Centers for Disease Control and Prevention

MMWR

Morbidity and Mortality Weekly Report

Weekly / Vol. 61 / No. 47

November 30, 2012

World AIDS Day — December 1, 2012

World AIDS Day draws attention to the current status of the human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) epidemic worldwide. The theme for this year's observance on December 1 is Working Together for an AIDS-Free Generation.

The first cases of AIDS were reported more than 30 years ago in the June 5, 1981 issue of *MMWR*. Since then, the epidemic has claimed the lives of approximately 30 million persons worldwide (*1*), and 34.2 million persons are currently living with HIV infection (*2*).

Global efforts, including the U.S. President's Emergency Plan for AIDS Relief (in which CDC is an implementing partner), have resulted in approximately 8 million persons in low-income and middle-income countries receiving antiretroviral therapy for HIV/AIDS in 2011. This is nearly 1.4 million more persons than in 2010.

In the United States, approximately 602,000 persons diagnosed with AIDS have died since the first cases were reported (*3*), and approximately 50,000 persons become infected with HIV each year (*4*). An estimated 1.1 million persons in the United States are living with HIV infection (*5*).

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Progress in Voluntary Medical Male Circumcision Service Provision — Kenya, 2008–2011

In 2007, the national prevalence of HIV in Kenya was 7.1% among persons aged 15–64 years, with provincial prevalence rates ranging from 0.8% in North Eastern Province to 14.9% in Nyanza Province (*1*). Although an estimated 85.0% of males in Kenya are circumcised, nearly half of all uncircumcised men live in Nyanza Province, where circumcision prevalence is only 48.2% (*1*). Based on the results of three randomized controlled trials in 2007 showing that medical male circumcision is effective in reducing HIV acquisition among men by approximately 60%, the World Health Organization and the Joint United Nations Programme on HIV/AIDS issued recommendations urging countries to offer male circumcision as an additional HIV prevention intervention (*2*). Kenya's Ministry of Health (MOH) prioritized the implementation of voluntary medical male circumcision (VMMC) services by targeting areas with low prevalence of male circumcision and high HIV prevalence (*3*). This report summarizes the progress of the VMMC scale-up in Kenya during 2008–2011. By December 2011, a total of 340,958 males had been circumcised in 260 CDC-supported

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sites.* Among those VMMCs, 280,713 (82.3%) were conducted in Nyanza Province. A total of 273,115 (80.1%) VMMC clients were aged ≥15 years, and 49,162 clients (14.4%) were aged ≥25 years. VMMCs performed among clients aged ≥25 years increased from 5,938 (11.9%) in 2009 to 24,945 (14.9%) in 2011. Providing VMMC services to males aged ≥25 years remains a key challenge to reaching Kenya's national target of 80% VMMC coverage among uncircumcised males aged 15–49 years by the end of 2013.

Kenya's Prime Minister launched the VMMC for HIV prevention program in 2008 following intense public consultations among various stakeholders, including youths, religious and women's groups, professionals, and the Luo Council of Elders (*4*). Based on 2009 census data, members of the Luo community constitute approximately 70% of Kenya's traditionally noncircumcising ethnic communities. Other noncircumcising ethnic communities include the Turkana, Teso, and segments among the Luhya and Pokot ethnic groups. Together, these communities constitute approximately 15% of Kenya's population (*5*). Approximately half (52.9%) of the uncircumcised males reside in Nyanza Province, with most of the remainder residing in Rift Valley, Nairobi, and Western provinces (Table 1) (*6*). In total, 73% of the estimated 1.4 million HIV-infected persons in Kenya reside in the same four provinces (*1*). The highest HIV prevalence rates among uncircumcised males aged 15–64 years are in Nyanza (17.3%), Rift Valley (7.0%), Nairobi (20.2%), and Western (6.8%) provinces (*6*). These areas were selected as priority regions for implementation of VMMC to achieve 80% coverage (860,000 circumcisions) by July 2013 to reduce HIV transmission in Kenya (*7*). The MOH strategy has prioritized targets in three phases. Phase one targets uncircumcised males aged 15–49 years, with a goal of achieving 80% circumcision coverage by July 2013. Later phases target males aged <15 years and male infants for future VMMC programming. This report describes progress achieved during phase one of VMMC implementation, through December 2011.

Data were collected from MOH-approved client forms and standardized data collection summary tools for VMMC. Information on client age, district of residence, HIV test results, intra-operative and postoperative adverse events (AEs),† type of service providers, and postoperative reviews were collected from CDC-supported sites. CDC support includes site renovation, procuring surgical instruments and supplies, and hiring clinical staff members to provide VMMC for HIV prevention. Analyses included only those VMMCs that were conducted by partners receiving CDC support. Univariate and bivariate analyses were conducted using statistical software to determine progress.

* Analyses conducted in this report are limited to the 340,958 VMMCs conducted by in-country partners receiving CDC support. An additional 50,425 VMMC procedures were performed in Kenya during 2008–2011 through support from other donor agencies. No other data were collected pertaining to those VMMCs.

† AEs are complications related to male circumcision surgery. AEs have been defined by Kenya's Ministry of Health and include specific descriptions of the type of event (e.g., infection, bleeding, or swelling), severity (e.g., mild, moderate, or severe), and time of onset (intraoperative or postoperative).

The *MMWR* series of publications is published by the Office of Surveillance, Epidemiology, and Laboratory Services, Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services, Atlanta, GA 30333.

Suggested citation: Centers for Disease Control and Prevention. [Article title]. MMWR 2012;61:[inclusive page numbers].

TABLE 1. Number and percentages of total population, estimated human immunodeficiency virus (HIV)–infected persons and uncircumcised males, HIV prevalence in uncircumcised males and voluntary medical male circumcision (VMMC) targets, by selected priority areas for VMMC scale-up — Kenya, 2008–2011

Area	Total population aged 15–64 yrs	Estimated no. of HIV-infected persons aged 15–64 yrs		Uncircumcised males aged 15–64 yrs (%)	HIV infected uncircumcised males aged 15–64 yrs (%)	80% VMMC target (males aged 15–49 yrs) by 2013
		No.	(%)			
Nyanza	2,806,000	417,000	(29.7)	(52.9)	(17.3)	426,500
Rift Valley	4,838,000	304,000	(21.7)	(16.7)	(7.0)	188,500
Western	2,152,000	115,000	(8.2)	(10.2)	(6.8)	57,000
Nairobi	2,073,000	183,000	(13.0)	(9.7)	(20.2)	129,500
Other	8,115,000	384,000	(27.4)	Not available	(5.8)	58,500
Total	**19,984,000**	**1,403,000**	**(100.0)**	Not available	**(13.2)**	**860,000**

Kenya's 4-year VMMC target is to circumcise 860,000 (80%) of uncircumcised males aged 15–49 years by 2013. During 2008–2011, trained clinicians performed 391,383 VMMCs for HIV prevention in Kenya, of which 340,958 (87.1%) were conducted in 260 MOH sites supported by CDC-funded partners, from which the data were obtained. Of those 340,958 VMMCs, 167,952 (49.3%) were conducted in 2011, compared with 50,051 (14.7%) in 2009 and 114,735 (33.7%) in 2010 (Table 2). Overall, 273,115 (80.1%) VMMC clients were aged ≥15 years (median: 17 years). Half (49.8%) of the circumcisions were in males aged 15–19 years, while those aged 20–24 and ≥25 years accounted for 15.8% and 14.4%, respectively (Table 2).

Provider-initiated HIV testing and counseling is offered to all VMMC clients and was accepted by 266,117 (78.0%) males, of whom 5,215 (2.0%) were diagnosed as HIV-infected and referred to care and treatment services. HIV-testing rates and numbers among VMMC clients increased from 60.5% (4,976 clients) in 2008 to 86.4% (145,040 clients) in 2011 (Table 2).

Task-shifting of VMMC surgical roles to nonphysicians has contributed to increases in VMMCs by nurse and clinical officers.[§] During 2008–2011, nurses and clinical officers performed 142,732 (41.9%) and 185,760 (54.5%) circumcisions, respectively. In 2008, nurses performed only 1,295 (15.8%) surgeries, progressively increasing to 80,221 (47.8%) during 2011. In 2009, only 7.4% of VMMCs were conducted by medical officers, while nurses performed 26.7% of the 50,051 VMMCs and clinical officers conducted 63.9%. As a result, the proportion of VMMCs performed by medical officers declined substantially, from 24.4% in 2008 to 0.2% in 2011 (Table 2).

VMMC services initially were delivered at fixed sites in provincial, district, or subdistrict hospitals. Based on data for VMMC service delivery types, 49.9% of VMMCs in 2008 were performed at fixed locations. By 2011, less than a third (30.5%) of VMMCs were performed at fixed locations as outreach or mobile services (e.g., performed in tents, prefabricated structures, schools, or community centers) became more feasible alternatives for service delivery (Table 2).

Although recommended, only 27.5% of 340,958 total clients returned for postoperative review within 7 days of surgery during 2008–2011. The number of clients returning for postoperative review increased from 4,147 in 2008 to 43,570 in 2011, but the proportion decreased from 50.5% to 25.9%, respectively. During 2008–2011, overall moderate or severe postoperative AEs were experienced by 2.6% of those clients returning for review, declining from 4.6% in 2009 to 1.9% in 2011. The overall proportion of intraoperative AEs was 0.2%, with continuous reductions from 1.5% in 2008 to 0.1% in 2011 among all surgery providers (Table 2).

VMMC services began earlier in Nyanza Province than elsewhere (Table 3). Overall, 82.3% of 340,958 VMMCs have been conducted in Nyanza Province, as of December 2011, whereas 8.3% and 6.6% were conducted in Nairobi and Western (Teso District) provinces, respectively. Rift Valley Province accounted for <0.7% of total VMMCs.

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Editorial Note

VMMC is an effective HIV prevention intervention that reduces the risk for HIV acquisition among men and can be performed safely by nonphysicians in Kenya after receiving training based on World Health Organization guidelines. Modeling studies estimate that if VMMC coverage reaches

[§] A clinical officer in Kenya is a member of a health-care provider cadre who has expanded diagnostic and treatment authority but with less training than a medical officer (similar to a physician's assistant in the United States).

TABLE 2. Number and percentage of voluntary medical male circumcisions (VMMCs) reported annually, by age group, provider, human immunodeficiency virus (HIV) testing and counseling (HTC) acceptance, and adverse events (AEs) rate among VMMC clients — Kenya, 2008–2011

	2008		2009		2010		2011		Total	
Characteristic	**No.**	**(%)**	**No.**	**(%)**	**No.**	**(%)**	**No.**	**(%)**	**No.**	**(%)**
VMMCs overall	**8,220**	**(2.4)**	**50,051**	**(14.7)**	**114,735**	**(33.7)**	**167,952**	**(49.3)**	**340,958**	**(100.0)**
VMMC by age group (yrs)										
<15 (includes infants)	2,166	(26.4)	18,269	(36.5)	28,824	(25.1)	18,584	(11.1)	67,843	(20.0)
15–19	2,332	(28.4)	18,656	(37.3)	50,968	(44.4)	97,977	(58.3)	169,933	(49.8)
20–24	1,912	(23.3)	7,188	(14.4)	18,474	(16.1)	26,446	(15.7)	54,020	(15.8)
≥25	1,810	(22.0)	5,938	(11.9)	16,469	(14.4)	24,945	(14.9)	49,162	(14.4)
VMMC provider										
Medical officer	2,002	(24.4)	3,691	(7.4)	849	(0.7)	347	(0.2)	6,889	(2.0)
Clinical officer	3,580	(43.6)	31,970	(63.9)	64,865	(56.5)	85,345	(50.8)	185,760	(54.5)
Nurse	1,295	(15.8)	13,373	(26.7)	47,843	(41.7)	80,221	(47.8)	142,732	(41.9)
Other	1,343	(16.3)	1,017	(2.0)	1,178	(1.0)	2,039	(1.2)	5,577	(1.6)
HTC										
VMMC clients accepting HTC	4,976	(60.5)	31,632	(63.2)	84,469	(73.6)	145,040	(86.4)	266,117	(78.1)
HIV prevalence	60	(1.2)	181	(0.6)	1,952	(2.3)	3,022	(2.1)	5,215	(2.0)
Intraoperative review and AEs										
Intraoperative AE	126	(1.5)	307	(0.6)	140	(0.1)	132	(0.1)	705	(0.2)
Postoperative follow-up	4,147	(50.5)	17,029	(34.0)	29,131	(25.4)	43,570	(25.9)	93,877	(27.5)
Postoperative AE*	134	(3.2)	775	(4.6)	775	(2.7)	804	(1.9)	2,468	(2.6)
Service delivery type										
Fixed	4,102	(49.9)	14,061	(28.1)	33,674	(29.3)	51,282	(30.5)	103,119	(30.2)
Outreach	2,123	(25.8)	30,624	(61.2)	50,326	(43.9)	74,010	(44.1)	157,083	(46.1)
Mobile	331	(4.0)	2,928	(5.9)	12,750	(11.1)	16,870	(10.0)	32,879	(9.6)
Unknown	1,664	(20.2)	2,438	(4.9)	17,985	(15.7)	25,790	(15.4)	47,877	(14.0)

* Percentages for postoperative AEs are calculated using the number of clients returning for follow-up as the denominator.

TABLE 3. Number and percentage of reported voluntary medical male circumcisions (VMMCs) performed in priority regions, and coverage against 4-year targets — Kenya, December 2011

	HIV prevalence in uncircumcised males aged 15–64 yrs			VMMCs (all ages)		2013 VMMC target (males aged 15–49 yrs)		VMMCs target coverage (males aged 15–49 yrs)	
Area	**Weighted %**	**(95% CI)**	**Date services started**	**No.**	**(%)**	**No.**	**(%)**	**No.**	**(%)**
Nyanza	17.3	(13.3–21.2)	2008	280,713	(82.3)	426,500	(49.0)	222,552	(52.2)
Rift Valley	7.0	(2.0–11.9)	2011	2,538	(0.7)	188,500	(22.0)	2,339	(1.2)
Western/Teso	6.8	(2.0–11.6)	2010	22,554	(6.6)	57,000	(7.0)	17,302	(30.4)
Nairobi	20.2	(12.8–27.5)	2010	28,337	(8.3)	129,500	(15.0)	25,022	(19.3)
Other	Not published		2010	6,816	(2.0)	58,500	(7.0)	5,900	(10.1)
Total				**340,958**	**(100.0)**	**860,000**	**(100.0)**	**273,115**	**(31.8)**

Abbreviations: HIV = human immunodeficiency virus; CI = confidence interval.

80% of eligible males, approximately 47,000 new HIV infections can be averted in 15 years in Nyanza Province alone (*8*). However, challenges to VMMC implementation remain, including increasing acceptance among males aged 25–49 years, increasing the proportion of clients returning for recommended postoperative review, and promoting medical rather than traditional or cultural circumcision in traditionally circumcising communities.

Kenya has made progress toward the 80% VMMC target by circumcising 52.2% of uncircumcised males in Nyanza Province, but with considerable variations in coverage by age. Coverage among males aged 15–19 years in some districts has reached 70%. Overall median client age is 17 years, suggesting older males (aged 25–49 years) are largely still not accessing VMMC. Providing VMMC services to younger males will benefit the next generation as they become sexually active. However, most new HIV infections occur in males aged 25–44 years, and thus they are a priority group for VMMC to provide a more immediate impact on the HIV epidemic. Strategies to attract older males for VMMC urgently need to be explored and evaluated.

Another challenge to VMMC implementation in Kenya is the variation in coverage across provinces. Several districts in Nyanza and Western provinces are approaching the 80%

What is already known on this topic?

Voluntary medical male circumcision (VMMC) is an effective human immunodeficiency virus (HIV) prevention intervention in settings with high HIV prevalence and low rates of male circumcision.

What is added by this report?

Kenya's Ministry of Health, with support from CDC, is leading a VMMC for HIV prevention program that has resulted in 340,958 circumcisions in 260 sites in Kenya during 2008–2011. This report summarizes progress toward reaching the national target of 80% VMMC coverage among uncircumcised males aged 15–49 years by July 2013. In Nyanza Province, 52.2% of the target has been reached as of December 2011. A total of 273,115 (80.1%) of VMMC clients were aged ≥15 years, and 49,162 clients (14.4%) were aged ≥25 years. VMMCs performed among clients aged ≥25 years increased from 5,938 (11.9%) in 2009 to 24,945 (14.9%) in 2011.

What are the implications for public health practice?

Kenya's VMMC program relies on political and community support, routine provider-initiated HIV testing and counseling, shifting of surgical tasks, and various types of service delivery to achieve its goals. Aspects of Kenya's VMMC strategies might be appropriate for programs in other sub-Saharan countries implementing VMMC for HIV prevention.

VMMC target among males aged 15–19 years, but many other districts are well below this target. Given the limited precision of district-level VMMC coverage data and population shifts in Kenya, accurately gauging coverage rates at the district and subdistrict levels has been difficult. More precise client demographic data could be used to help guide VMMC scale-up strategies and ensure reliable VMMC coverage.

Low compliance with follow-up after VMMC surgery also is a challenge to the VMMC program in Kenya. VMMC clients are recommended to return for postoperative review within 7 days of surgery, but almost seven in 10 males did not return. Although the AE rate is consistently low among those returning for follow-up, the substantial loss-to-follow-up rate makes accurate AE reporting difficult. Based on low return rates, MOH and CDC are conducting active surveillance activities to determine possible reasons for loss-to-follow-up and reliable postoperative AE rates.

In spite of multiple challenges, Kenya has made considerable progress toward its goal of 80% VMMC coverage. Aspects of Kenya's VMMC strategies might be appropriate for programs in other sub-Saharan countries implementing VMMC for HIV prevention.

Acknowledgments

Kawango Agot, Impact Research and Development Organization – Kenya. Walter Obiero, Nyanza Reproductive Health Society – Kenya. Patrick Oyaro, Kenya Medical Research Institute/Family AIDS Care and Education Svcs – Kenya. Alice Njoroge, Eastern Deanery AIDS Relief Program – Kenya. Alpa Patel-Larson, Div of Global HIV/AIDS, CDC Kenya.

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HIV Infections Attributed to Male-to-Male Sexual Contact — Metropolitan Statistical Areas, United States and Puerto Rico, 2010

Human immunodeficiency virus (HIV) infections attributed to male-to-male sexual contact comprised 64% of the estimated new HIV infections in the United States in 2009 (*1*). Assessing the geographic distribution of HIV infection by transmission category can help public health programs target prevention resources to men who have sex with men (MSM) in areas where HIV infection from male-to-male sexual contact is most frequent. In 2004, CDC published data on acquired immunodeficiency syndrome diagnoses among MSM and others by metropolitan statistical area (MSA) (*2*). To examine geographic differences in the prevalence of HIV infection from male-to-male sexual contact among persons aged ≥13 years in the United States and Puerto Rico, CDC estimated the number of HIV infections in persons newly diagnosed in 2010 and analyzed them by transmission category and location. Results indicated that HIV infections attributed to male-to-male sexual contact made up the largest percentage of HIV infections in MSAs (62.1%), smaller metropolitan areas (56.1%), and nonmetropolitan areas (53.7%). Of the 28,851 infections attributed to male-to-male sexual contact, 23,559 (81.7%) were in MSAs, and 11,410 (48.4%) of those infections were in seven MSAs that represented 31.7% (53,169,004 of 167,919,694) of the overall population aged ≥13 years in the MSAs that were assessed. These data support planning for targeted interventions to prevent HIV acquisition and transmission by male-to-male sexual contact among MSM, particularly in those areas most affected.

HIV infections in persons newly diagnosed in 2010 that were reported to the National HIV Surveillance System through June 2011 were examined from 564 locations, including 103 MSAs, 263 smaller metropolitan areas, and 198 nonmetropolitan areas in the United States and Puerto Rico.* Reported diagnoses of HIV infection for persons aged ≥13 years were tallied, and numbers of diagnoses overall and by transmission category were estimated. Data were adjusted for reporting delays and missing HIV risk factors but not for underreporting (*3,4*). Because a substantial proportion of persons with diagnosed HIV infection are reported to CDC without an identified risk factor, multiple imputation methods are used to assign transmission categories to those persons whose diagnoses are reported without a risk factor (*4*). Multiple imputation is a statistical approach in which missing transmission categories for each person are replaced with plausible values that represent the uncertainty regarding the actual, but missing, values (*5*).

Estimates were calculated for new diagnoses of HIV infection attributed to male-to-male sexual contact, injection-drug use, male-to-male sexual contact and injection-drug use, heterosexual contact, and other HIV risk factors or modes of transmission (e.g., hemophilia, blood transfusion, or perinatal exposure). Transmission categories are assigned, based on the single risk factor (of all identified risk factors) that was most likely responsible for HIV transmission (*6,7*). An exception is male-to-male sexual contact and injection-drug use, which makes up a separate transmission category. Estimates were not calculated for locations that did not have confidential name-based HIV reporting in place by January 2007 (or had not reported these data to CDC since at least June 2007) to enable the calculation of reporting delays. Excluded were locations in Hawaii, Maryland, Massachusetts, Vermont, and the District of Columbia (*6*).

Of the estimated 37,934 persons aged ≥13 years with a diagnosis of HIV infection who resided in MSAs in the United States and Puerto Rico during 2010, a total of 23,559 (62.1%) had HIV infection attributed to male-to-male sexual contact; 10,128 (26.7%) had HIV infection attributed to heterosexual contact, 3,070 (8.1%) to injection-drug use, 1,145 (3.0%) to male-to-male sexual contact and injection-drug use, and 33 (0.1%) to other modes of transmission (Table 1). Among smaller metropolitan areas, 3,182 (56.1%) of 5,677 HIV infections were attributed to male-to-male sexual contact, and among nonmetropolitan areas, 1,756 (53.7%) of 3,272 HIV infections were attributed to male-to-male sexual contact (Table 1). Of the 28,851 HIV infections among persons with infection attributed to male-to-male sexual contact overall, 23,559 (81.7%) were among persons living in MSAs. Persons aged ≥13 years living in MSAs comprised 65.5% (167,919,694 of 256,388,562) of the total population† of persons aged ≥13 years for the areas that were assessed (103 MSAs, 263 smaller metropolitan areas, and 198 nonmetropolitan areas).

A total of 11,410 (48.4%) of the 23,559 estimated HIV infections attributed to male-to-male sexual contact were among persons who resided in seven MSAs: New York, New York, New Jersey, Pennsylvania (3,347); Los Angeles, California (2,589); Miami, Florida (1,481); Atlanta-Sandy Springs-Marietta,

* MSAs have populations ≥500,000; smaller metropolitan areas have populations of 50,000–499,999, and nonmetropolitan areas are those with populations <50,000. Additional information available at http://www.whitehouse.gov/sites/default/files/omb/assets/bulletins/b10-02.pdf.

† Includes populations for adults and adolescents living in seven MSAs that were excluded from the total estimated number of HIV infections attributed to male-to-male contact.

TABLE 1. Estimated number and percentage* of diagnoses of HIV infection† among persons aged ≥13 years, by transmission category and size of location of residence — National HIV Surveillance System, United States and Puerto Rico, 2010

Location of residence (population)	HIV transmission category															Total diagnoses	
	Male-to-male sexual contact			Injection-drug use			Male-to-male sexual contact and injection-drug use			Heterosexual contact			Other transmission§				
	Reported no.¶	Estimated no.**	% of total	Reported no.¶	Estimated no.**	% of total	Reported no.¶	Estimated no.**	% of total	Reported no.¶	Estimated no.**	% of total	Reported no.¶	Estimated no.**	% of total	Reported no.¶	Estimated no.**
MSAs (≥500,000)	16,898	23,559	62.1	1,522	3,070	8.1	800	1,145	3.0	5,343	10,128	26.7	10,637	33	0.1	**35,200**	**37,934**
Small metropolitan areas (50,000–499,999)	2,153	3,182	56.1	248	502	8.8	114	182	3.2	840	1,802	31.7	1,525	8	0.1	**4,880**	**5,677**
Nonmetropolitan areas (<50,000)	1,137	1,756	53.7	161	313	9.6	69	121	3.7	491	1,076	32.9	1,033	5	0.2	**2,891**	**3,272**
Total	**20,332**	**28,851**	**60.8**	**1,963**	**3,963**	**8.3**	**986**	**1,463**	**3.1**	**6,716**	**13,153**	**27.7**	**13,381**	**46**	**0.1**	**43,378**	**47,477**

Abbreviations: HIV = human immunodeficiency virus; MSAs = metropolitan statistical areas.
* Estimates result from statistical adjustment that accounted for reporting delays, but not for incomplete reporting. Cases without reported risk factors were assigned transmission categories using multiple imputation methods.
† Includes all new diagnoses of HIV infection, regardless of stage of disease at diagnosis.
§ Includes hemophilia, blood transfusion, and perinatal exposure.
¶ Includes reported numbers from 103 MSAs, 263 smaller metropolitan areas, and 198 nonmetropolitan areas.
** Includes estimated numbers only from 96 MSAs, 258 smaller metropolitan areas, and 198 nonmetropolitan areas located in areas that had implemented confidential name-based HIV infection reporting by at least January 2007 and had reported these data to CDC since at least June 2007. Reported and estimated numbers smaller than 12 or percentages based on estimated numbers smaller than 12 are considered unreliable and should be interpreted with caution.

Georgia (1,059); Chicago, Illinois, Indiana, Wisconsin (1,011); Dallas, Texas (995), and Houston-Baytown-Sugar Land, Texas (928) (Table 2). Persons aged ≥13 years residing in these seven MSAs comprised 31.7% (53,169,004 of 167,919,694) of the total population of persons aged ≥13 years for the MSAs that were assessed. The four largest percentages of HIV infections attributed to male-to-male sexual contact in MSAs were in Los Angeles, California (81.9%), Fresno, California (80.8%), Modesto, California (78.8%), and Oxnard-Thousand Oaks-Ventura, California (78.2%).[§]

Reported by

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Editorial Note

The results of this analysis indicate that the majority of HIV infections in newly diagnosed persons aged ≥13 years in 2010 were attributed to male-to-male sexual contact. The percentages of HIV infections attributable to male-to-male sexual contact were higher in MSAs, compared with smaller metropolitan areas and nonmetropolitan areas. Among the MSAs examined, seven accounted for 48.4% of the persons with HIV infection attributable to male-to-male sexual contact. The four MSAs with the largest percentages of HIV infections attributed to male-to-male sexual contact were located in California. These results highlight the disproportionate burden of HIV infection among MSM, who were estimated to comprise approximately 3.9% of the male population aged ≥13 years in 2008 in the United States (*8*).

The geographic concentration of HIV infection reflects the higher risk for HIV transmission in areas with larger populations, greater prevalence of HIV infection attributed to male-to-male contact (e.g., MSAs compared with smaller areas), and possibly a greater prevalence of MSM living in the community. Effective interventions that could reduce the number of HIV infections in MSAs include HIV testing, HIV care and treatment, and risk-reduction counseling.

The findings in this report are subject to at least three limitations. First, HIV infection surveillance locations in five areas were excluded because they had not had confidential name-based reporting in place by January 2007 or had not reported these data to CDC since at least June 2007. The effect of this limitation is unknown. Second, comparisons were made based on estimated percentages of diagnoses instead of HIV diagnosis rates. To evaluate disparities in HIV risk between groups, HIV diagnosis rates should be calculated by applying population denominators for persons within each transmission category; however, such population estimates currently are unavailable for MSAs, smaller metropolitan areas, and nonmetropolitan areas. Finally, transmission category estimates were adjusted for missing risk factor information. Whether these adjustments introduce any bias in overestimation or underestimation of

§ Only percentages based on estimated numbers ≥12 are presented.

TABLE 2. Estimated number and percentage* of diagnoses of HIV infection† attributed to male-to-male sexual contact among persons aged ≥13 years, by location of residence — National HIV Surveillance System, United States and Puerto Rico, 2010

Location of residence	HIV infection attributed to male-to-male sexual contact			Total diagnoses	
	Reported no.§	Estimated no.¶	% of total	Reported no.§	Estimated no.¶
Akron, Ohio	13	21	60.2	33	35
Albany–Schenectady–Troy, New York	28	46	46.4	75	99
Albuquerque, New Mexico	43	57	75.0	70	76
Allentown–Bethlehem–Easton, Pennsylvania, New Jersey	25	35	49.7	63	70
Atlanta–Sandy Springs–Marietta, Georgia	387	1,059	64.5	1,182	1,641
Augusta–Richmond County, Georgia, South Carolina	24	67	52.4	89	128
Austin–Round Rock, Texas	144	186	71.1	239	262
Bakersfield, California	28	50	36.0	112	138
Baltimore–Towson, Maryland	96	—	—	818	—
Baton Rouge, Louisiana	88	146	43.2	312	337
Birmingham–Hoover, Alabama	91	145	60.9	217	238
Boise City–Nampa, Idaho	9	17	60.8	25	27
Boston–Cambridge–Quincy, Massachusetts, New Hampshire	156	—	—	431	—
Bradenton–Sarasota–Venice, Florida	44	55	59.1	85	92
Bridgeport–Stamford–Norwalk, Connecticut	33	55	38.5	107	142
Buffalo–Niagara Falls, New York	51	77	45.8	127	169
Cape Coral–Fort Myers, Florida	28	33	34.1	89	97
Charleston–North Charleston, South Carolina	67	85	63.5	123	134
Charlotte–Gastonia–Concord, North Carolina, South Carolina	204	292	63.7	408	459
Chattanooga, Tennessee, Georgia	19	36	55.1	55	65
Chicago, Illinois, Indiana, Wisconsin	604	1,011	68.9	1205	1,468
Cincinnati–Middletown, Ohio, Kentucky, Indiana	113	164	66.7	226	246
Cleveland–Elyria–Mentor, Ohio	104	169	73.4	213	230
Colorado Springs, Colorado	21	28	72.2	35	38
Columbia, South Carolina	104	142	62.5	209	228
Columbus, Ohio	159	258	75.8	316	340
Dallas, Texas	767	995	68.4	1,334	1,455
Dayton, Ohio	62	75	76.2	90	98
Denver–Aurora, Colorado	201	241	68.2	322	353
Des Moines, Iowa	21	29	68.1	39	43
Detroit, Michigan	244	367	67.6	508	544
Durham–Chapel Hill, North Carolina	41	60	50.3	109	119
El Paso, Texas	77	101	76.1	121	132
Fresno, California	75	94	80.8	97	117
Grand Rapids–Wyoming, Michigan	21	29	69.5	39	42
Greensboro–High Point, North Carolina	66	87	62.6	128	139
Greenville, South Carolina	38	47	64.7	67	73
Harrisburg–Carlisle, Pennsylvania	22	31	54.3	53	57
Hartford–West Hartford–East Hartford, Connecticut	67	98	47.1	164	207
Honolulu, Hawaii	32	—	—	61	—
Houston–Baytown–Sugar Land, Texas	616	928	59.7	1,425	1,553
Indianapolis, Indiana	131	177	65.4	247	270
Jackson, Mississippi	62	104	56.7	167	184
Jacksonville, Florida	154	175	45.2	355	388
Kansas City, Missouri, Kansas	156	185	75.4	223	245
Knoxville, Tennessee	29	36	71.9	46	50
Lakeland, Florida	43	56	45.9	112	122
Lancaster, Pennsylvania	16	18	34.9	46	50
Las Vegas–Paradise, Nevada	249	284	73.4	351	387
Little Rock–North Little Rock, Arkansas	35	69	70.3	89	98
Los Angeles, California	1,575	2,589	81.9	2,335	3,161
Louisville, Kentucky, Indiana	68	128	68.6	170	186
Madison, Wisconsin	20	29	75.1	36	39
McAllen–Edinburg–Pharr, Texas	48	64	67.9	85	94
Memphis, Tennessee, Mississippi, Arkansas	108	231	52.8	395	438
Miami, Florida	1,184	1,481	53.9	2,514	2,749
Milwaukee–Waukesha–West Allis, Wisconsin	95	133	73.4	165	180

See table footnotes on page 965.

TABLE 2. (*Continued*) Estimated number and percentage* of diagnoses of HIV infection† attributed to male-to-male sexual contact among persons aged ≥13 years, by location of residence — National HIV Surveillance System, United States and Puerto Rico, 2010

	HIV infection attributed to male-to-male sexual contact			Total diagnoses	
Location of residence	**Reported no.§**	**Estimated no.¶**	**% of total**	**Reported no.§**	**Estimated no.¶**
Minneapolis-St. Paul–Bloomington, Minnesota, Wisconsin	169	236	69.5	307	340
Modesto, California	12	16	78.8	17	20
Nashville–Davidson–Murfreesboro, Tennessee	158	234	71.5	298	327
New Haven–Milford, Connecticut	34	51	37.7	104	136
New Orleans–Metairie–Kenner, Louisiana	152	244	55.8	404	437
New York, New York, New Jersey, Pennsylvania	2,013	3,347	54.5	4,669	6,140
Ogden–Clearfield, Utah	10	11	83.0	12	13
Oklahoma City, Oklahoma	67	98	62.4	143	157
Omaha–Council Bluffs, Nebraska, Iowa	37	54	60.2	81	90
Orlando, Florida	310	407	59.8	622	682
Oxnard–Thousand Oaks–Ventura, California	25	34	78.2	35	43
Palm Bay–Melbourne–Titusville, Florida	35	44	53.6	75	82
Philadelphia, Pennsylvania, New Jersey, Delaware, Maryland	484	—	—	1,192	—
Phoenix–Mesa–Scottsdale, Arizona	300	361	73.9	453	489
Pittsburgh, Pennsylvania	92	112	67.3	153	166
Portland–South Portland, Maine	16	22	61.9	30	36
Portland–Vancouver–Beaverton, Oregon, Washington	131	158	72.5	198	218
Poughkeepsie–Newburgh–Middletown, New York	20	32	34.4	70	94
Providence–New Bedford–Fall River, Rhode Island, Massachusetts	67	89	60.5	151	147
Provo–Orem, Utah	4	4	66.8	6	7
Raleigh–Cary, North Carolina	114	143	69.3	190	206
Richmond, Virginia	105	147	56.3	217	260
Riverside–San Bernardino–Ontario, California	242	319	71.5	366	447
Rochester, New York	71	105	67.3	118	156
Sacramento–Arden–Arcade–Roseville, California	106	140	59.6	191	234
St. Louis, Missouri, Illinois	202	294	68.3	380	430
Salt Lake City, Utah	32	36	59.0	57	62
San Antonio, Texas	159	207	69.5	273	298
San Diego–Carlsbad–San Marcos, California	372	469	74.5	515	630
San Francisco, California	553	729	70.4	873	1,035
San Jose–Sunnyvale–Santa Clara, California	89	128	70.8	144	180
San Juan–Caguas–Guaynabo, Puerto Rico	138	267	34.3	475	778
Scranton–Wilkes-Barre, Pennsylvania	11	12	34.9	30	34
Seattle, Washington	267	328	74.9	401	438
Springfield, Massachusetts	21	—	—	72	—
Stockton, California	39	51	47.3	87	107
Syracuse, New York	26	38	58.0	49	65
Tampa–St. Petersburg–Clearwater, Florida	317	404	63.6	578	635
Toledo, Ohio	17	24	63.6	35	38
Tucson, Arizona	57	77	73.1	96	105
Tulsa, Oklahoma	46	59	69.8	79	84
Virginia Beach–Norfolk–Newport News, Virginia, North Carolina	131	241	60.4	335	400
Washington, District of Columbia, Virginia, Maryland, West Virginia	589	—	—	1,715	—
Wichita, Kansas	30	35	63.5	49	55
Worcester, Massachusetts	13	—	—	61	—
Youngstown–Warren–Boardman, Ohio, Pennsylvania	9	23	58.7	37	40
Total	**16,898**	**23,559**	**62.1**	**35,200**	**37,934**

Abbreviations: HIV = human immunodeficiency virus; MSAs = metropolitan statistical areas.

* Estimates result from statistical adjustment that accounted for reporting delays, but not for incomplete reporting. Cases without reported risk factors were assigned transmission categories using multiple imputation methods.

† Includes all new diagnoses of HIV infection, regardless of stage of disease at diagnosis.

§ Includes reported numbers from 103 MSAs, 263 smaller metropolitan areas, and 198 nonmetropolitan areas.

¶ Includes estimated numbers only from 96 MSAs, 258 smaller metropolitan areas, and 198 nonmetropolitan areas located in states that had implemented confidential name-based HIV infection reporting by at least January 2007 and had reported these data to CDC since at least June 2007. Reported and estimated numbers smaller than 12 or percentages based on estimated numbers smaller than 12 are considered unreliable and should be interpreted with caution.

What is already known on this topic?

In 2009, an estimated 64% of new human immunodeficiency virus (HIV) infections were attributed to male-to-male sexual contact.

What is added by this report?

Of the estimated 28,851 infections in 2010 attributed to male-to-male sexual contact, 23,559 (81.7%) were in metropolitan statistical areas (MSAs) with populations of 500,000 or more in the United States and Puerto Rico, and 11,410 (48.4%) of those infections were in seven of the MSAs assessed. The four MSAs with the greatest percentages of HIV infections attributed to male-to-male sexual contact were in California.

What are the implications for public health practice?

Effective interventions that could reduce the number of HIV infections in areas where men who have sex with men are at greater risk for HIV infection and transmission by male-to-male contact include HIV testing, HIV care and treatment, and risk-reduction counseling.

percentages of HIV infection attributed to specific categories is unknown. Adjusted estimates should be interpreted with caution, particularly when numbers are small (i.e., less than 12).

CDC's High-Impact HIV Prevention¶ program relies on geographic targeting of resources and proven, cost-effective interventions to achieve the goals of the National HIV/AIDS Strategy, which include reducing the number of persons who become infected with HIV, increasing access to care and optimizing health outcomes for persons living with HIV, and reducing HIV-related health disparities.** The results of this analysis underscore the uneven geographic distribution of the burden of HIV infection in MSAs in the United States and Puerto Rico. The geographic disparity in HIV burden also indicates a need to target MSM who bear a large percentage of the burden of infection in areas where persons are at greatest risk for HIV transmission. Health departments, community-based organizations, and other agencies can use these results in planning interventions in their areas to reduce HIV infection and transmission.

¶ Additional information available at http://www.cdc.gov/hiv/strategy/hihp/pdf/dhap_policy_maker.pdf.

** Additional information available at http://www.whitehouse.gov/administration/eop/onap/nhas.

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Take-Home Lead Exposure Among Children with Relatives Employed at a Battery Recycling Facility — Puerto Rico, 2011

The recycling of lead has increased during the past 20 years, with more workers and their families potentially being exposed to lead from recycling facilities, including facilities that recycle lead-acid batteries. During November 2010–May 2011, four voluntary blood lead screening clinics for children of employees of a battery recycling facility in Puerto Rico were conducted. A total of 227 persons from 78 families had blood lead tests. Among 68 children aged <6 years, 11 (16%) had confirmed blood lead levels (BLLs) ≥10 µg/dL, the BLL at which CDC recommended individual intervention to reduce BLLs in 2010 (*1*), and 39 (57%) children aged <6 years had venous or capillary BLLs ≥5 µg/dL, the reference value for elevated BLLs in children established by CDC in 2012 (*2*). To determine whether take-home lead exposure contributed to the children's BLLs of ≥10 µg/dL, vehicle and household environmental samples were collected and analyzed. Eighty-five percent of vehicle dust samples and 49% of home dust samples exceeded the U.S. Environmental Protection Agency (EPA) level of concern of ≥40 $\mu g/ft^2$ (3.7 $\mu g/m^2$). EPA began clean-up of employee homes and vehicles, focusing first on homes with children with BLLs ≥10 µg/dL. EPA also required that the company set up shower facilities, shoe washes, and clean changing areas at the battery recycling facility. Lastly, CDC assigned a case manager to provide education, environmental follow-up, and case management of all children with BLLs ≥5 µg/dL. On average, children's BLLs have decreased 9.9 µg/dL since being enrolled in case management.

The Puerto Rico Department of Health (PRDOH), CDC, and EPA conducted a child blood lead prevalence survey in Puerto Rico during 2010. Head Start, an early education program for low-income children, requires blood lead screening of all enrollees (*3*). As part of this survey, blood lead testing data from the island-wide Head Start program were reviewed. Three children with BLLs ≥10 µg/dL were found to have a common link: a relative employed by a local battery recycling facility. At the beginning of the investigation, approximately 150 persons were employed at this facility, the only known legal battery recycling smelter in the Caribbean. To learn whether additional children were affected, PRDOH and CDC conducted a voluntary blood lead screening clinic in November 2010 for the employees' children aged ≤7 years. Among 14 children tested, five had BLLs ≥10 µg/dL, and five had BLLs 5–9 µg/dL.

Three additional blood lead screening clinics for workers and their families were conducted during April–May 2011. Workers were invited to participate in the screening clinics via company announcements included with their paychecks. A total of 227 persons (approximately half of all company employees) from 78 families had blood lead tests; 126 were capillary specimens from children, and 101 were venous specimens from adults. All blood specimens initially were tested using the LeadCare II (Magellan Diagnostics; Billerica, Massachusetts) portable blood lead analyzer. Confirmatory venous blood specimens were collected from participants with capillary BLLs ≥10 µg/dL and were analyzed by a CDC laboratory using inductively coupled plasma mass spectroscopy.

Among 68 children aged <6 years, 11 (16%) had confirmed BLLs ≥10 µg/dL, and 28 (41%) had BLLs 5–9 µg/dL (Figure). Additionally, four (7%) of 56 children aged 6–17 years, and 44 (42%) of 105 adults aged 18–68 years also had confirmed BLLs ≥10 µg/dL. Among the children aged <6 years with BLLs ≥10 µg/dL, one (9%) had a BLL ≥25 µg/dL. Six pregnant and/or lactating women also were tested. All had venous BLLs ≤1.8 µg/dL.

Forty-eight (46%) adults tested in the April–May screening clinics were employees at the battery recycling facility. Forty-seven of the 48 employees tested were male. The most common job description was smelter worker (19 [40%]), average employee age was 30 years (range: 21–40 years), and average length of employment was 28 months (range: 1–96 months). The average employee BLL was 30.7 µg/dL (range: 3.2–72.0 µg/dL), and 33 (69%) had a BLL ≥25 on their initial test (Table 1). Employees continue to have blood lead testing by the company and by their private health-care providers.

PRDOH and CDC notified EPA of potential for take-home lead exposure among children of workers of the facility. EPA initiated investigations into the recycling, transportation, treatment, storage, and disposal of lead under various authorities, including the Resource Conservation and Recovery Act, the Comprehensive Environmental Response, Compensation, and Liability Act (also known as Superfund), the Clean Air Act, and the Emergency Planning and Community Right to Know Act. These acts give EPA various authorities to protect human health and the environment.

To establish whether take-home lead exposure contributed to children's BLLs ≥10 µg/dL, EPA collected and analyzed household environmental samples for lead. Lead levels exceeding the EPA level of concern on wipe samples were common in employee homes and vehicles. Forty-eight employee homes and 43 associated vehicles were initially tested for lead beginning in April 2011. Lead in all 15 tap water samples collected in

FIGURE. Blood lead levels (BLLs) among children aged <6 years from battery recycling employee families tested for blood lead (N = 68), by age group — Puerto Rico, April and May 2011

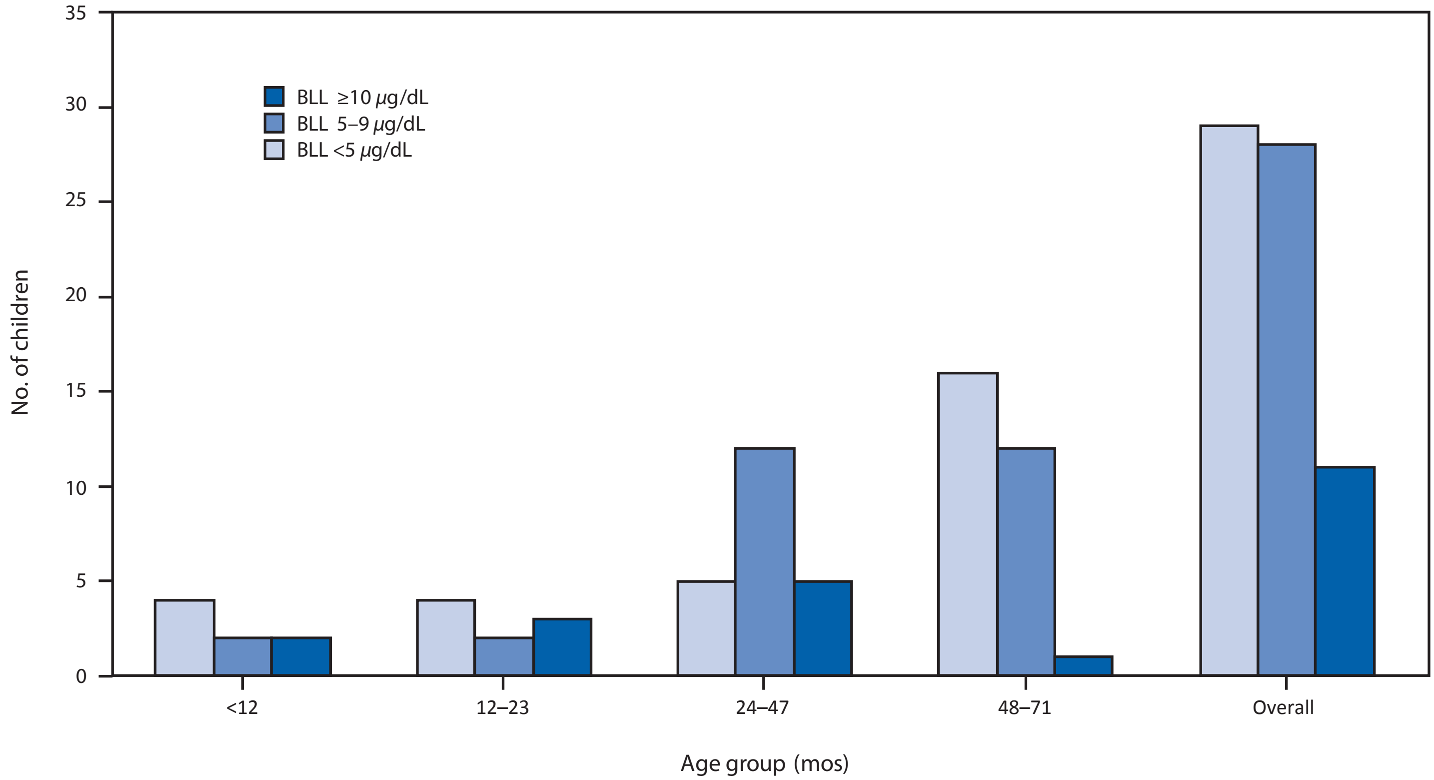

TABLE 1. Number and percentage of battery recycling employees initially tested for blood lead, by selected characteristics — Puerto Rico, April and May 2011

Job type	Employees No.	(%)	Average age (range) (yrs)	Average no. of months on job (range)	Average blood lead level on first test (range) (µg/dL)
Administration	1	(2)	36 (36)	84 —	4.3 (4.3)
Driver	1	(2)	27 (27)	60 —	37.7 (37.7)
Electrician	3	(6)	26 (25–26)	33 (2–60)	27.7 (14.5–40.9)
Engineer	2	(4)	29 (26–32)	19 (1–36)	20.7 (9.5–31.9)
Ingot maker	6	(13)	27 (24–31)	18 (3–60)	37.0 (22.2–53.1)
Laboratorial	1	(2)	34 (34)	18 —	19.5 (19.5)
Maintenance	1	(2)	25 (25)	2 —	24.6 (24.6)
Mechanic	4	(8)	28 (21–36)	48 (12–96)	29.1 (15.6–49.2)
Shredder	7	(15)	32 (23–39)	22 (5–72)	37.7 (11.1–57.1)
Smelter	19	(40)	31 (23–40)	30 (1–72)	30.8 (3.2–72.0)
Solderer	1	(2)	30 (30)	5 —	25.1 (25.1)
Treatment plant	2	(4)	30 (25–35)	7 (6–8)	26.5 (19.9–33.1)
Total	**48**	**(100)**	**30 (21–40)**	**28 (1–96)**	**30.7 (3.2–72.0)**

the homes was present at values below the EPA action level of <15 parts per billion. Eighty-five percent (136 of 159) of vehicle dust samples and 49% (209 of 428) of home dust samples exceeded the EPA level of concern (≥40 µg/ft^2) (Table 2). In comparison, a study of dust floor composite samples collected during an island-wide, cross-sectional blood lead prevalence study in 2010 found only one (0.4%) of 235 households had a lead level exceeding the EPA level of concern on wipe samples (CDC, unpublished data, 2010). The high proportion of dust samples from employee vehicles and homes with elevated lead levels suggests that lead brought home by employees caused elevated BLLs among family members. Comparing the mean dust lead level in 18 households with a total of 24 children aged <6 years with BLLs ≥5 µg/dL with the mean dust lead level in 16 households with a total of 18 children aged <6 years with BLLs <5 µg/dL showed that the mean dust lead level in the 18 households was 179.2 µg/ft^2, whereas the level in the 16 houses was 48.6 µg/ft^2 ($t=-3.00$, $p=0.007$).

The initial findings were shared with the facility and employees during early 2011. Additional current and former employees sought or were contacted by EPA for lead testing of homes and vehicles. EPA began clean-up of employee homes and vehicles during May 2011, focusing first on homes with children with BLLs ≥10 µg/dL. As of October 30, 2012, EPA staff members and contractors had sampled 188 current and former employee homes and 268 vehicles. Of those homes and vehicles requiring decontamination, 147 (78%) homes and 148 (55%) vehicles

TABLE 2. Lead testing results for dust wipe and vacuum samples from vehicles and households of battery recycling employees, by selected characteristics — Puerto Rico, April and May 2011

Sample type	No. of samples	Range of lead (μg/ft^2)	Samples with lead ≥40 μg/ft^2 No.	(%)	Average lead (μg/ft^2)
Vehicles (N = 30)					
Child car seat	14	12.5–924.4	10	(71.4)	207.5
Driver side carpet/floor	60	34.8–780,385.5	59	(98.3)	92,912.7
Driver side dashboard	59	4.1–2852.1	44	(74.6)	368.9
Driver side seat or rear seat	24	9.29–65,961.2	21	(87.5)	13,456.8
Passenger side seat/floor	2	61.8–236.9	2	(100.0)	149.3
Total vehicle samples	**159**	**4.1–780,385.5**	**136**	**(85.5)**	**37,249.6**
Households (N = 48)					
Bathroom mat or towel	23	13.4–2,494.5	19	(82.6)	374.8
Bed/Mattress	58	3.3–3,511.7	37	(63.8)	320.6
Couch	46	5.1–1,885.9	32	(69.6)	335.1
Dresser/Night stand	20	2.3–64.1	4	(20.0)	23.6
Door mat	20	10.2–5,899.3	19	(95.0)	1,010.8
Crib/Playpen	11	7.0–90.6	5	(45.5)	41.8
Floor/Tile floor	126	2.8–261.5	48	(38.1)	46.9
Rug	19	5.1–15,700.6	15	(78.9)	2,320.5
Shelf	12	3.3–62.2	1	(8.3)	22.5
TV stand/Top of TV	10	5.1–181.6	6	(60.0)	82.2
Table	8	2.8–66.4	2	(25.0)	24.1
Top of refrigerator	46	2.8–1,068.4	18	(39.1)	91.7
Top of washing machine	29	2.3–108.2	3	(10.3)	22.2
Total household samples	**428**	**2.3–15,700.6**	**209**	**(48.8)**	**280.2**

had been decontaminated and cleared. Additional testing and decontamination is ongoing and expected to continue throughout 2012.

Reported by

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Editorial Note

Lead is easily recycled and can be recycled repeatedly. If recycled and refined in appropriate facilities, the recycled product is as pure as lead produced from ore. In the United States, approximately 70% of lead is derived from recycled materials (mostly scrap lead-acid batteries), and 80% of the recycled lead produced is used in lead-acid batteries (*4*). The cost of lead produced from ore has increased because of rising global demand. In 1999, lead cost $963 per metric ton. During 2009, lead cost $1,920 per metric ton (*5*). Because the production of recycled lead has increased, more workers and their families are potentially exposed to lead from recycling facilities than in the past. As of January 2012, a total of 15 recycled lead smelters are operating in the United States and Puerto Rico (*6*).

Lead is a well-documented neurotoxin. In children, lead exposure is associated with decreased intelligence, impaired neurobehavioral development, attention deficit/hyperactivity disorder, anemia, increased dental caries, decreased growth, and impaired hearing (*7*). Recent research suggests that adverse health effects of BLLs <10 μg/dL in children extend beyond cognitive function to include cardiovascular, immunologic, and endocrine effects. No minimal blood lead threshold for adverse effects has been identified (*2,7*). In January 2012, CDC's Advisory Committee on Childhood Lead Poisoning Prevention recommended that CDC eliminate the use of the term "blood lead level of concern" (*2*). The committee recommended that a reference value based on the 97.5th percentile of the National Health and Nutrition Examination Survey–generated BLL distribution in children aged 1–5 years (currently 5 μg/dL) be used to identify children with elevated BLLs. In this investigation, 39 (57%) children aged <6 years had venous or capillary BLLs ≥5 μg/dL. In adults, moderate and low levels of exposure can increase blood pressure, decrease fertility, be nephrotoxic, cause cognitive dysfunction and adverse female reproductive and birth outcomes, and possibly have a carcinogenic effect (*7,8*).

Elevated BLLs among children caused by lead dust from battery recycling brought home by employees have been reported previously (*9*). One study reported that 42% of 91 children aged <6 years whose parents worked at a lead recycling smelter in Memphis, Tennessee, had BLLs ≥25 μg/dL (*9*). The apparent source of exposure was lead dust carried home on work clothing. A more recent study found that six children were exposed to lead dust in family vehicles and on child car seats (*10*). The sources of the lead dust were believed to be household contacts who worked in high-risk lead exposure occupations.

In the current investigation, lead brought into the home via contaminated work clothing and vehicles are the likely high dose sources of lead exposure. The percentage of children aged

What is already known on this topic?

Lead exposure in children is associated with decreased intelligence, impaired neurobehavioral development, attention deficit/hyperactivity disorder, anemia, increased dental caries, decreased growth, and impaired hearing. The recycling of lead has increased during the past 20 years, with more workers and their families being potentially exposed to lead from recycling facilities.

What is added by this report?

Among employees of a lead recycling facility in Puerto Rico who agreed to be tested, the average blood lead level (BLL) was 30.7 µg/dL (range: 3.2–72.0 µg/dL), and 33 (69%) had BLLs ≥25 on their initial test. Among employees' children aged <6 years, 16% had confirmed BLLs ≥10 µg/dL, the BLL at which CDC recommends individual interventions to reduce BLL. Dust wipe and vacuum sampling indicated that employees were inadvertently contaminating their vehicles and homes with lead dust.

What are the implications for public health practice?

Employees of lead recycling facilities and their families are at risk for lead exposure. Surveillance for lead exposures, interventions that minimize the transport of lead dust out of lead processing facilities, and proper exposure controls within the occupational environment are needed.

<6 years with BLLs ≥10 µg/dL found in this Puerto Rican community is markedly higher than that found during a population-based, cross-sectional blood lead prevalence study conducted during 2010. In that study, 440 children aged <7 years were tested for blood lead, and only three (0.7%) children had BLLs ≥10 µg/dL (CDC, unpublished data, 2010).

The findings in this report are subject to at least two limitations. First, environmental sampling is ongoing and not completed for all children with BLLs ≥5 µg/dL. Second, the persons tested were volunteers and might not be representative of all employees and their families.

To limit further lead contamination of employees' homes and vehicles, EPA required that the company set up shower facilities, shoe washes, and clean changing areas at the battery recycling facility. CDC, with support from PRDOH and EPA, has assigned a case manager to provide education, environmental follow-up, and case management of all children with BLLs ≥5 µg/dL. During 2012, CDC provided funding to state and local health departments to help ensure that infants and children with elevated BLLs receive medical and environmental follow-up. Outreach and education at the facility also has been provided by staff members of the PRDOH, CDC, and the Agency for Toxic Substances and Disease Registry. Lastly, CDC's National Institute for Occupational Safety and Health has been working closely with EPA and has begun a health hazard evaluation at the facility to assess employee exposure to lead.

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Vital Signs: HIV Infection, Testing, and Risk Behaviors Among Youths — United States

On November 27, 2012, this report was posted as an MMWR *Early Release on the* MMWR *website (http://www.cdc.gov/mmwr).*

Abstract

Background: In 2009, 6.7% of the estimated 1.1 million persons living with human immunodeficiency virus (HIV) infection in the United States were youths (defined in this report as persons aged 13–24 years); more than half of youths with HIV (59.5%) were unaware of their infection.

Methods: CDC used National HIV Surveillance System data to estimate, among youths, prevalence rates of diagnosed HIV infection in 2009 and the number of new infections (incidence) in 2010. To assess the prevalence of risk factors and HIV testing among youths, CDC used the 2009 and 2011 Youth Risk Behavior Surveillance System for 9th–12th grade students and the 2010 National Health Interview Survey (NHIS) for persons 18–24 years.

Results: Prevalence of diagnosed HIV was 69.5 per 100,000 youths at the end of 2009. Youths accounted for 12,200 (25.7%) new HIV infections in 2010. Of these, 7,000 (57.4%) were among blacks/African Americans, 2,390 (19.6%) among Hispanics/Latinos, and 2,380 (19.5%) among whites; 8,800 (72.1%) were attributed to male-to-male sexual contact. The percentage of youths tested for HIV overall was 12.9% among high school students and 34.5% among those aged 18–24 years; it was lower among males than females, and lower among whites and Hispanics/Latinos than blacks/African Americans.

Conclusions: A disproportionate number of new HIV infections occurs among youths, especially blacks/African Americans, Hispanics/Latinos, and men who have sex with men (MSM). The percentage of youths tested for HIV, however, was low, particularly among males.

Implications for Public Health: More effort is needed to provide effective school- and community-based interventions to ensure all youths, particularly MSM, have the knowledge, skills, resources, and support necessary to avoid HIV infection. Health-care providers and public health agencies should ensure that youths are tested for HIV and have access to sexual health services, and that HIV-positive youths receive ongoing health-care and prevention services.

Introduction

The risk for acquiring human immunodeficiency virus (HIV) infection during adolescence and early adulthood starts with initiation of sexual behavior or injection drug use, and initiation of contributing behaviors such as use of alcohol and other drugs. The prevalence of HIV in potential sex partners, the percentage of HIV-infected persons unaware of their status, and the frequency of risky sexual behaviors and injection drug use contribute to the level of risk. In 2009, youths (defined in this report as persons aged 13–24 years), who represented 21% of the U.S. population, comprised 6.7% of persons living with HIV. More than half (59.5%) were unaware of their infection, the highest for any age group (*1*). All persons need to understand the threat of HIV and how to prevent it (*2*). Youths, particularly those at highest risk, need effective school-based, school-linked, and community-based interventions (*3*) that make them aware of their risk for HIV and help delay initiation of sexual activity, increase condom use for those who are sexually active, and decrease other behaviors, such as alcohol and drug use, that contribute to HIV risk. This report describes, among youths, 1) rates of those living with a diagnosis of HIV infection at the end of 2009, 2) the estimated number of new HIV infections in 2010, 3) the percentage that have been tested for HIV, and 4) the percentage that engage in selected risk behaviors.

Methods

To calculate prevalence per 100,000 by state among persons aged 13–24 years living with diagnosed HIV infection at the end of 2009, and the number of new HIV infections among youths by sex, race/ethnicity, and transmission category* in 2010, data from the National HIV Surveillance System were used.† To describe HIV testing and risk behaviors for persons aged 13–24 years, two data sources were required. First, two components of the Youth Risk Behavior Surveillance System were analyzed. The 2011 National Youth Risk Behavior Survey (YRBS) (*4*) was used to estimate percentages of 9th–12th grade students (predominantly aged 14–17 years) who had ever been tested for HIV (excluding tests performed for blood donations), overall and by sex, race/ethnicity, and sexual behavior.§ To describe HIV risk behaviors among male and female students in grades 9–12 based on the sex of their sexual contacts, CDC combined additional YRBS data from 2009 and 2011 collected by 12 states and nine large urban school districts.¶ Approximately half (48.9%) of all persons aged 13–24 years living with an HIV diagnosis and reported to the National HIV Surveillance System live in these 12 states and nine cities. T-tests were used to test for statistically significant differences ($p<0.05$) between subgroups. Second, 2010 National Health Interview Survey (NHIS) data were used to calculate the percentages of persons aged 18–24 years who had ever been tested for HIV (excluding tests performed for blood donations) overall and by sex, race/ethnicity, and HIV risk factor.**

* Transmission category is the term used to summarize a person's HIV risk factors; the summary classification results from selecting, from the presumed hierarchical order of probability, the one risk factor most likely to have been responsible for transmission. For surveillance purposes, a single transmission category is assigned to each diagnosis of HIV infection. Persons with more than one reported risk factor for HIV infection are classified in the transmission category listed first in a hierarchy of transmission categories based on their presumed order of probability. An exception is the category for male-to-male sexual contact and injection drug use; this group makes up a separate transmission category. Persons whose transmission category is classified as male-to-male sexual contact include males who ever had sexual contact with other males and males who ever had sexual contact with both males and females.

† Through HIV incidence surveillance, data on HIV testing and antiretroviral use history are used to calculate the probability that a person would have a test for HIV infection during a defined recency period, and these probabilities are used to assign a weight to each new diagnosis classified as a recent infection, using results of the serologic testing algorithm for recent HIV seroconversion. Weights are summed to determine the incidence of HIV infection in the 18 states and two cities that provide HIV incidence surveillance data. To extrapolate results to the entire United States, the ratio of the number of new HIV infections to the number of new HIV diagnoses in the areas providing data is applied to the number of new HIV diagnoses in the areas that did not contribute data.

§ The national YRBS used a three-stage cluster sample to obtain cross-sectional data representative of public and private school students in grades 9–12 in the 50 states and District of Columbia. The school response rate was 81%, the student response rate was 87%, and the overall response rate was 71%.

¶ These surveys used a two-stage cluster sample to obtain additional data representative of public school students in grade 9–12 in 11 states (Connecticut, Delaware, Florida, Hawaii, Illinois, Massachusetts, Michigan, New Hampshire, Rhode Island, Vermont, and Wisconsin) and nine large urban school districts (Boston, Chicago, Detroit, District of Columbia, Los Angeles, Milwaukee, New York City, San Diego, and Seattle) and public and private school students in grades 9–12 in one state (Ohio). The school response rates averaged 92%, the student response rates averaged 80%, and the overall response rates averaged 73%.

Results

At the end of 2009, the prevalence of persons aged 13–24 years living with an HIV diagnosis was 69.5 per 100,000, ranging by state from 2.3 to 562.8 per 100,000 population (Figure 1). Rates were higher in the South and Northeast compared with the West and Midwest.

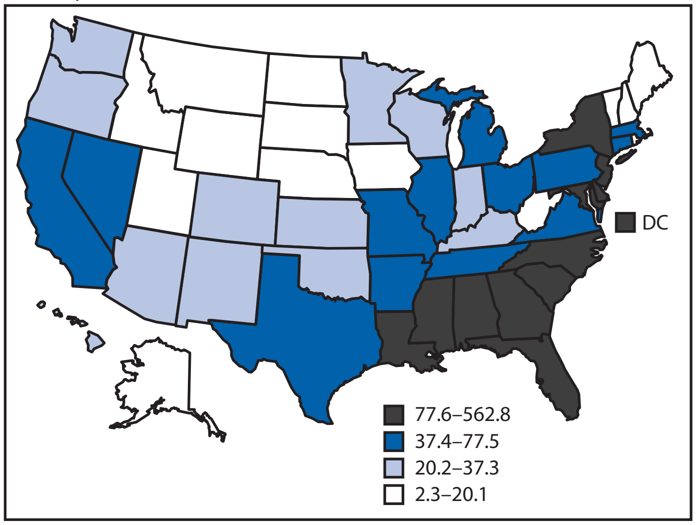
In 2010, of the estimated 47,500 new HIV infections, 12,200 (25.7%) were among youths (10,100 [82.8%] among males and 2,100 [17.2%] among females). An estimated 7,000 (57.4%) newly infected youths were blacks/African Americans (5,600 males and 1,400 females), 2,390 (19.6%) were Hispanics/Latinos (2,100 males and 290 females), and 2,380 (19.5%) were whites (2,100 males and 280 females) (Figure 2). By transmission category, 72.1% of all new HIV infections among youths were attributed to male-to-male sexual contact, 19.8% to heterosexual contact,†† 4.0% to injection drug use, and 3.7% to male-to-male sexual contact and injection drug use. Among females, 85.7% of infections were attributed to heterosexual contact and 12.9% to injection drug use. Among males, 87.1% of infections were attributed to male-to-male sexual contact, 6.0% to heterosexual contact, 2.2% to injection drug use, and 4.5% to male-to-male sexual contact and injection drug use. Of the 8,800 new infections among youths attributed to male-to-male sexual contact, 4,800 (54.4%) were among blacks/African Americans, 1,900 (21.6%) among Hispanics/Latinos, and 1,800 (20.5%) among whites.

In the 12 states and nine large urban school districts, more risk behaviors were reported by male high school students who had sexual contact with males (i.e., males who had sexual contact with males only or with both males and females [MSM]) compared with males who had sexual contact only with females (Table 1). Among high school students who had had sexual contact, MSM were significantly more likely than other males to have had sexual intercourse with four or more persons during their lifetime (39.4% compared with 26.9%), and to have ever injected any illegal drug (20.4% compared with 2.9%), and were significantly less likely to report having ever been taught in school about acquired immunodeficiency syndrome (AIDS) or HIV infection (74.6%

** NHIS is a nationally representative, annual, cross-sectional, multistage probability sample household survey that provides prevalence estimates for a broad range of health measures for the civilian, noninstitutionalized U.S. population, based on in-person interviews with a nationally representative sample of adults aged ≥18 years. This report presents NHIS data for adults aged 18–24 years living in the 50 states and District of Columbia. The final response rate for the adult sample person component was calculated as 60.8%.

†† Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.

FIGURE 1. Prevalence rates of persons aged 13–24 years living with a diagnosis of HIV infection* — National HIV Surveillance System, United States, year-end 2009



Abbreviation: HIV = human immunodeficiency virus.

* Prevalence rates are per 100,000 population and are not adjusted for reporting delays. Prevalences are categorized into quartiles. Overall prevalence rate: 69.5 per 100,000.

compared with 86.3%). Currently sexually active[§§] MSM were significantly more likely than currently sexually active males who had sexual contact only with females to have drunk alcohol or used drugs before last sexual intercourse (38.5% compared with 24.3%) and were significantly less likely to have used a condom during last sexual intercourse (44.3% compared with 70.2%).

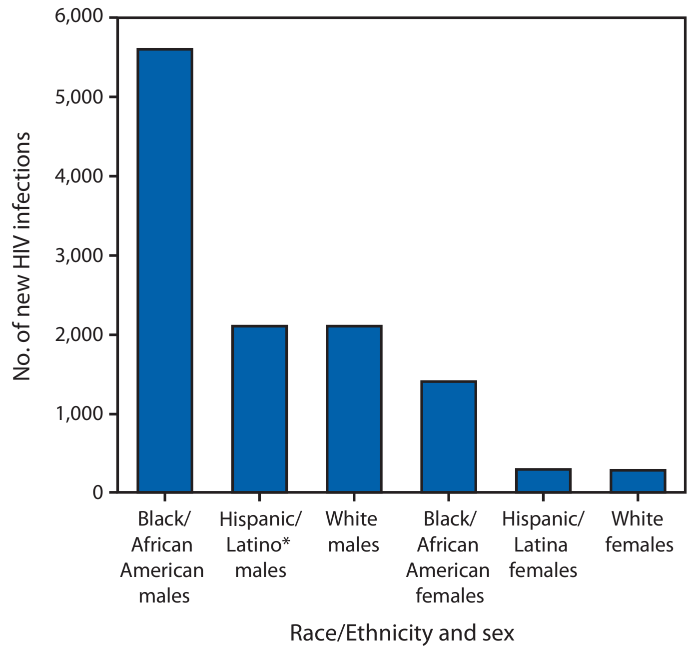
In 2011, 12.9% of all 9th–12th grade students had been tested for HIV (Table 2). Of those who ever had sexual intercourse (49.2% of male and 45.6% of female high school students), 22.2% had been tested for HIV. Female students (27.2%) were significantly more likely than male students (17.6%), and black/African American students (32.0%) were significantly more likely than Hispanic/Latino (20.1%) or white (19.6%) students to have been tested for HIV. In 2010, 34.5% of persons aged 18–24 years had ever been tested for HIV (Table 3). Testing among this age group also was higher among females (45.0%) compared with males (24.1%), and higher among blacks/African Americans (53.3%) compared with Hispanics/Latinos (36.2%) or whites (29.8%).

Conclusions and Comment

Based on the most recent data available from 2009 and 2010, youths represent 6.7% of persons living with HIV in the United States and account for 25.7% of new HIV infections. Of new HIV infections among youths, 45.9% were among black/African American males, the majority of which were attributed to male-to-male sexual contact. Nationwide, the percentage of youths who had ever been tested for HIV was low compared with other age groups (*1*): 12.9% among high school students (22.2% among those who ever had sexual intercourse) and 34.5% among persons aged 18–24 years.

The higher HIV prevalence among blacks/African Americans overall (nearly three times higher than among Hispanics/Latinos and nearly eight times higher than among whites [*1*]) and MSM overall (nearly 40 times higher than other men [*5*]) contributes to the disproportionate number of new HIV infections among black/African American youths and young MSM. Because of this disparity, black/African American youths are at higher risk for infection even with similar levels of risk behaviors (*6*). Other research has found that among young MSM, other factors such as stigma, discrimination (*7*), less condom use, more alcohol and drug use, and having sex with older partners (*8*) contribute to even higher risk for HIV acquisition. This analysis also found that young MSM were significantly less likely to use condoms during last sexual intercourse, more likely to drink alcohol or use drugs before last sexual intercourse, and more likely to have four or more partners during their lifetime compared with young men who had sexual intercourse only with females. These behaviors are associated with substantial risk for infection. In one study among MSM, the attributable risk for new HIV infection

FIGURE 2. Number of new HIV infections among youths aged 13–24 years, by sex and race/ethnicity — United States, 2010



Abbreviation: HIV = human immunodeficiency virus.

* Hispanics/Latinos might be of any race.

§§ Had sexual intercourse with at least one person during the 3 months before the survey.

TABLE 1. Percentage of male high school students* who reported HIV-related risk behaviors, by sex of sexual contacts, and female high school students* who reported HIV-related risk behaviors — state and local Youth Risk Behavior Surveys conducted in 12 states† and nine large urban school districts,§ 2009–2011

		Male high school students					
		Who had sexual contact with females only		Who had sexual contact with males only or both males and females		Female high school students who had sexual contact	
HIV-related risk behavior	Race/Ethnicity	%	(95% CI)	%	(95% CI)	%	(95% CI)
Sexual intercourse with four or more persons during lifetime	Black/African American	45.1	(40.9–49.3)	43.3	(33.4–53.7)	24.1	(21.7–26.7)
	Hispanic/Latino¶	30.5	(28.5–32.7)	53.3**	(45.6–60.8)	16.0	(14.3–17.8)
	White	19.5	(17.5–21.7)	29.5**	(22.8–37.3)	17.5	(15.6–19.7)
	Total	**26.9**	**(25.5–28.5)**	**39.4****	**(34.5–44.4)**	**18.7**	**(17.3–20.1)**
Ever injected illegal drugs	Black/African American	2.1	(1.4–3.1)	22.2**	(13.9–33.4)	3.6	(2.6–5.2)
	Hispanic/Latino	5.8	(4.5–7.4)	26.8**	(20.3–34.5)	3.2	(2.3–4.4)
	White	2.1	(1.5–2.8)	13.9**	(8.4–22.3)	2.8	(1.5 –5.3)
	Total	**2.9**	**(2.5–3.5)**	**20.4****	**(15.9–25.8)**	**3.2**	**(2.3–4.5)**
Drank alcohol or used drugs before last sexual intercourse††	Black/African American	17.6	(14.9–20.6)	22.2	(12.4–36.7)	13.4	(11.2–16.0)
	Hispanic/Latino	27.2	(24.4–30.2)	64.3**	(54.4–73.1)	16.6	(14.5–19.0)
	White	25.4	(23.0–27.8)	30.2	(23.0–38.5)	16.5	(14.7–18.4)
	Total	**24.3**	**(22.7–25.8)**	**38.5****	**(32.8–44.6)**	**16.0**	**(14.8–17.3)**
Condom use at last sexual intercourse††	Black/African American	75.3	(72.2–78.2)	55.1**	(42.1–67.4)	59.3	(55.5–63.0)
	Hispanic/Latino	67.4	(64.7–69.9)	33.0**	(23.9–43.5)	53.2	(50.2–56.1)
	White	69.2	(67.1–71.3)	48.7**	(40.1–57.4)	57.0	(55.1–58.8)
	Total	**70.2**	**(68.7–71.6)**	**44.3****	**(39.0–49.7)**	**56.6**	**(55.1–58.0)**
Ever taught in school about AIDS or HIV infection	Black/African American	82.5	(80.1–84.7)	73.0	(62.1–81.6)	86.2	(84.0–88.2)
	Hispanic/Latino	83.5	(81.7–85.1)	62.0**	(54.8–68.8)	84.9	(83.2–86.5)
	White	89.2	(88.0–90.2)	84.9	(80.1–88.7)	89.8	(88.6–90.8)
	Total	**86.3**	**(85.4–87.2)**	**74.6****	**(70.7–78.1)**	**88.1**	**(87.2–88.9)**

Abbreviations: HIV = human immunodeficiency virus; CI = confidence interval; AIDS = acquired immunodeficiency syndrome.
* Who ever had sexual contact.
† Connecticut, Delaware, Florida, Hawaii, Illinois, Massachusetts, Michigan, New Hampshire, Ohio, Rhode Island, Vermont, and Wisconsin.
§ Boston, Chicago, Detroit, District of Columbia, Los Angeles, Milwaukee, New York City, San Diego, and Seattle.
¶ Hispanics/Latinos might be of any race.
** The percentage for male students who had sexual contact with females only is significantly different ($p<0.05$) than the percentage for male students who had sexual contact with males only or with both males and females.
†† Among students who had sexual intercourse with at least one person during the 3 months before the survey.

TABLE 2. Percentage of high school students who have ever been tested for HIV,* by sex, race/ethnicity, and ever having had sexual intercourse — National Youth Risk Behavior Survey, United States, 2011

	Males		Females		Total	
Characteristic	%	(95% CI)	%	(95% CI)	%	(95% CI)
Total	**11.2**	**(9.4–13.3)**	**14.6**	**(12.8–16.6)**	**12.9**	**(11.3–14.7)**
Race/Ethnicity						
Black/African American	23.7	(17.0–32.0)	24.2	(19.2–29.9)	**24.0**	**(18.9–29.9)**
Hispanic/Latino†	11.0	(8.8–13.7)	14.0	(12.0–16.2)	**12.5**	**(11.0–14.1)**
White	8.7	(7.3–10.4)	12.6	(10.7–14.8)	**10.6**	**(9.2–12.1)**
Ever had sexual intercourse						
No	4.8	(3.7–6.2)	4.2	(3.2–5.4)	**4.5**	**(3.6–5.5)**
Yes	17.6	(14.8–20.8)	27.2	(24.7–29.8)	**22.2**	**(19.7–24.8)**
Black/African American	29.1	(19.9–40.5)	35.2	(28.0–43.1)	**32.0**	**(24.5–40.5)**
Hispanic/Latino	15.9	(12.3–20.3)	25.2	(22.0–28.7)	**20.1**	**(17.4–23.2)**
White	14.2	(11.6–17.5)	25.4	(22.3–28.8)	**19.6**	**(17.1–22.4)**

Abbreviations: HIV = human immunodeficiency virus; CI = confidence interval.
* Excluding tests performed for blood donations.
† Hispanics/Latinos might be of any race.

was 29% for using alcohol or drugs before sex and 32% for having four to nine sex partners (*9*). Further, in a study of primarily young MSM, 75% of those with acute HIV infection reported sex under the influence of drugs or alcohol compared with 31% of HIV-uninfected MSM. Moreover, the risk for HIV infection doubled for MSM with a sex partner 5 years older and quadrupled with a sex partner 10 years older (*8*).

More than half (59.5%) of youths with HIV are unaware of their infection (*1*). Although the number of new HIV infections is highest among males, fewer males have been tested for HIV than females. Routine HIV testing as part of regular medical care is recommended by CDC for all persons aged 13–64 years (*10*) and by the American

TABLE 3. Percentage of persons aged 18–24 years who have ever been tested for HIV,* by sex, race/ethnicity, and HIV risk factors — National Health Interview Survey, United States, 2010

	Males		Females		Total	
Characteristic	**%**	**(95% CI)**	**%**	**(95% CI)**	**%**	**(95% CI)**
Total	**24.1**	**(21.3–26.9)**	**45.0**	**(41.6–48.5)**	**34.5**	**(32.2–36.8)**
Race/Ethnicity						
Black/African American	42.2	(33.5–50.9)	64.1	(56.0–72.2)	**53.3**	**(47.1–59.5)**
Hispanic/Latino†	23.7	(18.3–29.1)	49.8	(43.6–56.0)	**36.2**	**(32.2–40.3)**
White	19.4	(15.7–23.2)	40.2	(35.7–44.7)	**29.8**	**(26.7–32.9)**
HIV risk factors§						
No	23.0	(20.2–25.8)	44.6	(41.2–48.1)	**33.8**	**(31.5–36.2)**
Yes	53.4	(38.6–68.2)	67.6	(46.7–88.5)	**58.9**	**(46.9–71.0)**

Abbreviations: HIV = human immunodefiency virus; CI = confidence interval.
* Excluding tests performed for blood donations.
† Hispanics/Latinos might be of any race.
§ Three percent of persons aged 18–24 years indicated that at least one of the following statements was true for them, but not which applied to them: "You have hemophilia and have received clotting factor concentrations." "You are a man who has had sex with other men (even just one time)." "You have taken street drugs (even just one time)." You have traded sex for money or drugs (even just one time). "You have tested positive for HIV (the virus that causes AIDS)." or "You have had sex (even just one time) with someone who would answer 'yes' to any of these statements."

Academy of Pediatrics for all youths by age 16–18 years and all sexually active youths regardless of age (*11*). Better adherence to these guidelines, especially for males, is needed to increase early HIV diagnosis and facilitate treatment that improves health and reduces transmission.

Interventions for youths have been proven effective for delaying initiation of sexual activity, increasing condom use, and reducing other risk behaviors, such as drug and alcohol use.¶¶ The Community Preventive Services Task Force recommends risk reduction interventions in school and community settings to prevent HIV among adolescents (*3*). Individual- and group-level HIV prevention interventions provide knowledge, skill building, and increased motivation to adopt behaviors that protect against HIV infection, and some are designed specifically for youths at high risk for HIV.

For young MSM (those aged 18–29 years), "Mpowerment" is an effective community-level intervention that has been shown to reduce unprotected anal intercourse, the sexual behavior that carries the greatest risk for HIV transmission (*12*). However, additional individual- and group-level interventions specifically designed for young MSM, and young black/African American MSM in particular, are needed. Evidence-based behavioral HIV interventions for high risk youths can be adapted to address the unique needs of young MSM and to communicate the substantial risks associated with having sex with partners who are more likely to be infected, particularly those who are older.

Multicomponent school-based interventions, including classroom-based curricula and school-wide environmental changes, have been shown to decrease unprotected sex and increase condom use among youths (*3*). Policies can support these efforts by promoting in schools an inclusive environment for sexual minorities that reduces stigma and discrimination (*13*) and requiring evidence-based HIV prevention education (*3*) for all students. In addition, community organizations, schools, and health-care providers can establish procedures that reduce barriers and protect confidentiality (i.e., procedures that do not disclose information to unauthorized persons unless required under state law) for youths seeking sexual health services (*14*) and facilitate access to education and other HIV prevention services.

Early diagnosis and treatment can reduce HIV progression and prevent transmission, but youths are less likely to be tested, access care, remain in care, and achieve viral suppression (*15*). Youth-friendly, culturally competent, confidential, and convenient health services facilitate access to and retention in care.*** Comprehensive health services, including HIV/sexually transmitted infection screening, treatment, and prevention services, and adjunct services, such as mental health, drug and alcohol treatment, and housing assistance, are necessary for youths at highest risk of acquiring or transmitting HIV. Because young MSM often acquire HIV from older, HIV-positive partners (*8*), regular testing, care, and treatment for adult MSM also are essential to prevent HIV infections among youths.

Limitations of the estimates of new HIV infections have been described previously (*15*). In addition, the findings in this report are subject to at least three more limitations. First, YRBS data apply only to youths who attend school and therefore are not representative of all persons in this age group. Nationwide, in 2009, of persons aged 16–17 years, approximately 4% were not enrolled in a high school program and had not completed high school (*4*). Second, NHIS excludes active military personnel and those who live outside of households (e.g., persons who are incarcerated, in long-term–care institutions, or homeless), who might be at greater risk for HIV infection than persons in households. Finally, data from YRBS and NHIS are self-reported and subject to recall bias and potential underreporting of sensitive information, such as HIV risk factors and HIV testing.

To achieve the goals of the National HIV/AIDS Strategy for the United States (i.e., to reduce the number of persons who become infected with HIV and reduce disparities), public health agencies, in conjunction with families, educators, and health-care

¶¶ Additional information available at http://www.cdc.gov/hiv/topics/research/prs/subset-best-evidence-interventions.htm#link2.3.

*** Additional information available at http://whqlibdoc.who.int/publications/2009/9789241598859_eng.pdf.

Key Points

- Youths aged 13–24 years account for 7% of the estimated 1.1 million persons living with human immunodeficiency virus (HIV) infection in the United States.
- In 2010, 26% of estimated new HIV infections were among youths: 57% among blacks/African Americans, 20% among Hispanic/Latinos, and 20% among whites.
- Nearly 75% of the 12,200 new HIV infections among youths were attributable to male-to-male sexual contact.
- Only a low percentage of youths have been tested for HIV, and 60% of youths with HIV are unaware of their infection.
- Young males who have sex with males are at increased risk for HIV because of high rates of HIV in potential sex partners, and they are more likely to engage in HIV-related risk behaviors (e.g., unprotected sexual intercourse and injection drug use) than other male or female high school students.
- Additional information is available at http://www.cdc.gov/vitalsigns.

practitioners, must educate youths about HIV before they begin engaging in risk behaviors, especially young gay and bisexual males, particularly blacks/African Americans, who face a disproportionately higher risk (*2*). To delay the onset of sexual activity, increase condom use among those who are sexually active, and decrease injection drug use, multicomponent school- and community-based approaches that provide access to condoms, HIV testing and treatment, and behavioral interventions for those at highest risk are needed.

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Announcement

National Influenza Vaccination Week — December 2–8, 2012

To highlight the importance of annual influenza vaccination, and to foster greater use of influenza vaccine in the months of December, January, and beyond, the U.S. Department of Health and Human Services, CDC, and other agencies will be conducting educational and promotional activities during National Influenza Vaccination Week, December 2–8, 2012. As of mid-November, approximately 123 million doses of 2012–2013 seasonal influenza vaccine had been delivered to vaccination providers in the United States (*1*).

The Advisory Committee on Immunization Practices recommends influenza vaccination for persons aged ≥6 months (*2*). However, certain groups are at higher risk for influenza-related complications. These high-risk groups include children aged <5 years, but especially children aged <2 years; persons with certain chronic health conditions, such as heart disease, asthma, and diabetes; pregnant women; and adults aged ≥65 years. Health-care personnel also are at risk for acquiring influenza and transmitting it to their patients (*3*).

Posters, educational materials, and Internet tools for National Influenza Vaccination Week are available at http://www.cdc.gov/flu/freeresources and http://www.cdc.gov/flu/nivw/index.htm. Additional influenza information for health-care personnel and patients is available at http://www.cdc.gov/flu.

Information regarding National Influenza Vaccination Week partnership opportunities is available by e-mail (fluinbox@cdc.gov) and online (http://www.cdc.gov/flu/partners). Current influenza vaccination coverage estimates are available at http://www.cdc.gov/flu/fluvaxview.

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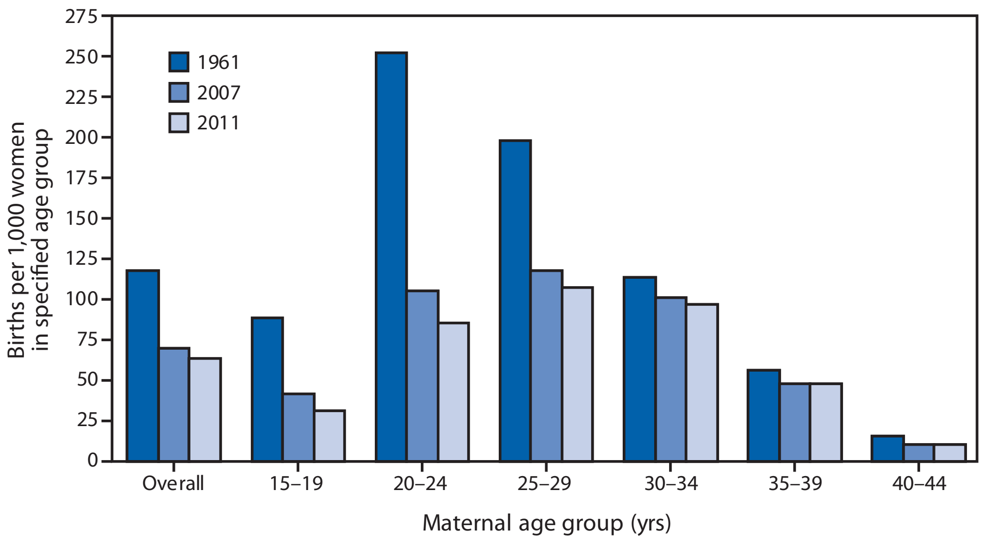
3. CDC. Immunization of health-care personnel: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2011;60(No. RR-7).

QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Birth Rates* Among Women Aged 15–44 Years, by Maternal Age Group — National Vital Statistics System, United States,† 1961, 2007, and 2011§



* Per 1,000 women in specified age group.
† U.S. residents only.
§ Data for 2011 are preliminary.

During 1961–2011, birth rates decreased for all women aged 15–44 years. During 2007–2011, birth rates decreased for all women aged <35 years, with rates for women aged 20–24 years (85.3 per 1,000 population) and those aged 15–19 years (31.3) reaching historic lows. The birth rate for women aged 25–29 years decreased 9% (to 107.2), and the rate for women aged 30–34 years decreased 6% (to 96.5). The birth rate for women aged 35–39 years was unchanged (47.2), and the rate for women aged 40–44 years increased 10% (to 10.3).

Sources: Hamilton BE, Martin JA, Ventura SJ. Births: Preliminary data for 2011. Natl Vital Stat Rep 2012;61(5).

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The *Morbidity and Mortality Weekly Report (MMWR)* Series is prepared by the Centers for Disease Control and Prevention (CDC) and is available free of charge in electronic format. To receive an electronic copy each week, visit *MMWR*'s free subscription page at *http://www.cdc.gov/mmwr/mmwrsubscribe.html*. Paper copy subscriptions are available through the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402; telephone 202-512-1800.

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U.S. Government Printing Office: 2012-523-043/02040 Region IV   ISSN: 0149-2195