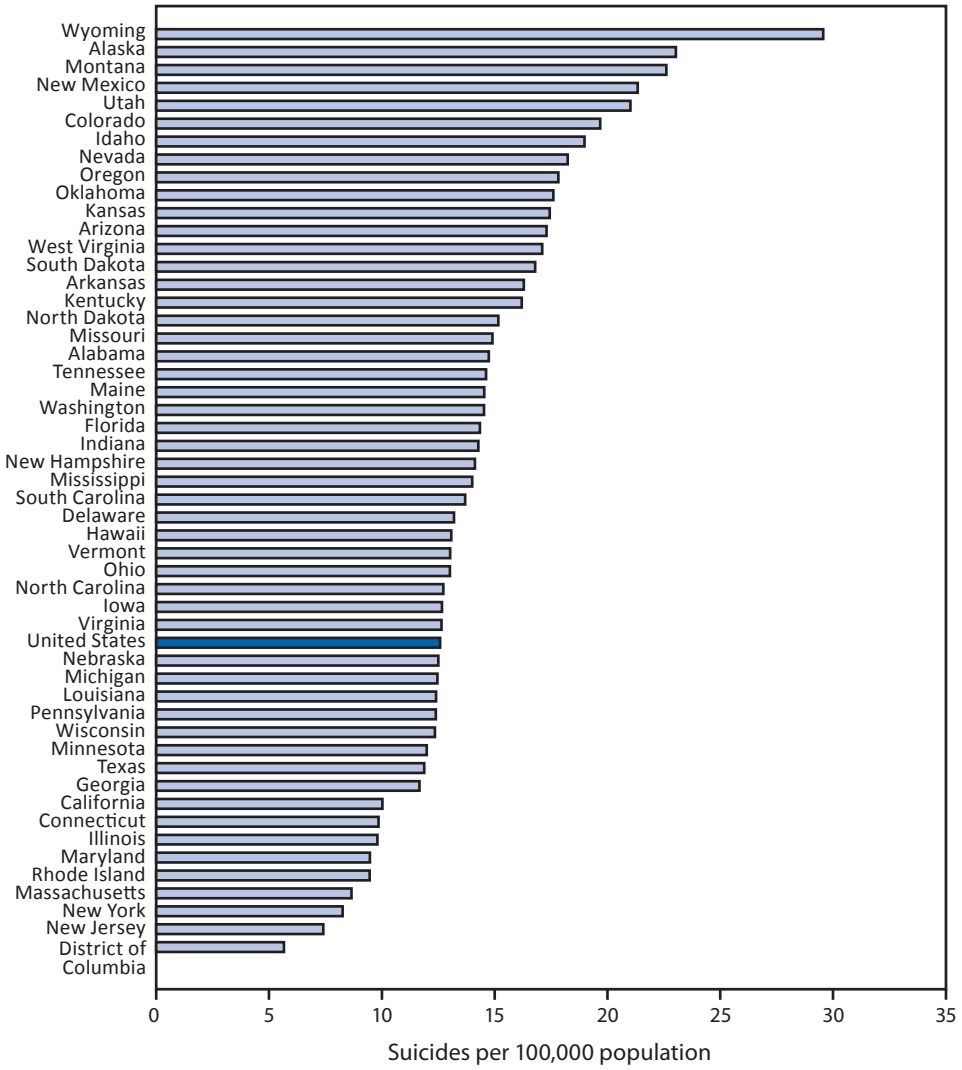
QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Age-Adjusted* Suicide† Rates, by State§ — United States, 2012



* Age-adjusted rates per 100,000 based on the 2000 U.S. standard population. Populations used for computing death rates are postcensal estimates based on the 2010 census estimated as of July 1, 2012.

† Intentional self-harm (suicide) as the underlying cause of death includes codes for by discharge of firearms (X72–X74), and Intentional self-harm (suicide) by other and unspecified means and their sequelae (U03,X60–X71,X75–X84,Y87.0), in the *International Classification of Diseases, 10th Revision*.

§ U.S. residents only.

In 2012, the overall age-adjusted suicide rate in the United States was 12.6 per 100,000 population. Among states, Wyoming had the highest suicide rate (29.6), followed by Alaska (23.0), Montana (22.6), New Mexico (21.3), and Utah (21.0). The District of Columbia had the lowest suicide rate (5.7), followed by New Jersey (7.4), New York (8.3), Massachusetts (8.7), and Rhode Island (9.5). For 34 states, suicide rates were higher than the overall U.S. rate. In 2012, a total of 40,600 suicides were reported in the United States.

Source: National Vital Statistics System. Mortality public use data files, 2012. Available at http://www.cdc.gov/nchs/data_access/vitalstatsonline.htm.

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