



## A comparison of HIV testing protocols with Latino day laborers

Frank H. Galvan, Amy Rock Wohl, Juli-Ann Carlos & Ying-Tung Chen

To cite this article: Frank H. Galvan, Amy Rock Wohl, Juli-Ann Carlos & Ying-Tung Chen (2016) A comparison of HIV testing protocols with Latino day laborers, Journal of HIV/AIDS & Social Services, 15:1, 69-82

To link to this article: <http://dx.doi.org/10.1080/15381501.2015.1013236>



Published online: 22 Mar 2016.



Submit your article to this journal [↗](#)



View related articles [↗](#)



View Crossmark data [↗](#)

## A comparison of HIV testing protocols with Latino day laborers

Frank H. Galvan<sup>a</sup>, Amy Rock Wohl<sup>b</sup>, Juli-Ann Carlos<sup>b</sup>, and Ying-Tung Chen<sup>a</sup>

<sup>a</sup>Bienestar Human Services, Inc., Los Angeles, CA, USA; <sup>b</sup>Division of HIV and STD Programs, Los Angeles County Department of Public Health, Los Angeles, CA, USA

### ABSTRACT

This project compared two HIV testing protocols, an HIV test alone or as part of a bundled package with other tests, to examine which resulted in a higher test uptake in a sample of 725 Latino day laborers. The testing uptake was 29.1% for the HIV-only protocol and 13.6% for the HIV-bundled protocol ( $p < 0.001$ ). Thus higher levels of testing among day laborers may occur when the HIV test is offered alone. However, no HIV-positive tests were found and few risk behaviors reported. This would argue against the need for routine HIV screening with this population as a whole. HIV testing among Latino day laborers should target those involved in actual high HIV risk behaviors, such as unprotected sex with men or injection drug use.

### ARTICLE HISTORY

Received 14 February 2014  
Revised 9 December 2014  
Accepted 12 January 2015

### KEYWORDS

bundling; day laborers; HIV testing; immigrants; Latinos

Stigma associated with HIV can be a reason why individuals avoid testing for HIV (Earnshaw, Smith, Chaudoir, Lee, & Copenhaver, 2012; Young & Zhu, 2012). One method to lessen the stigma associated with HIV testing is “bundling” (Galvan, Bluthenthal, Ani, & Bing, 2006; Ickovics, 2008). “Bundling” refers to offering products together as a package (Eppen, Hanson, & Martin, 1991). An example of this is “mixed bundling” (Simon & Wuebker, 1999). This occurs when both the bundle and the individual products are offered as options to consumers. When bundling HIV testing with other tests, an individual has the opportunity of taking one or several tests, including the HIV test.

Bundling HIV testing with other services can help individuals overcome barriers to HIV testing. For example, individuals involved in high risk behaviors who have not tested for HIV have been found to have less knowledge of HIV risk factors compared with others who have tested for HIV (Kellerman et al., 2002). Presenting the HIV test in a bundled manner takes the sole focus off the HIV test and makes it potentially less stigmatizing to take an HIV test.

A group that could potentially benefit from the bundling of HIV testing with other services is Latino immigrants. There is stigma among Latino immigrants regarding both HIV infection (Levy et al., 2007) and issues associated

with HIV infection, such as homosexuality (Diaz, 1998). Additionally, Latino immigrants engaged in high-risk behaviors may not consider themselves to be members of groups usually targeted for HIV prevention, such as men who have sex with men (MSM) (Zea, Reisen, & Diaz, 2003).

One population of Latino immigrants that has received some attention in the HIV prevention literature is Latino day laborers (Galvan, Ortiz, Martinez, & Bing, 2008; Galvan, Ortiz, Martinez, & Bing, 2009a; Solorio & Galvan, 2009b; Ehrlich, Organista, & Oman, 2007; Organista & Kubo, 2005; Valdez, Cepeda, Negi, & Kaplan, 2010). Day workers seek jobs primarily in front of businesses and on busy streets (Valenzuela, Theodore, Melendez, & Gonzalez, 2006). Most Latino day laborers come to the United States to support their families in their countries of origin (Walter, Bourgois, & Loinaz, 2004; Walter, Bourgois, Loinaz, & Schillinger, 2002). Most rely on their day labor as their only source of income and are at or below the federal poverty level (Valenzuela et al., 2006). Given the association between higher HIV prevalence and lower socioeconomic status (Centers for Disease Control and Prevention [CDC], 2011), studies with day laborers have begun to examine the extent to which they may be at risk for HIV. Potential factors identified with such risk among day laborers include alcohol and injection drug use (Organista & Kubo), unprotected sex with female sex workers (Galvan et al., 2009a; Organista & Kubo), multiple female sexual partners (Ehrlich et al., 2007), being solicited for sex by male employers (Galvan et al., 2008), and smoking crack cocaine (Valdez et al., 2010).

Limited information is available regarding the prevalence of HIV infection among Latino day laborers. In a study conducted in Los Angeles, California, 356 sexually active Latino day laborers were interviewed (Solorio & Galvan, 2009b). Of the 46% reporting having received an HIV test in the previous 12 months, only one person (0.6%) reported being positive. A study of 174 Latino day laborers in Maryland found no individuals reporting being HIV positive (Bianchi et al., 2012). Both of these studies relied solely on self-reported HIV status.

Only one report is available that involved HIV testing of Latino day laborers. This occurred between October 2002 and February 2003 in Los Angeles County at two day labor sites, and two (4%) of the 51 day laborers were found to be HIV positive (Galvan & Martinez, 2006). Thus, there is a need for more comprehensive information on HIV prevalence among day laborers.

The current research project sought to compare two HIV testing protocols with day laborers to examine which would be associated with higher HIV testing. One protocol involved offering the HIV test by itself, and the other involved offering the HIV test as part of a bundled package of tests relevant to the participants. Second, it sought to obtain an estimate of the prevalence of HIV infection among Latino day laborers through the use of a larger sample of day laborers than those used in previous studies and by providing HIV testing rather than relying on self-report.

## Methods

### *Identifying day labor sites*

A list of day labor sites was developed (MacKellar, Valleroy, Karon, Lemp, & Janssen, 1996; Valenzuela, 2000). We targeted four of the eight Service Planning Areas (SPAs) of Los Angeles County. SPAs are the geographical areas used by Los Angeles County government bodies in planning services for residents. This resulted in focusing on the areas in which 74% of all male Latino HIV/AIDS cases have been identified (Division of HIV and STD Programs, HIV Epidemiology Program, Los Angeles County Department of Public Health, 2011). We identified known day labor sites and all home improvement stores, etc., where day laborers would likely gather.

### *Determining the sites with the largest number of day laborers reporting high-risk activities*

Next, we determined which of these sites included the largest number of day laborers reporting high-risk activities by developing a screener for measuring “risk activities,” with each activity ranked as “high risk” or “moderate risk.” An example of a high-risk behavior was “unprotected anal sex with a man”; an example of a moderate-risk behavior was “sex while high or intoxicated.” While behaviors in both the “high-risk” and “moderate-risk” categories pose significant risk for HIV, given the need to have to classify some behaviors as more risk than others, we chose to use this classification as it was used in a previous study (Galvan et al., 2006). We used this screener to identify those sites with the largest number of day laborers reporting risk-related activities.

For each day laborer site, we collected information at the site on daily attendance and flow at randomly selected times. This gave us an idea of the daily attendance at different times of the day at each site. Sites with extremely small numbers of day laborers were eliminated. We then randomly sampled 15% of the individuals at each selected site. An “implied informed consent form” was administered in a private setting at the day labor site. This type of consent form involves obtaining no personal identifying information from a research participant. Their participation in the research was anonymous. The participants received \$5 for completing the screener.

A total of 286 were interviewed in this phase of the study. Of the original 62 day labor sites visited during the formative phase, a total of 31 were identified for the next phase of the study (12 sites where the participants reported high-risk behaviors and 19 where moderate-risk behaviors were reported). At the sites defined as having high-risk behaviors, moderate-risk behaviors could also be reported. However, no high-risk behaviors were reported at those sites designated as moderate-risk behavior sites.

### ***Sampling plan for study recruitment***

The sampling plan for the study recruitment involved four stages. The first involved the random assignment of the four SPAs to either the HIV-only protocol or the HIV-bundled protocol (two were randomly assigned to the HIV-only protocol and two to the HIV-bundled protocol), the selection of the day labor sites, the random selection of days for each site, and the random selection of participants at the day labor sites. The enrollment of individuals for this part of the study occurred between March 2011 and January 2012.

### ***HIV-only versus HIV-bundled testing protocols***

The day laborers were offered participation in the HIV-only or the HIV-bundled study protocol, depending on the particular protocol that was being followed at that specific SPA. In the HIV-only protocol, the participant was only offered the opportunity to take the HIV test. In the HIV-bundled protocol, the participant was offered several tests described later.

A mobile health testing van was parked near the day labor sites so that individuals could take their tests in a private and confidential setting. Participants in this phase of the study provided informed consent. Those in the HIV-only protocol received a \$20 gift card for taking the HIV test. Those in the HIV-bundled protocol who took any of the bundled tests that were offered also received a \$20 gift card. Approval for the study was provided by the institutional review boards of Charles R. Drew University of Medicine and Science and the Los Angeles County Department of Public Health.

### ***Measures***

HIV serostatus was assessed using an oral fluid sample that was analyzed within 20 minutes in a mobile van. For those in the HIV-only protocol, the HIV test was the only test that was offered to them. The HIV-bundled protocol consisted of offering the HIV test plus all the following tests. Harmful drinking was measured using the Alcohol Use Disorders Identification Test (AUDIT) (Babor, de la Fuente, Saunders, & Grant, 1992; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993). Severity of tobacco use was assessed with six tobacco questions of the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) of the World Health Organization (WHO ASSIST Working Group, 2002). Drug dependence was assessed using the Texas Christian University Drug Screen II (TCUDS II) (Simpson & Knight, 1998). The tests for *Chlamydia*, gonorrhea, and syphilis all involved taking a urine specimen. The test results for HIV, harmful drinking, tobacco use, and drug dependence were provided immediately following the administration of these tests. The test results for *Chlamydia*, gonorrhea, and syphilis were provided

within 1 week at an in-person visit at the community-based organization collaborating in the research project. All individuals testing positive for a screener (e.g., harmful drinking, syphilis) subsequently received referrals to services in the community.

HIV-related risk behaviors were defined as having traded sex for money, drugs, food, or shelter since being in the United States; having had a sexually transmitted disease in the previous 12 months; having had unprotected penetrative anal sex with a man in the previous 12 months; having had unprotected receptive anal sex with another man in the previous 12 months; and having had unprotected penetrative anal sex with a transgender woman in the previous 12 months. Every participant was asked the HIV-related risk behavior questions and a number of sociodemographic questions by an interviewer.

### **Data analysis**

Descriptive statistics were obtained for all the study variables. To examine differences in the sociodemographic characteristics of men who received the HIV-only protocol and men who received the bundled protocol, we used  $\chi^2$  tests of association, along with an examination of the standardized residuals for the cells of these tests. The standardized residuals are used to determine which cells most strongly are associated with a significant  $\chi^2$  value. An absolute value of 2 has been recommended as the cutoff to identify the main categories contributing to the  $\chi^2$  value (Hinkle, Wiersma, & Jurs, 1994). We also used Fisher's exact test and the *t*-test. To test for differences in HIV testing by men who received the different testing protocols, we used the  $\chi^2$  test of association. We also identified the uptake of HIV testing for each protocol.

Finally, to identify the factors associated with "taking an HIV test" among those in the HIV-bundled protocol, we used multivariate logistic regression. We began by first testing the association between "taking an HIV test" and individual demographic variables. We excluded from these analyses those demographic variables that had categories with more than 90% of the respondents in one individual category. Prior to conducting these analyses, we collapsed some of the categories of the individual variables. For these bivariate analyses, we used *t*-tests and  $\chi^2$  tests of association. For those variables associated with "taking an HIV" test at a  $p < .20$  level of significance, we then included them in a multivariate logistic regression model with the outcome variable of "taking an HIV test." We followed similar analytic steps in developing a multivariate logistic regression model to identify the factors associated with "taking an HIV test and at least one other test" (versus taking an HIV test only) among those in the HIV-bundled protocol who took an HIV test.

## Results

Of the 2,064 approached, a total of 725 Latino day laborers participated in the study, with 365 men in the HIV-bundled protocol and 360 in the HIV-only protocol. Participation was 44% in the HIV-bundled protocol and 29% in the HIV-only protocol ( $p < .001$ ). The median age for the sample was 38 years (interquartile range [IQR] = 32–43 years), with the age of the HIV-bundled participants being slightly older (40 years; IQR = 34–43 years) than those of the HIV-only protocol (36 years; IQR = 31–41 years) ( $p < 0.001$ ). Most participants (96%) were heterosexual, and 97% reported having female sexual partners only.

Based on the residual analysis, compared with the HIV-only protocol, in the HIV-bundled protocol, there were fewer individuals 29 years of age and younger and more individuals 40–49 years old, fewer people in the lowest-income category of \$5,000 or less, more people who spoke “more Spanish than English” and fewer who spoke both languages equally, more individuals from Mexico and less from Guatemala, and fewer legal residents (Table 1). No differences were found in risk factors for men in the different protocols with only 4% overall ( $n = 26$ ) reporting at least one HIV-related risk behavior.

Individuals in the HIV-only testing protocol were found to be more likely to take the HIV test compared with those in the HIV-bundled protocol ( $\chi^2 = 67.6$ ,  $p < .001$ ) (Table 2). The HIV-only protocol had an HIV testing uptake of 29.1%, compared with the HIV-bundled protocol of 13.6%. Overall, 22.9% of the entire sample tested for HIV. There were no HIV-positive tests in either of the two testing protocols.

A total of 113 individuals (31%) in the HIV-bundled protocol took the HIV test. Of these, 53 (47%) took the HIV test by itself and 60 (53%) took it along with another test. Of the 365 participants in the HIV-bundled protocol, 259 (71%) took only one test, 79 (22%) took two tests, 19 (5%) took three tests, and 8 (2%) took four tests. In addition, in the HIV-bundled protocol, the numbers and percentages of individuals who took screeners or tests for conditions other than HIV were as follows: harmful drinking, 209 (57%); tobacco use, 130 (36%); drug use, 40 (11%); *Chlamydia*, 7 (2%); and gonorrhea, 7 (2%). No individual took the test for syphilis.

In examining the factors associated with “taking an HIV test” among those individuals in the HIV-bundled protocol, income was the only variable to reach statistical significance (Table 3). Individuals with an income greater than \$10,000 were more likely to take an HIV test compared with those with an income of less than that.

In addition, among those in the HIV-bundled protocol who took an HIV test, those who had an income of more than \$10,000 were more likely

**Table 1.** Sociodemographic characteristics of Latino day laborers.

Variable	Bundled <i>n</i> = 365	HIV-only <i>n</i> = 360	Total <i>N</i> = 725	<i>p</i> *
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	
Age, yr				
18–24	4 (1)	18 (5)	22 (3)	<.0001
25–29	13 (4)	47 (13)	60 (8)	
30–39	151 (41)	167 (46)	318 (44)	
40–49	153 (42)	87 (24)	240 (33)	
>50	44 (12)	41 (11)	85 (12)	
Education				
Never attended	19 (5)	16 (4)	35 (5)	.0016
Grades 1–6	116 (32)	146 (41)	262 (36)	
Grades 7–8	123 (34)	90 (25)	213 (29)	
Grades 9–11	64 (18)	46 (13)	110 (15)	
Grade 12/GED	42 (12)	53 (15)	95 (13)	
Some college/degree	1 (0)	9 (3)	10 (1)	
Income <sup>ad</sup>				
<\$5,000	36 (10)	70 (20)	106 (15)	.0001
\$5,000–\$10,000	215 (59)	183 (51)	398 (55)	
\$10,001–\$20,000	113 (31)	96 (27)	209 (29)	
>\$20,000	1 (0)	8 (2)	9 (1)	
Language (read/speak) <sup>d</sup>				
Only Spanish	188 (52)	213 (59)	401 (55)	<.0001
More Spanish than English	157 (43)	104 (29)	261 (36)	
Both equally	19 (5)	41 (11)	60 (8)	
More English than Spanish	1 (0)	2 (1)	3 (0)	
Country of birth				
United States	0 (–)	4 (1)	4 (1)	<.0001
Mexico	242 (66)	155 (43)	397 (55)	
Guatemala	71 (19)	112 (31)	183 (25)	
El Salvador	49 (13)	60 (17)	109 (15)	
Other	3 (1)	29 (8)	32 (4)	
Years lived in the United States <sup>b</sup>				
<10	163 (45)	192 (54)	355 (49)	.0054
≥10	202 (55)	162 (46)	364 (51)	
Residency status <sup>d</sup>				
U.S. citizen	0 (–)	7 (2)	7 (1)	<.0001
Legal resident	4 (1)	20 (6)	24 (3)	
Undocumented	356 (98)	328 (91)	684 (94)	
Other	5 (1)	5 (1)	10 (1)	
Sexual orientation <sup>cd</sup>				
Heterosexual	357 (98)	332 (94)	689 (96)	.0536
Bisexual	2 (1)	5 (1)	7 (1)	
Other	6 (2)	15 (4)	21 (3)	
No. of sexual partners (in previous 12 mon)				
0	54 (15)	73 (20)	127 (18)	.0121
1	204 (56)	161 (45)	365 (50)	
2	44 (12)	62 (17)	106 (15)	
≥3	63 (17)	64 (18)	127 (18)	
Gender of sexual partners <sup>d</sup> ( <i>n</i> = 598)				
Only men	0	1 (0)	1 (0)	.0996
Only women	307 (99)	276 (96)	583 (97)	
Primarily women	2 (1)	8 (3)	10 (2)	
Equally men and women	2 (1)	2 (1)	4 (1)	
Risk factors <sup>d</sup>				
Yes	14 (4)	12 (3)	26 (4)	.7324
No	351 (96)	345 (97)	696 (96)	

Notes. \*Significant test results signify that there are differences between the protocols across the levels or categories of the variables of Table 1.

Percentages may not always sum to 100% due to rounding.

<sup>a</sup>HIV-only missing = 3.

<sup>b</sup>HIV-only missing = 6.

<sup>c</sup>HIV-only missing = 8.

<sup>d</sup>Fisher's exact test.



**Table 2.** Association between HIV testing protocol and taking the HIV test among all of the participants approached.

Protocol	Took HIV test				Total No. of participants approached
	No		Yes		
	<i>n</i>	%	<i>n</i>	%	
Bundled tests	716	86.4	113	13.6	829
HIV only	875	70.9	360	29.1	1,235
Total No. of participants approached	1591	77.1	473	22.9	2,064

Note.  $\chi^2 = 67.6$ ,  $p < .001$ .

**Table 3.** Took the HIV test versus did not take the HIV test (among those in the HIV-bundled protocol).

Variable	Odds ratio (95% confidence interval)	<i>p</i> -value
Income		
More than \$10,000	3.86 (2.36–6.31)	<.001
Language (read/speak)		
Only Spanish	0.85 (0.53–1.38)	.51
Country of birth		
Mexico	1.37 (0.82–2.29)	.26

Note.  $n = 365$ .

**Table 4.** Took the HIV test with other test(s) versus took the HIV test only (among those in the HIV-bundled protocol who took an HIV test).

Variable	Odds ratio (95% confidence interval)	<i>p</i> -value
Education		
9th grade and above	0.53 (0.21–1.36)	.19
Income		
More than \$10,000	3.13 (1.37–7.12)	<.01
Years lived in the United States		
10 years or more	0.43 (0.19–0.99)	<0.05

Note.  $n = 113$ .

to take the HIV test with other test(s) compared with those with less income (Table 4). In addition, those who lived in the United States for 10 years or more were less likely to take the HIV test with other test(s) compared with those living in the United States for less time.

## Discussion

Participation was higher in the HIV-bundled protocol than in the HIV-only protocol. A possible reason for the higher participation in the HIV-bundled protocol may have been the desire by some to not lose out on potential job offers. The participants of the HIV-bundled protocol were provided with opportunities to take comparatively shorter tests than that in the HIV-only protocol and thus would have a lower possibility of jeopardizing getting a job offer. This is suggested by the fact that the most popular tests taken in the HIV-bundled protocol were those for harmful drinking and tobacco

use. Both of these tests involved a relatively short screening instrument and thus took considerably less time to administer than the test for HIV.

Another possible explanation for the difference in the two protocols may have been due to how the compensation for participating in the program was structured. As noted previously, individuals in the HIV-bundled protocol could receive the same amount of financial compensation for taking any one or a combination of the tests offered to them. It is possible, then, that some participants chose to take only one short test and saw no need to take other tests in order to receive the same amount of compensation. In the other protocol by contrast, only one (potentially longer) test was offered, the HIV test.

It is also possible that the participants in the HIV-bundled protocol chose to take tests for conditions of more concern to them than HIV. For example, the most popular test taken in the HIV-bundled protocol was that for harmful drinking ( $n = 209$ ). This is consistent with the literature, which reports high levels of lifetime difficulties with alcohol (Duke, Bourdeau, & Hovey, 2010) and binge drinking (Organista & Kubo, 2005) in this population. In addition, some of the tests offered in the HIV-bundled protocol (e.g., the screeners) were a lot less invasive (and potentially less stigmatizing) than an HIV test. This, too, may have contributed to the greater participation in the HIV-bundled protocol than in the HIV-only protocol.

Testing for HIV was lower in the HIV-bundled protocol than in the HIV-only protocol. Some of the reasons already noted regarding the difference in participation between the two protocols (e.g., the potentially greater stigma associated with taking an HIV test) may also account for the differences found in HIV testing between the two protocols. In addition, among individuals in the HIV-bundled protocol, those with an income greater than \$10,000 were more likely to take an HIV test compared with those with a lower income. This is consistent with other research among day laborers, which has found HIV testing to be more likely among those with a higher income (Solorio & Galvan, 2009b). Day laborers with a higher income may have more access to promotional campaigns that stress the importance of HIV testing as well as locations to get tested for HIV. Lower-income day laborers should be targeted by campaigns promoting an awareness of the benefits of getting tested for HIV and of the availability of free HIV testing services in their communities.

In addition, among those in the HIV-bundled protocol who took an HIV test, those who had an income of more than \$10,000 were more likely to take the HIV test with other test(s) compared with those with less income. In addition, those who lived in the United States for 10 years or more were less likely to take the HIV test with other test(s) compared with those living in the United States for less time. A review of the literature failed to provide possible explanations for these associations. It is not immediately clear why these particular demographic characteristics would be associated with having chosen the combination of the HIV test along with other tests in contrast

to taking the HIV test by itself. Future research should examine in more depth why certain tests or combinations of tests versus others may be more acceptable to this population. Some possible areas of exploration could focus on the characteristics of the tests themselves, such as the length of test administration or a perception that a particular test is more stigmatizing than others.

Several previous studies have described Latino day laborers as being potentially at risk for HIV (Galvan et al., 2008; Ehrlich et al., 2007; Organista & Kubo, 2005; Valdez et al., 2010). In the present study, only a very small percentage, 4% overall ( $n = 26$ ), reported any HIV-related risk behaviors. In addition, no HIV-positive tests were found among the Latino day laborers in the present study. This is consistent with a recent study of 174 Latino day laborers in Maryland, which found no individuals reporting being HIV positive (Bianchi et al., 2012). It is also consistent with some reports of low-risk sexual contacts and high levels of condom use by Latino immigrants when having sex with female sex workers (Bianchi et al.; Painter, 2008). It also suggests that some sexual behaviors in which day laborers in Los Angeles engage, such as having sex with female sex workers (Galvan et al., 2009a), may pose lower risk for HIV than if those same activities were conducted in other parts of the world (CDC, 2006).

In the previously mentioned study of 356 sexually active Latino day laborers in Los Angeles, California, among the 46% ( $n = 164$ ) who reported having received an HIV test in the previous 12 months, one person reported being positive (Solorio & Galvan, 2009b). However, that sample drew participants from six day labor sites where it was known that solicitation of Latino male day laborers for sex by other men occurred. In contrast, the present study chose its day labor sites randomly, utilized a larger number of sites, was conducted over a larger geographical area and used a broader definition of risk behaviors in the selection of day labor sites than that used in the previous study. In addition, the previously mentioned study interviewed day laborers who were 40 years of age or younger, while the present study had no upper age limit to participation. For these reasons, the sample drawn for the present study may be more reflective of Latino day laborers in general than those in the previously mentioned study conducted in Los Angeles.

### **Implications**

Our data suggest that an HIV-bundled testing approach does not appear to increase HIV test acceptance in this population. Testing for HIV in day labor settings may result in higher levels of testing when the HIV test is offered alone. However, few HIV-related risk behaviors were reported by this sample of Latino day laborers, and no HIV-positive tests were found. This would argue against the need for routine HIV screening with this population as a whole.

HIV testing among Latino day laborers should target those involved in actual high-risk HIV behaviors, such as unprotected sex with men or injection drug use. This would be consistent with the Draft Recommendation Statement of the US Preventive Services Task Force, which recommends HIV testing based on risk assessment rather than routine HIV screening for populations with a very low HIV prevalence (U.S. Preventive Services Task Force, 2012).

Despite the low level of reported HIV-related risk behaviors, a significant number of the day laborers approached through this study did choose to get tested for HIV, believing themselves to be at risk of infection. Providing the HIV test to these individuals not only gave them confirmation of their HIV-negative status but also offered them an opportunity to increase their knowledge of HIV prevention information during their discussions with HIV testing counselors. Such information can increase HIV awareness among this population and lessen the potential spread of HIV to day laborers.

### **Limitations**

A limitation of the present study was the large number of individuals who chose not to get tested for HIV in either protocol. This prevents us from concluding definitively that we were able to arrive at an actual prevalence of HIV infection among Latino day laborers. Our results, then, are generalizable only to those who participated in the study.

In addition, we did not ask questions of those who declined to take an HIV test through either testing protocol. Thus we do not know to what extent stigma associated with HIV may have been a reason why they avoided getting the HIV test, as is the case with many Latino immigrants (Levy et al., 2007). Future research should explore the extent to which HIV-related stigma could be impeding the acceptance of HIV testing among Latino day laborers.

Also, since the information concerning risk behaviors was based entirely on self-report, it is subject to the limitations consistent with these types of data. For example, some participants may have been hesitant to admit to behaviors that they perceive as stigmatizing (e.g., having had unprotected receptive anal sex with a man). Thus, the information on risk behaviors may not be 100% accurate.

### **Conclusions**

Our findings suggest that both HIV-related risk behaviors and HIV incidence itself may be low in the general population of Latino day laborers. Nevertheless, efforts should be made to provide HIV testing to day laborers who may also be members of groups engaging in high-risk behaviors (e.g., MSM, injection drug users). Future research should identify ways of targeting these

specific subpopulations of day laborers, who may not be open in day labor sites about their high-risk behaviors and may not currently be reached by HIV prevention efforts. This may be especially the case in communities with few support services and resources for Latino immigrant men who may be MSM or injection drug users.

## Acknowledgments

We also express our appreciation to the staff of Bienestar Human Services, Inc., who assisted in the execution of this study: Ivan Sanchez, Albert Martinez, Victor Martinez and Joe Montes. Finally, appreciation is also extended to the day laborers who gave of their time to participate in this study.

## Funding

Appreciation is extended to the California HIV/AIDS Research Program of the University of California Office of the President for the funding of this research project (CR08-BHS-480; CR08-DREW-481; CR08-LAC-481A).

## References

- Babor, T. F., de la Fuente, J. R., Saunders, J., & Grant, M. (1992). *AUDIT: The alcohol use disorders identification test: Guidelines for use in primary health care*. Geneva, Switzerland: World Health Organization.
- Bianchi, F. T., Reisen, C. A., Gonzales, F. A., Arroyo, J. C., Zea, M. C., & Poppen, P. J. (2013). Sex with sex workers among Latino day laborers in Southern Maryland. *Archives of Sexual Behavior, 42*, 835–849. <http://dx.doi.org/10.1007/s10508-012-0010-z>
- Centers for Disease Control and Prevention (CDC). (2006). Specific populations: How are they affected? Available at <http://www.cdc.gov/hiv/resources/reports/hiv3rddecade/print/chapter4.htm>
- Centers for Disease Control and Prevention (CDC). (2011). Characteristics associated with HIV infection among heterosexuals in urban areas with high AIDS prevalence: 24 cities, United States, 2006–2007. *MMWR Morbidity and Mortality Weekly Report, 60*, 1045–1049.
- Diaz, R. M. (1998). *Latino gay men and HIV: Culture, sexuality and risk behavior*. New York, NY: Routledge.
- Duke, M. R., Bourdeau, B., & Hovey, J. D. (2010). Day laborers and occupational stress: Testing the migrant stress inventory with a Latino day laborers population. *Cultural Diversity and Ethnic Minority Psychology, 16*, 116–122. <http://dx.doi.org/10.1037/a0018665>
- Earnshaw, V. A., Smith, L. R., Chaudoir, S. R., Lee, I.-C., & Copenhaver, M. M. (2012). Stereotypes about people living with HIV: Implications for perceptions of HIV risk and testing frequency among at-risk populations. *AIDS Education and Prevention, 24*, 574–581. <http://dx.doi.org/10.1521/aeap.2012.24.6.574>
- Ehrlich, S. F., Organista, K. C., & Oman, D. (2007). Migrant Latino day laborers and intentions to test for HIV. *AIDS & Behavior, 11*, 743–752. <http://dx.doi.org/10.1007/s10461-006-9182-7>
- Eppen, G. D., Hanson, W. A., & Martin, R. K. (1991). Bundling – new products, new markets, low risk. *Sloan Management Review, 32*, 7–14.
- Hinkle, D. E., Wiersma, W., & Jurs, S. G. (1994). *Applied statistics for the behavioral sciences* (3rd ed.). Boston, MA: Houghton-Mifflin.

- HIV Epidemiology Program, Los Angeles County Department of Public Health. (2010). *Annual HIV Surveillance Report, January 2011: 1–32*.
- Galvan, F. H., Bluthenthal, R. N., Ani, C., & Bing, E. G. (2006). Increasing HIV testing among Latinos by bundling HIV testing with other tests. *Journal of Urban Health* 83, 849–859. doi:10.1007/s11524-006-9072-3
- Galvan, F. H., & Martinez, V. (2006). Latino Day Laborers' HIV Risk in Targeted Geographical Areas. Accessed from <http://bienestar.org/Policy/2006%20day%20laborers%20Study.pdf>
- Galvan, F. H., Ortiz, D. J., Martinez, V., & Bing, E. G. (2008). Sexual solicitation of Latino male day laborers by other men. *Salud Pública de México*, 50, 439–446.
- Galvan, F. H., Ortiz, D. J., Martinez, V., & Bing, E. G. (2009). The use of female commercial sex workers' services by Latino day laborers. *Hispanic Journal of Behavioral Sciences*, 31, 553–575. doi:10.1177/0739986309343273
- Ickovics, J. (2008). “Bundling” HIV prevention: Integrating services to promote synergistic gain. *Prevention Medicine*, 46, 222–225. <http://dx.doi.org/10.1016/j.ypmed.2007.09.006>
- Kellerman, S. E., Lehman, J. S., Lansky, A., Stevens, M. R., Hecht, F. M., Bindman, A. B., & Wortley, P. M. (2002). HIV testing within at-risk populations in the United States and the reasons for seeking or avoiding HIV testing. *JAIDS*, 31, 202–210. <http://dx.doi.org/10.1097/00126334-200210010-00011>
- Levy, V., Prentiss, D., Balmas, G., Chen, S., Israelski, D., Katzenstein, D., & Page-Shafer, K. (2007). Factors in the delayed HIV presentation of immigrants in Northern California: Implications for voluntary counseling and testing programs. *Journal of Immigrant Health*, 9, 49–54. <http://dx.doi.org/10.1007/s10903-006-9015-9>
- MacKellar, D., Valleroy, L., Karon, J., Lemp, G., & Janssen, R. (1996). The young men's survey: Methods for estimating HIV seroprevalence and risk factors among young men who have sex with men. *Public Health Reports*, 111(Suppl 1), 138–144.
- Organista, K. C., & Kubo, A. (2005). Pilot survey of HIV risk and contextual problems and issues in Mexican Latino migrant day laborers. *Journal of Immigrant Health*, 7, 269–281. <http://dx.doi.org/10.1007/s10903-005-5124-0>
- Painter, T. M. (2008). Connecting the dots: When the risks of HIV/STD infection appear high but the burden of infection is not known – the case of male Latino migrants in the southern United States. *AIDS & Behavior*, 12, 213–226. <http://dx.doi.org/10.1007/s10461-007-9220-0>
- Saunders, J. B., Aasland, O. G., Babor, T. F., de la Fuente, J. R., & Grant, M. (1993). Development of the Alcohol Use Disorders Identification Test (AUDIT). WHO collaborative project on early detection of persons with harmful alcohol consumption. II. *Addiction*, 88, 791–804. <http://dx.doi.org/10.1111/j.1360-0443.1993.tb02093.x>
- Simon, H., & Wuebker, G. (1999). Bundling – a powerful method to better exploit profit potential. In R. Fuerderer, A. Herrmann, & G. Wuebker (Eds.), *Optimal bundling: Marketing strategies for improving economic performance* (pp. 9–28). Heidelberg, Germany: Springer.
- Simpson, D. D., & Knight, K. (1998). *TCU data collection forms for correctional residential treatment*. Texas Christian University Institute of Behavioral Research. Available at [http://www.ibr.tcu.edu/pubs/datacoll/Forms/ShortForms/09\(SF\)TCUDSIIFORM.pdf](http://www.ibr.tcu.edu/pubs/datacoll/Forms/ShortForms/09(SF)TCUDSIIFORM.pdf)
- Solorio, M. R., & Galvan, F. H. (2009). Self-reported HIV antibody testing among Latino urban day laborers. *Journal of the National Medical Association*, 101, 1214–1220.
- U.S. Preventive Services Task Force. Screening for HIV: Draft recommendations statement. AHRQ Publication No. 12–05173-EF-3. Available at <http://www.uspreventiveservicestaskforce.org/draftrec.htm>
- Valenzuela, A. (2000). *Working on the margins: Immigrant day labor characteristics and prospects for employment* (Working Paper No. 22). La Jolla, CA: The Center for Comparative Immigration Studies, University of California-San Diego.

- Valenzuela, A., Theodore, N., Melendez, E., & Gonzalez, A. L. (2006). *On the corner: Day labor in the United States*. Chicago, IL: University of Illinois. Available at <http://www.uic.edu/cuppa/uicued>
- Valdez, A., Cepeda, A., Negi, N. J., & Kaplan, C. (2010). Fumando la piedra: emerging patterns of crack use among Latino immigrant day laborers in New Orleans. *Journal of Immigrant and Minority Health, 12*, 737–742. <http://dx.doi.org/10.1007/s10903-009-9300-5>
- Walter, N., Bourgois, P., & Loinaz, H. M. (2004). Masculinity and undocumented labor migration: Injured Latino day laborers in San Francisco. *Social Science & Medicine, 59*, 1159–1168. <http://dx.doi.org/10.1016/j.socscimed.2003.12.013>
- Walter, N., Bourgois, P., Loinaz, H. M., & Schillinger, D. (2002). Social context of work injury among undocumented day laborers in San Francisco. *Journal of General Internal Medicine, 17*, 221–229. <http://dx.doi.org/10.1046/j.1525-1497.2002.10501.x>
- WHO ASSIST Working Group. (2002). The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST): Development, reliability and feasibility. *Addiction, 97*, 1183–1194. <http://dx.doi.org/10.1046/j.1360-0443.2002.00185.x>
- Young, S., & Zhu, Y. (2012). Behavioral evidence of HIV testing stigma. *AIDS & Behavior, 16*, 736–740. doi: [10.1007/s10461-011-0018-8](https://doi.org/10.1007/s10461-011-0018-8)
- Zea, M. C., Reisen, C. A., & Diaz, R. M. (2003). Methodological issues in research on sexual behavior with Latino gay and bisexual men. *American Journal of Community Psychology, 31*, 281–291. <http://dx.doi.org/10.1023/A:1023962805064>