Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report
Weekly / Vol. 65 / No. 24
June 24, 2016

National HIV Testing Day — June 27, 2016

National HIV Testing Day (http://www.cdc.gov/features/HIVtesting), June 27, highlights the importance of testing in detecting, treating, and preventing human immunodeficiency virus (HIV) infection. Awareness of HIV infection through HIV testing is the first step to prevention, health care, and social services that improve quality of life and length of survival (*1*). CDC's National HIV Behavioral Surveillance (NHBS) monitors behaviors among populations at risk for acquiring or transmitting HIV infection. In 2012, NHBS data indicated that 9% of persons who inject drugs tested positive for HIV, and among those persons, 36% were unaware of their infection before testing (*2*). In 2013, 2% of heterosexuals at increased risk for HIV infection tested positive for HIV, and among those, 44% were unaware of their infection before testing (*3*). In 2014, among 22% of men who have sex with men who tested HIV-positive, 25% were unaware of their infection before testing (*4*).

Basic HIV testing information for consumers (http://www.cdc.gov/hiv/basics/testing.html) and health professionals (http://www.cdc.gov/hiv/testing), and CDC guidelines for HIV testing of serum (http://www.cdc.gov/hiv/testing/laboratorytests.html) are available online.

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Evaluation of the Impact of National HIV Testing Day — United States, 2011–2014

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Human immunodeficiency virus (HIV) testing is the first step in the continuum of HIV prevention, care, and treatment services, without which, gaps in HIV diagnosis cannot be addressed. National HIV testing campaigns are useful for promoting HIV testing among large numbers of persons. However, the impact of such campaigns on identification of new HIV-positive diagnoses is unclear. To assess whether National HIV Testing Day (NHTD, June 27) was effective in identifying new HIV-positive diagnoses, National HIV Prevention Program Monitoring and Evaluation (NHM&E) data for CDC-funded testing events conducted during 2011–2014 were analyzed. The number of HIV testing events and new HIV-positive diagnoses during June of each year were compared with those in other months by demographics and target populations. The number of HIV testing events and

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new HIV-positive diagnoses were also compared for each day leading up to and after NHTD in June and July of each year. New HIV-positive diagnoses peaked in June relative to other months and specifically on NHTD. During 2011–2014, NHTD had a substantial impact on increasing the number of persons who knew their HIV status and in diagnosing new HIV infections. NHTD also proved effective in reaching persons at high risk disproportionately affected by HIV, including African American (black) men, men who have sex with men (MSM), and transgender persons. Promoting NHTD can successfully increase the number of new HIV-positive diagnoses, including HIV infections among target populations at high risk for HIV infection.

After two decades of campaigns promoting the annual NHTD, it is important to know whether these efforts have resulted in an increase in the number of new HIV diagnoses and whether persons at highest risk for HIV infection are effectively reached. NHTD includes approximately 400 events across the United States, spanning several days. The primary goal is to promote HIV testing, an essential step in the diagnosis of HIV, linkage to antiretroviral therapy, and prevention of new infections (*1*,*2*). This goal aligns with the National HIV/AIDS Strategy focused on reducing HIV infections, optimizing health outcomes, and decreasing disparities (*3*). Among persons disproportionately affected, blacks account for approximately half of all newly identified HIV-positive persons, and gay, bisexual, and other MSM are more severely affected by HIV than any other group (*4*–*6*). In 2010, HIV testing during the week of NHTD indicated both an increase in CDC-funded HIV testing events and new HIV diagnoses compared with 2 control weeks (*7*).

To evaluate whether NHTD campaigns have been successful at increasing the number of persons who know their HIV status, test-level data from the NHM&E data system were extracted and analyzed for the years 2011–2014. Data submitted by 55 grantees in 2011, 59 in 2012, 61 in 2013, and 60 in 2014 from CDC-funded jurisdictions in the United States, Puerto Rico, and the U.S. Virgin Islands were included. Analysis of valid HIV testing event data was conducted. A valid HIV testing event was defined as an event in which either HIV test technology or an HIV test result was reported. A single testing event included one test (i.e., a single rapid test or single conventional test) or more tests (i.e., single rapid test followed by a single conventional test) conducted to determine a person's HIV status. An HIV-positive testing event for a person who was not reported previously as testing positive for HIV was categorized as a newly identified HIV infection. The number of HIV testing events conducted during the month of June was compared with the number of HIV testing events conducted during all remaining months of the year (i.e., January–May and July–December). A chi-square test was used to detect differences between the number of HIV testing events conducted in June and the average number of HIV testing events conducted during the remainder of the year. A p-value <0.05 was considered statistically significant. The differences in the number of testing events and newly identified HIV infections

The *MMWR* series of publications is published by the Center for Surveillance, Epidemiology, and Laboratory Services, Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services, Atlanta, GA 30329-4027.

Suggested citation: [Author names; first three, then et al., if more than six.] [Report title]. MMWR Morb Mortal Wkly Rep 2016;65:[inclusive page numbers].

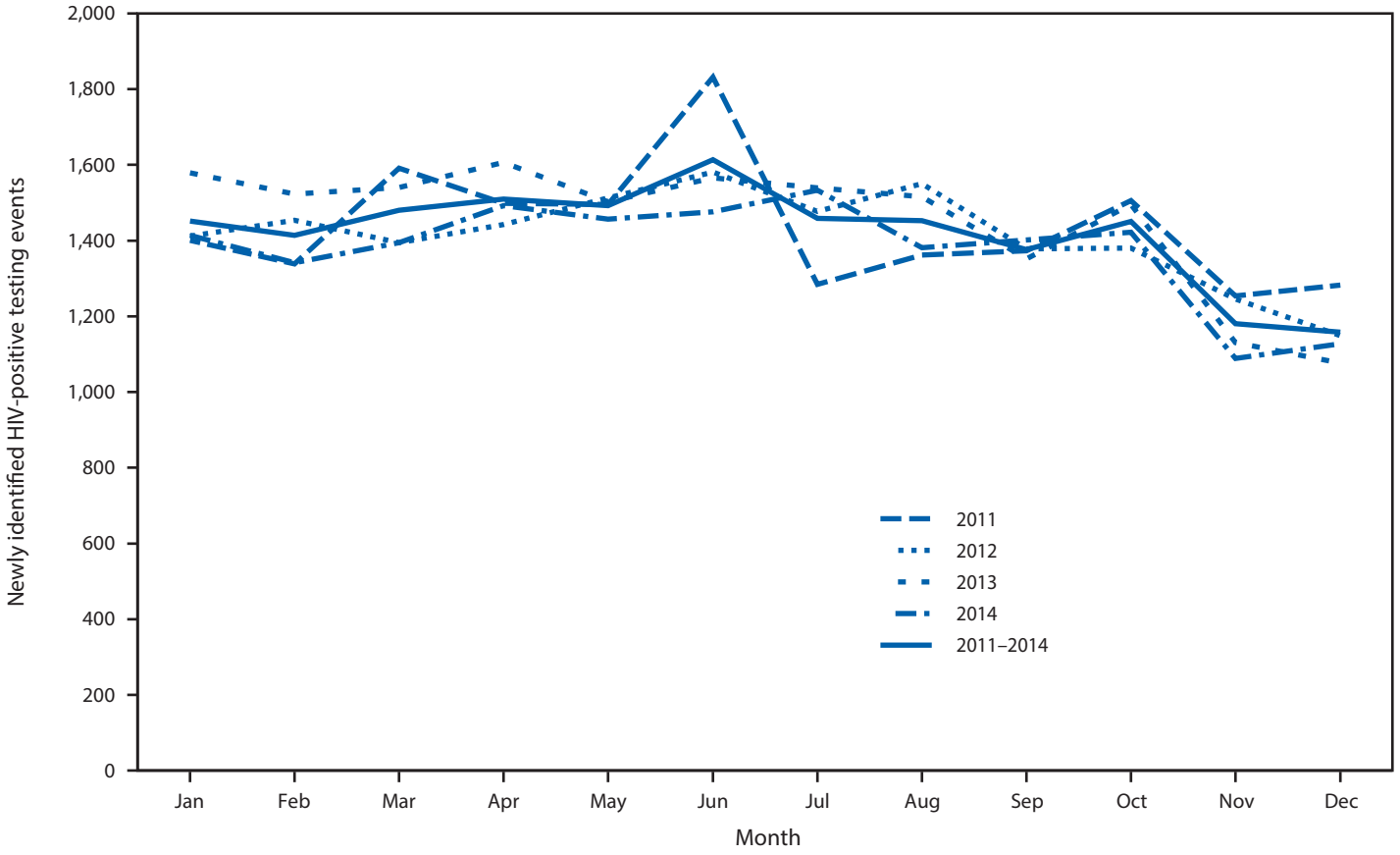
were analyzed by selected demographic characteristics, including age, sex, gender, sexual orientation, race/ethnicity, and risk behaviors. The number of newly identified HIV-positive persons identified each day during the 2 weeks before and after June 27th were compared to determine whether there was an increase on NHTD and to examine testing trends leading up to and after NHTD.

A total of 13,051,035 CDC-funded HIV testing events were conducted during 2011–2014, including 3,299,690 (2011); 3,287,024 (2012); 3,343,633 (2013); and 3,120,688 (2014). The numbers of new HIV-positive test results were 17,216 (0.52%) for 2011; 16,976 (0.52%) for 2012; 17,426 (0.52%) for 2013; and 16,530 (0.53%) for 2014. The number of testing events peaked in June compared with the mean during January–May and July–December for each year during 2011–2014, and the mean number of newly identified HIV-positive persons increased significantly during June ($p<0.001$) compared with January–May and July–December (Figure 1). When the number of new HIV infections diagnosed each day during the 2 weeks before and after NHTD was compared with new HIV infections diagnosed on June 27, the annual national testing event identified the largest number of new HIV infections compared with any of the other days (Figure 2). New HIV infections identified on NHTD, compared with those identified on the next highest day, increased 25% in 2011, 40% in 2012, 20% in 2013, and 17% in 2014 (Figure 2). The increase in total HIV testing events and the number of newly identified HIV infections was significant for persons aged ≥20 years; for all sex and gender groups (male, female, and transgender); MSM and heterosexuals; and white, black and Hispanic/Latino racial/ethnic groups (Table). MSM identified as white, black, or Hispanic/Latino experienced a significant increase in testing events and newly identified HIV-positive persons in June (Table).

Discussion

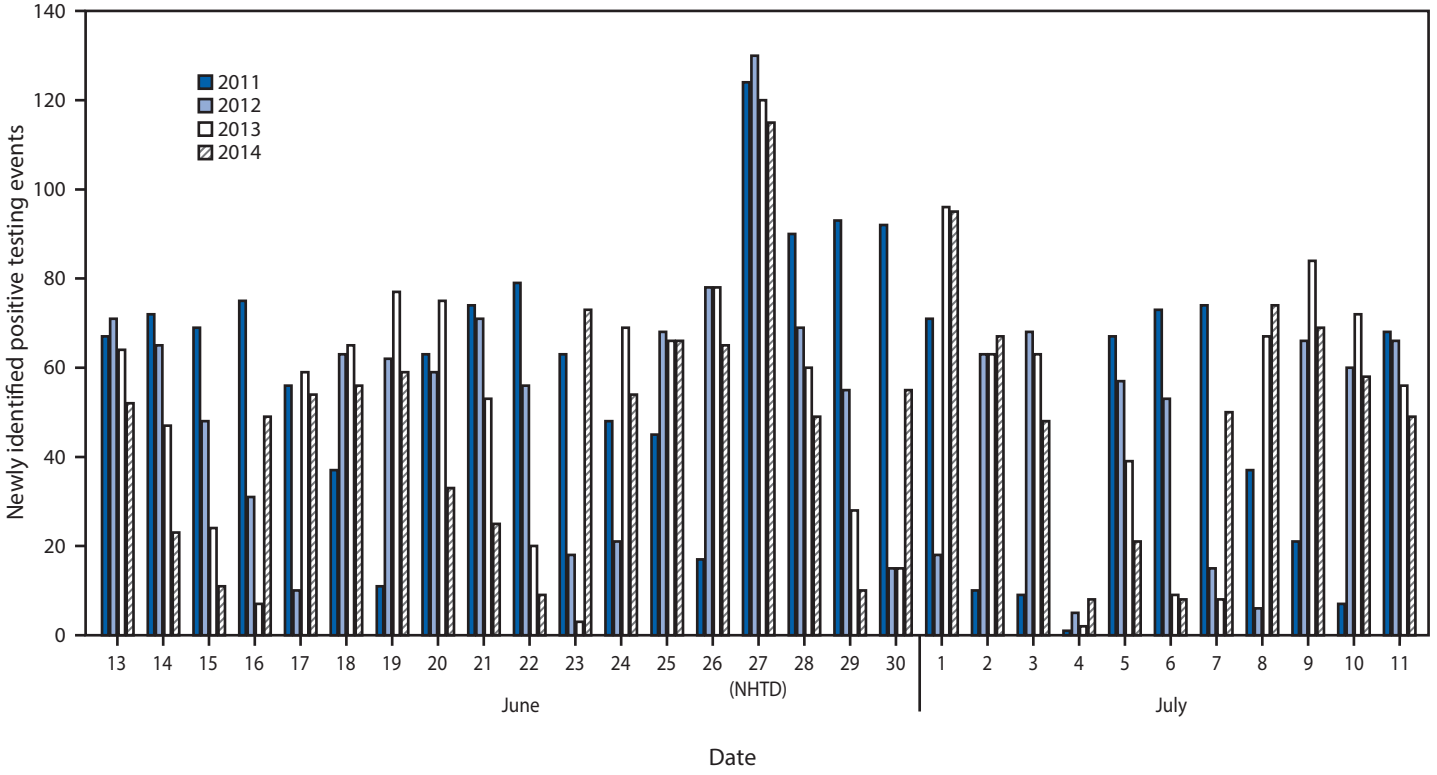
National HIV Testing Day (NHTD) effectively targets groups disproportionately affected by HIV. During 2011–2014, there was a significant increase in total testing events as well as newly identified HIV-positive persons in June compared with other months, with a peak in new HIV diagnoses on NHTD. This increase was seen across gender groups, persons

FIGURE 1. Newly identified HIV infections, by month — CDC-funded HIV testing sites, 2011–2014



Abbreviation: HIV = human immunodeficiency virus.

FIGURE 2. Newly identified HIV infections during the 2 weeks before and after National HIV Testing Day (NHTD, June 27), by date — CDC-funded HIV testing sites, 2011–2014



Abbreviation: HIV = human immunodeficiency virus.

aged ≥20 years, and all major racial/ethnic groups. A higher number of testing events and newly identified positive HIV diagnoses occurred among MSM, irrespective of race/ethnicity, and among transgender persons in June compared with the mean during all other months.

Testing is the first link in the chain to provide treatment and disrupt transmission, because persons who are aware that they have HIV infection are less likely to transmit HIV (*8*,*9*). Promoting NHTD is an effective strategy to increase HIV testing and thereby, the number of persons who are aware of their HIV status. Because blacks are less likely to have their infection diagnosed and have higher HIV-related mortality rates than other racial/ethnic groups in the United States, it is important to design interventions that specifically target HIV testing for this population (*4*). NHTD campaigns are usually scheduled by state and local health departments, pharmacies, and HIV community-based organizations in June, leading up to NHTD. These findings indicate persons at highest risk for HIV by age, sex, racial/ethnic group, and target population are effectively reached by mass testing campaigns.

Summary

What is already known about this topic?

For approximately 2 decades, June 27th has been designated as National human immunodeficiency virus (HIV) Testing Day (NHTD) to promote HIV testing and increase awareness of the importance of getting tested for HIV.

What is added by this report?

During 2011–2014, there were more CDC-funded HIV testing events and newly identified HIV infections during the month of June compared with the mean for all other months, with significant differences for those most affected by HIV, such as African American (black) men and men who have sex with men (MSM). Compared with the 2 weeks before and after NHTD, the highest number of newly identified HIV positive persons occurred on June 27th each year.

What are the implications for public health practice?

NHTD is an important event to help achieve the National HIV/AIDS Strategy to increase the percentage of persons living with HIV who are aware of their status. NHTD is effective in identifying new HIV-positive diagnoses and identifies persons at highest risk for HIV infection, including black men and MSM.

TABLE. Number of HIV testing events and HIV positivity for selected characteristics conducted by health departments providing test-level data in the United States, Puerto Rico and the U.S. Virgin Islands, 2011–2014

Characteristic	Total HIV testing events, 2011–2014			Newly identified HIV infections, 2011–2014		
	June (total)	11 mos (mean)*	p-value	June (total)	11 mos (mean)*	p-value
Age group (yrs)						
<13	2,225	2,058	0.011	7	7	0.942
13–19	100,297	96,689	<0.001	212	193	0.343
20–29	473,562	439,494	<0.001	2,469	2,239	0.001
30–39	267,331	239,610	<0.001	1,486	1,341	0.006
40–49	173,300	150,241	<0.001	1,265	1,012	<0.001
≥50	173,506	141,857	<0.001	982	766	<0.001
Invalid/Missing†	7,498	7,626	—	34	51	—
Sex						
Male	583,786	525,661	<0.001	5,141	4,454	<0.001
Female	604,552	543,579	<0.001	1,177	1,063	0.016
Transgender	4,343	3,284	<0.001	103	69	0.010
Invalid/Missing§	5,038	5,050	—	34	23	—
Race/Ethnicity						
White	318,557	292,036	<0.001	1,309	1,159	0.003
Black	538,850	476,566	<0.001	3,404	2,964	<0.001
Hispanic	257,342	229,503	<0.001	1,361	1,167	<0.001
Other¶	40,428	36,468	<0.001	201	170	0.105
Invalid/Missing**	42,542	43,001	—	180	148	—
Target population††						
Male-to-male sexual contact and injection drug use	2,782	2,564	0.003	112	97	0.287
Male-to-male sexual contact	97,890	79,991	<0.001	2,720	2,420	<0.001
Transgender and injection drug use	187	164	0.214	6	5	0.676
Transgender	4,156	3,121	<0.001	97	65	0.011
Injection drug use	28,604	25,879	<0.001	133	122	0.498
Heterosexual	537,641	485,172	<0.001	1,767	1,551	<0.001
Male-to-male sexual contact by race/ethnicity						
White, non-Hispanic	43,512	35,985	<0.001	803	662	<0.001
Black, non-Hispanic	24,540	19,998	<0.001	1,196	1,102	0.049
Hispanic	23,617	19,065	<0.001	681	605	0.034
Total	**1,197,719**	**1,077,574**	**<0.001**	**6,455**	**5,608**	**<0.001**

Abbreviation: HIV = human immunodeficiency virus.
* The sum of the average during January–May and July–December over 3 years (2011–2014).
† Includes invalid and/or missing values that are needed to determine age.
§ Includes other specified, declined/not asked, or invalid/missing.
¶ Includes multirace, Asian, American Indian, Alaskan Native, Native Hawaiian, or Pacific Islander.
** Includes declined, don't know/not asked, invalid/missing.
†† Data to identify target populations are required for all testing events conducted in non-health care settings and only HIV-positive testing events in health care settings.

The findings in this report are subject to at least three limitations. First, these analyses included only CDC-funded HIV tests. Therefore, HIV tests supported by other funding sources were not included. Second, the month of June also includes a substantial number of community-based testing events associated with gay pride celebrations in large U.S. cities. It is difficult to know how this might have contributed to an increase in HIV testing and new diagnoses observed during this month. However, a peak in HIV testing and new HIV diagnosis was observed on NHTD compared with all other days. Finally, this study shows increased HIV testing with NHTD; however, receipt of individual test results was not examined. Hence, the magnitude of awareness of individual HIV status cannot be determined from the study.

As a public health strategy consistent with the National HIV/AIDS Strategy, NHTD identifies a number of new HIV infections in populations disproportionately affected by HIV and might increase awareness of HIV status among HIV-infected persons. NHTD might be used strategically in future efforts to increase testing in areas with the highest incidence of HIV. These findings suggest that community-level approaches to advocate early detection and treatment of HIV infection might use mass testing events such as those promoted for NHTD in areas where HIV is most prevalent.

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