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## Stigmatizing Attitudes Toward People Living with HIV Among Adults and Adolescents in the United States

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### Abstract

Stigmatizing attitudes toward people living with HIV (PLWH) cause psychological distress for PLWH and hinder HIV prevention efforts. We estimated the prevalence of stigmatizing attitudes among 6809 adults and 885 adolescents who responded to online surveys in 2015. Fear of casual contact with PLWH was reported by 17.5% [95% confidence interval (CI) 16.3–18.6%] of adults and 31.6% (CI 27.8–35.4%) of adolescents. Among adults, 12.5% (CI 11.6–13.5%) endorsed a measure of moral judgment toward PLWH. Stigmatizing attitudes toward PLWH persist in the United States. Continued monitoring of these attitudes and efforts to reduce associated stigma are warranted.

### Resumen

La estigmatización hacia las personas que viven con el VIH/SIDA (PVS) causa angustia psicológica para las PVS y obstruye los esfuerzos de prevención del VIH. Estimamos la prevalencia de actitudes estigmatizantes entre 6809 adultos y 885 adolescentes que respondieron a encuestas por internet en 2015. Temor al contacto casual con PVS fue reportado por 17.5% (Intervalo de Confianza del 95% [CI] 16.3–18.6%) de adultos y 31.6% (IC 27.8–35.4%) de adolescentes. Entre los adultos, el 12.5% (IC 11.6–13.5%) endosó una medida de juicio moral hacia las PVS. En los Estados Unidos persisten actitudes estigmatizantes hacia las PVS, justificando el monitoreo continuo de dichas actitudes y los esfuerzos para reducir el estigma asociado.

### Keywords

HIV; AIDS; Stigma; Attitudes

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**Disclaimer** The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

**Compliance with Ethical Standards**

**Conflicts of interest** The authors declare no conflicts of interest.

**Ethical Approval** This article does not contain any studies with human participants or animals performed by any of the authors.

## Introduction

In 2015, 39,513 people were diagnosed with HIV in the United States [1]. Many new infections could be averted with increased HIV testing and treatment. However, stigmatizing attitudes toward people living with HIV (PLWH) may lead to delayed HIV testing [2], reduced adherence to antiretroviral therapy [3], and poorer retention in HIV care [4]. Reducing stigmatizing attitudes is an important component of national HIV prevention goals [5].

Stigmatizing attitudes toward PLWH—such as fear or avoidance of casual contact with people who are infected, or assignment of personal blame for infection—have historically been widespread in the United States [6]. However, since the first cases of HIV were identified more than three decades ago, advances in antiretroviral therapy have allowed PLWH to live healthy lives with a greatly reduced chance of transmitting HIV to others [7]. Whether these treatment advances have been accompanied by decreases in stigmatizing attitudes remains unclear. The Centers for Disease Control and Prevention (CDC) and others support public communications campaigns, such as *Act Against AIDS* [8], to combat stigma toward PLWH. Monitoring public attitudes toward PLWH can provide information on whether such stigma reduction strategies are effective and identify opportunities for further reductions. The purpose of this analysis was to estimate the prevalence of stigmatizing attitudes toward PLWH among U.S. adults and adolescents.

## Methods

We analyzed data from self-administered online consumer surveys conducted by Porter Novelli Public Services. Survey participants were drawn from the Growth from Knowledge (GfK) KnowledgePanel, an online panel designed to be nationally representative. The panel included approximately 55,000 panelists recruited through probability-based sampling by home address. Panelists without household internet access were provided with a laptop or tablet with internet access to complete the surveys. The first survey (Spring-Styles) was fielded in April 2015 among 11,028 randomly selected adult (aged ≥ 18 years) panelists, including an oversample of adults with children aged 12–17 years, and had a response rate of 62%. A follow-up survey of Spring-Styles respondents was fielded in June 2015; in households that completed this follow-up survey, adolescents aged 12–17 years were randomly selected to provide responses to the concurrent YouthStyles survey, and 42% of selected adolescents completed the survey. Respondents received cash-equivalent incentives worth approximately \$10 for completing each survey. CDC obtained a license from Porter Novelli to access Styles datasets; because this study reports a secondary analysis of de-identified data, institutional review board approval was not required.

We assessed attitudes toward PLWH using 3 questions. Two items, measured on a 5-point Likert scale, were adapted from an instrument developed by Zelaya et al. to assess stigma among HIV-uninfected people [9]. The items represented two distinct domains of HIV-related stigma: fear of transmission and moral judgment. Respondents were asked for their reaction to the statements “I would be afraid to be around a person with HIV/AIDS because I would be worried I could get infected,” (adults and adolescents) and “people who have

HIV/AIDS have participated in illicit and/or immoral activities” (adults only). We dichotomized responses into categories of “strongly agree/somewhat agree” (indicating endorsement of stigmatizing attitudes) and “strongly disagree/somewhat disagree/neither agree nor disagree” (indicating absence of stigmatizing attitudes). Adults and adolescents were also asked the question, “How much prejudice and discrimination do you think there is against people living with HIV and AIDS in this country today?” which has been used by the Kaiser Family Foundation to monitor changing social climate with respect to HIV in the United States [10]. We calculated the weighted proportion of those who perceived “a lot” of prejudice and discrimination versus those who did not (i.e., responses of “some,” “little to none,” or “I don’t know”). Adults’ responses to these measures were collected using the Spring-Styles survey (April 2015), while all adolescent responses were collected using the YouthStyles survey (June 2015). We excluded adults who reported that their most recent HIV test was positive ( $n = 27$ ) as well as the children of these adults ( $n = 3$ ).

We calculated weighted proportions and corresponding 95% confidence intervals (CI) of adults and adolescents endorsing each attitude measure overall and by selected demographic characteristics. Rao-Scott Chi square tests were used to determine differences in proportions reporting stigmatizing attitudes by respondent characteristics. Missing values ( $< 1\%$  for all attitude measures) were excluded from proportion calculations. Analysis weights were assigned to adult respondents based on gender, race/ethnicity, age, education, household income, census region, metropolitan residence, household internet access, and household size to match U.S. Current Population Survey proportions. Analysis weights for adolescents were based on the same characteristics, except the number of 12–17 year-old adolescents in the household was used instead of overall household size. Analyses were conducted using complex survey procedures in SAS version 9.3 (SAS Institute Inc., Cary, NC).

## Results

A total of 6809 adults and 885 adolescents were included in the analytic sample. Among adults, 17.5% reported that they would be afraid to be around PLWH, 12.5% endorsed the statement that PLWH have participated in illicit and/or immoral activities, and 21.1% reported that there is a lot of prejudice and discrimination against PLWH. Among adolescents, 31.6% reported that they would be afraid to be around PLWH, and 21.0% reported that there is a lot of prejudice and discrimination against PLWH (Table 1).

### Fear and Moral Judgment

Among adults, fear of being around PLWH was reported by a higher proportion of men (19.4%) than women (15.7%), heterosexual (17.7%) than gay/bisexual/other (11.9%) adults, and adults residing in non-metropolitan areas (21.9%) compared with those in metropolitan areas (16.6%). Fear of being around PLWH was high among those with less than high school (20.8%) or high school (20.1%) education, those with an annual household income of \$25,000–49,999 (20.6%), and those residing in the South (19.9%). Among adolescents, the proportion reporting fear of being around PLWH did not differ by demographic characteristics. The proportion of adults who endorsed a statement of moral judgment of PLWH was highest among those without household internet access (17.7%), those with an

annual household income of < \$25,000 (17.4%), and those residing in non-metropolitan areas (14.5%). Within age categories, the group with the highest proportion endorsing moral judgment was persons 50 years of age (14.4%).

### Perceptions of Prejudice and Discrimination

Among adults, perceived level of prejudice and discrimination against PLWH was higher among women (24.0%) than men (18.0%) and gay/bisexual/other (33.5%) than heterosexual (20.7%) adults. High proportions of non-Hispanic black adults (30.6%), adults 50 years of age (23.5%), adults with an annual household income of < \$25,000 (25.6%), and adults residing in the South (23.2%) also endorsed the statement that there is a lot of prejudice and discrimination against PLWH. Similarly, high proportions of non-Hispanic black (34.8%) and Hispanic/Latino (31.1%) adolescents and adolescents in households earning < \$25,000 annually (32.6%) endorsed the perceived prejudice and discrimination statement.

### Parent–Adolescent Agreement

Among 885 parent–adolescent dyads, 31.8% (CI 28.3–35.4%) and 22.9% (CI 19.8–26.0%) had discordant responses to the dichotomized measures of fear and perceived prejudice and discrimination, respectively (data not reported in table). Of the 751 parents who were not afraid to be around PLWH, 28.1% (CI 24.4–31.8%) of their children were afraid to be around PLWH. Of the 706 parents who did not report that there is a lot of discrimination against PLWH, 14.5% (CI 11.6–17.4%) of their children believed there is a lot of discrimination against PLWH.

### Discussion

Our findings suggest that stigmatizing attitudes toward PLWH persist in the United States despite reported declines in the 1990s [6]. Nearly 1 in 5 adults and 1 in 3 adolescents reported fear of PLWH, while moral judgment of PLWH remained similar to levels reported by U.S. adults in 2000 [11]. HIV–related stigma in the U.S. general population may continue to pose challenges to HIV prevention efforts.

HIV-related stigma is a modifiable barrier to effective HIV prevention that presents opportunities for multiple modes of intervention. For example, stigma reduction efforts can seek to support PLWH directly through empowerment or skills building or can seek to reduce stigmatizing attitudes at the community level through education, advocacy, or awareness campaigns [12]. Although considerable progress has been made in understanding the effects of HIV-related stigma among PLWH [3, 4] and populations at high risk for HIV infection [2], few recent data are available to monitor changing public attitudes toward PLWH in the United States. Our findings suggest the persistence of stigmatizing attitudes and indicate that continued monitoring of public attitudes is needed to advance HIV prevention goals.

We observed several demographic differences in the proportion of respondents who endorsed stigmatizing attitudes, likely due to the large sample size. However, the magnitude of most differences was small, and endorsement was common across demographic subgroups. The persistence of these attitudes in diverse segments of the U.S. population

suggests that stigma reduction efforts may be warranted on a broad scale. Age was a notable exception to this pattern. Fear of casual contact with PLWH was much higher among adolescents than adults, and the attitudes of many adolescents were different than those of their parents. These findings highlight opportunities to reduce stigmatizing attitudes toward PLWH at an early age through school-based or other interventions directed toward young people.

This analysis has limitations. First, our attitude measures were limited to only a few questions and did not comprehensively measure every domain of stigma—a complex, multidimensional construct. Nevertheless, our measures were adapted from a validated scale [9]. Second, data were acquired from an opt-in consumer survey panel. To the extent that persons agreeing to participate in recurring surveys as part of a panel may have different characteristics than persons who do not opt into such panels, and that post-stratification weighting adjustments may not adequately compensate for these differences, our results may be subject to selection bias. However, comparison of previous Porter Novelli panel survey data with data from the Behavioral Risk Factor Surveillance System has suggested that Porter Novelli data are valid and reliable [13].

More than 3 decades after the beginning of the HIV epidemic, stigmatizing attitudes toward PLWH persist in the U.S. population. CDC supports and implements a broad array of activities to address HIV-related stigma, including data collection and public health surveillance to monitor stigma as well as communication campaigns, such as *Act Against AIDS* [8], to raise awareness of HIV and to reduce HIV-related stigma. Increasing public knowledge about HIV prevention and treatment through campaigns like these may help to reduce fear of casual contact. However, previous research has suggested that educational efforts alone might not be able to change attitudes such as fear [6, 12], and multi-pronged strategies might be more effective [12]. Future work should seek to develop a better understanding of the most effective approaches to reduce stigmatizing attitudes toward PLWH in the United States, particularly among adolescents. These and other efforts to monitor and reduce stigmatizing attitudes toward PLWH are needed to ensure continued progress in increasing HIV testing, treatment, and prevention.

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**Table 1**  
Attitudes toward people living with HIV by demographic characteristics—United States, 2015

	Adults						Adolescents							
	Total		Afraid to be around PLWH		PLWH have participated in immoral and/or illicit activities		A lot of prejudice and discrimination against PLWH		Total		Afraid to be around PLWH		A lot of prejudice and discrimination against PLWH	
	N	% <sup>a</sup>	95% CI	N	% <sup>a</sup>	95% CI	% <sup>a</sup>	95% CI	N	% <sup>a</sup>	95% CI	N	% <sup>a</sup>	95% CI
Total	6809	17.5	16.3–18.6	12.5	11.6–13.5	21.1	20.0–22.3	31.6	27.8–35.4	21.0	17.6–24.4			
Gender														
Male	3027	19.4	17.7–21.1	13.8	12.3–15.2	18.0	16.4–19.6	30.5	25.1–35.8	19.1	14.4–23.8			
Female	3782	15.7	14.2–17.1	11.4	10.1–12.7	24.0	22.4–25.7	32.7	27.3–38.2	22.9	17.9–27.9			
Race/ethnicity <sup>b</sup>														
Non-Hispanic black	654	16.4	13.0–19.7	14.1	10.9–17.3	30.6	26.4–34.7	33.5	21.4–45.6	34.8	22.4–47.2			
Non-Hispanic white	4977	17.0	15.7–18.2	12.1	11.0–13.2	19.3	18.0–20.6	29.4	25.1–33.6	14.2	11.2–17.1			
Hispanic/Latino	815	19.1	15.9–22.4	12.9	10.2–15.6	23.0	19.5–26.5	34.7	24.9–44.4	31.1	21.5–40.6			
Other	363	20.3	14.7–25.8	13.0	8.5–17.6	18.6	13.6–23.6	34.7	20.5–48.9	c				
Age (years)														
12–14	827	19.7	16.8–22.6	11.3	9.0–13.6	17.9	15.1–20.7	34.6	29.2–40.0	21.3	16.3–26.2			
15–17	997	17.2	14.2–20.1	10.7	8.2–13.2	20.0	17.0–23.0	28.7	23.3–34.1	20.7	16.0–25.5			
18–29	1580	13.6	11.3–15.9	10.7	8.6–12.7	19.5	16.9–22.1							
30–39	3405	17.9	16.4–19.4	14.4	13.0–15.8	23.5	21.9–25.2							
40–49														
50														
Sexual orientation														
Heterosexual	6299	17.7	16.6–18.9	12.8	11.8–13.8	20.7	19.5–21.9							
Gay/bisexual/other	302	11.9	7.7–16.1	8.4	4.4–12.5	33.5	27.3–39.7							
Education														
< High school	448	20.8	16.6–25.0	12.3	9.0–15.6	23.4	19.1–27.8							
High school	1801	20.1	17.9–22.2	14.1	12.3–16.0	22.1	19.9–24.2							
Some college	2172	17.3	15.3–19.2	12.8	11.0–14.5	22.1	20.0–24.2							

	Adults						Adolescents								
	Total		Afraid to be around PLWH		PLWH have participated in immoral and/or illicit activities		A lot of prejudice and discrimination against PLWH		Total		Afraid to be around PLWH		A lot of prejudice and discrimination against PLWH		
	N	% <sup>a</sup>	95% CI	N	% <sup>a</sup>	95% CI	N	% <sup>a</sup>	95% CI	N	% <sup>a</sup>	95% CI	N	% <sup>a</sup>	95% CI
College or above	2388	13.6	11.8–15.5	10.8	9.2–12.4	18.3	16.4–20.2								
Marital status															
Married or living with partner	4473	17.0	15.6–18.4	11.9	10.7–13.0	20.3	18.9–21.8								
Never married, divorced, separated, or widowed	2336	18.2	16.3–20.0	13.5	11.9–15.2	22.3	20.3–24.3								
Annual household income															
< \$25,000	1136	19.3	16.6–22.1	17.4	14.7–20.0	25.6	22.6–28.6	103	36.0	25.2–46.9	32.6	21.5–43.7			
\$25,000–\$49,999	1650	20.6	18.2–23.0	12.1	10.2–14.0	23.2	20.8–25.6	217	32.9	25.1–40.7	26.9	19.6–34.1			
\$50,000–\$99,999	2349	16.5	14.6–18.3	12.8	11.1–14.6	20.0	18.0–22.0	351	29.1	23.1–35.1	12.2	7.9–16.6			
\$100,000	1674	14.7	12.5–16.9	9.0	7.3–10.6	17.8	15.5–20.0	214	31.6	23.8–39.4	22.4	15.1–29.7			
U.S. Census region															
Northeast	1193	15.1	12.6–17.6	10.6	8.4–12.7	17.6	15.1–20.2	161	27.5	19.2–35.8	20.9	13.3–28.5			
Midwest	1750	18.2	16.0–20.5	11.4	9.6–13.2	20.4	18.1–22.7	252	29.3	22.0–36.6	16.6	10.6–22.5			
South	2334	19.9	18.0–21.9	13.8	12.1–15.5	23.2	21.2–25.3	303	31.3	25.0–37.6	22.2	16.4–28.0			
West	1532	14.6	12.4–16.9	13.1	11.0–15.1	21.3	18.8–23.7	169	37.1	28.4–45.9	23.3	15.3–31.2			
Metropolitan residence															
Yes	5774	16.6	15.4–17.8	12.2	11.1–13.2	21.2	19.9–22.4	759	30.5	26.4–34.5	20.9	17.2–24.6			
No	1035	21.9	18.8–24.9	14.5	11.8–17.1	21.0	18.0–23.9	126	37.5	27.0–48.0	21.4	12.7–30.1			
Household internet access															
Yes	5794	17.2	16.0–18.5	11.1	10.1–12.1	20.4	19.1–21.7	859	32.2	28.3–36.0	21.3	17.7–24.8			
No	1015	18.2	15.6–20.9	17.7	15.1–20.4	23.8	20.9–26.6	26	c	c	c	c			
Used internet for health information, past month															
Yes	1997	18.0	15.9–20.1	12.2	10.3–14.0	24.9	22.5–27.2	93	37.2	24.9–49.4	20.7	10.4–31.0			
No	4802	17.3	16.0–18.6	12.6	11.5–13.7	19.7	18.4–21.1	788	30.8	26.8–34.8	21.1	17.4–24.7			

Bold text indicates significant ( $p < 0.05$ ) Rao-Scott Chi square test for difference in percentages endorsing each attitude measure by demographic characteristic

*PLWH* people living with HIV

<sup>a</sup> Represents weighted percentages



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<sup>b</sup> Race/ethnicity categories are mutually exclusive

<sup>c</sup> Statistically unstable estimates (i.e., those with relative standard error > 30%) were suppressed