Original Investigation

Ethnoracial Differences in Emergency Department Patients' Tobacco Use

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Abstract

Introduction: This study examined ethnoracial differences in lifetime and recent tobacco use and related problems in a large convenience sample of Latino, Black, and Non-Latino White emergency department (ED) patients. In addition, ED patients' use rates were compared with those of a statewide sample.

Methods: Trained bilingual/bicultural health educators screened almost 53,000 ED patients in 8 ED/trauma units throughout San Diego County over a 2-year period. Measures included sociodemographic characteristics and tobacco use measures from the Alcohol, Smoking, and Substance Involvement Screening Test brief screening instrument.

Results: A consistent finding was the lower prevalence of tobacco use among Latino patients compared with Black and Non-Latino White patients. Compared with their general population counterparts, Non-Latino White, Latino, and Black patients were more likely to have used tobacco in their lifetime and on a daily basis.

Conclusions: Results indicate the high tobacco risk status of ED patients, regardless of ethnicity. More work is needed to develop effective approaches for ED-initiated tobacco interventions for patients in various racial/ethnic groups. Offering tobacco cessation support in opportune venues such as the ED holds great potential to improve accessibility to public health interventions for many underserved communities who may not have regular interaction with a primary care provider.

Introduction

Tobacco use is the single most preventable cause of disease, disability, and death in the United States among all ethnic and racial groups. Each year, about 443,000 people die prematurely from smoking or exposure to secondhand smoke; 37% of these are cancer deaths (Centers for Disease Control and Prevention [CDC], 2009). For every person who dies from smoking, 20 more people suffer from at least one serious tobacco-related illness. In addition, more than 126 million nonsmoking children

and adults are exposed to cancer-causing chemicals in second-hand smoke (U.S. Department of Health and Human Services, 2006). Despite these risks, approximately 43 million U.S. adults smoke cigarettes (CDC, 2009), and continued efforts are needed to achieve the four *Healthy People 2010* objectives to reduce tobacco use and increase cessation (CDC, 2006a). Achievement of *Healthy People 2010* objectives will require development and implementation of effective and comprehensive tobacco-control interventions responsive to environmental and health-seeking realities and ethnic/racial and linguistic uniqueness of impacted communities. Improved understanding of similarities and differences in tobacco use rates, patterns of use, and related morbidity and mortality among different U.S. subpopulations, including socioeconomically-disadvantaged groups, can inform development of effective interventions.

Epidemiological data on U.S. racial/ethnic subpopulations indicate that smoking prevalence among Latinos is lower than among Non-Latino Whites and Non-Latino Blacks (16% vs. 22%—rates are similar for Whites and Blacks; CDC, 2006a). U.S. Latino smokers are more likely to be lighter and intermittent smokers (Trinidad et al., 2009), and there is a traditionally held perception that Latinos are not at high risk for tobacco-related illness and death (Lopez-Quintero, Crum, & Neumark, 2006). This perception, however, is belied by the facts: Lung cancer is the second leading cause of death among Hispanic men and women (National Center for Health Statistics, 2010), and rates of adverse infant health conditions due to maternal smoking and environmental tobacco smoke are particularly high among U.S. born Spanish-speaking Latinos (English, Kharrazi, & Guendelman, 1997; Singh, Siahpush, & Kogan, 2010). There is a high prevalence of “low-level” smoking (i.e., 1–5 cigarettes/day) among Spanish-speaking Latinos, which translates into unique risk considerations for this population. Although U.S. Spanish-speaking Latinos have less tobacco dependence and cravings, Reitzel et al. (2009) found that low-level smokers are not more likely than heavier smokers to quit smoking, and they may respond similarly to environmental cues and social norms regarding smoking. Latinos are also less likely to receive tobacco cessation information from a physician (Lopez-Quintero et al., 2006), which is further complicated by the fact that U.S. Latinos are less likely than Non-Latino Whites to have

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health insurance, a regular care provider, or a medical home (Beal, Hernandez, & Doty, 2009; Brach & Chevarley, 2008).

A study by Luo et al. (2008) found that although Whites had a higher prevalence of lifetime tobacco use and current smoking than Blacks, important differences in nicotine dependence and tobacco use patterns between Blacks and Whites were observed. Among young and middle-aged adults, Black smokers were nicotine dependent at lower levels of cigarettes per day than Whites and were more likely than Whites to smoke their first cigarette of the day within 30 min of waking (Luo et al., 2008). Edens, Glowinski, Pergadia, Lessov-Schlaggar, and Bucholz (2010) described similar findings among Black mothers who smoked less than 10 cigarettes/day as compared with non-Hispanic White mothers. Blacks are also more likely to smoke menthol cigarettes (due in large part to successful tobacco marketing to Black communities), although studies are mixed with regard to whether menthol cigarettes are more addictive than nonmenthol cigarettes (Muscat, Richie, & Stelman, 2002; Okuyemi, Ebersole-Robinson, Nazir, & Ahluwalia, 2004; Wackowski, Delnevo, & Lewis, 2010).

Medical care in the emergency department (ED) is one of the most rapidly growing complex areas of outpatient care (Zilm, 2007), with about 209 visits made to EDs every minute in 2004 (McCaig & Nawar, 2006). Changing patient characteristics such as increasing numbers of low-acuity patients and those with chronic conditions (Mandelberg, Kunh, & Kohn, 2000) are pressing issues. In addition, ED patients are at high risk for a variety of behavioral risk factors, including cigarette smoking, heavy alcohol consumption, and illicit substance use, and also tend to be of lower socioeconomic status (Cherpitel & Ye, 2008; Lowenstein et al., 1998; Silverman, Boudreaux, Woodruff, Clark, & Camargo, 2003; Sun, Burstin, & Brennan, 2003). According to a 2008 report, Blacks utilize the ED twice as often as Whites (Pitts, Niska, Xu, & Burt, 2008). Additionally, Latinos have greater unmet needs in terms of substance use treatment specifically (Wells, Klap, Koike, & Sherbourne, 2001). Therefore, the ED may provide a unique setting for tobacco assessment and intervention for these groups (Mahabee-Gittens, Gordon, Krugh, Henry, & Leonard, 2008).

The purpose of the present study was to expand what is known about Latino, Black, and Non-Latino White tobacco users visiting the ED by examining a large convenience sample of ED patients. Specifically, we assessed ethnoracial differences in lifetime and recent tobacco use and related problems and compared the ED patients' use rates with those of a statewide sample. These comparative analyses may help to identify priorities for group-specific tobacco use cessation activities in an ED setting.

Methods

Procedures

This study analyzed Latino, Black, and Non-Latino White adult ED patients' existing tobacco use data that were collected as part of a larger public health service project funded by the Substance Abuse and Mental Health Services Administration (SAMHSA). Over a 2-year period (October 2007–November 2009), 52,952 cognitively and physically capable patients awaiting care for any reason throughout eight San Diego county emergency and trauma units participated in screening for their use of various

substances. Screenings were face-to-face interviews conducted in the EDs by trained bilingual/bicultural health educators (HEs) fluent in both English and Spanish languages. More than 25 paraprofessional HEs received extensive manualized training on building rapport with patients and administering the screening tool. HEs were present in most EDs 7 days a week, with coverage from 7 a.m. to 11 p.m. (this schedule was chosen because very few patients come into the ED between the hours of 11 p.m.–7 a.m.). While our sample is large and we estimate that we were able to approach at least 70% of capable patients, the sample was not a census of the total ED population and was not a probability sample and, therefore, must be considered a convenience sample.

A private area, usually the room in which the patient was waiting to receive care, was used to conduct the screening interviews. Screenings were conducted at various times during the patient's visit and were frequently interrupted for medical care and resumed later in the visit. Adult patients, 18 years of age and older, were asked to participate in the screening regardless of the reason for their ED visit, with the exception of patients with severe illness/injury, acutely intoxicated patients, and patients who were not competent or capable to give consent. Participation was voluntary, and consent was secured for all patients who agreed to be screened. Typically, the screening process took about 10 min. Approximately 30% of patients were estimated to be incapable or too sick to participate. Refusals among those able to be screened were rare, with about 1.5% of patients refusing.

Measures

ED Patient Tobacco Use Prevalence Measures

Patients' lifetime and past three-month tobacco use and problems associated with tobacco use were assessed with a brief screening questionnaire, the Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST), developed by the World Health Organization (WHO) in 1997. The ASSIST was specially designed for use by health care workers as a valid and simple method of screening for hazardous, harmful, and dependent use of a variety of substances, including tobacco (WHO ASSIST Working Group, 2002). *Lifetime use* was based on the ASSIST question, "In your lifetime, have you ever used tobacco products?" An additional ASSIST item assessed the frequency of tobacco use in the past three months using the response options of never, once or twice, monthly, weekly, or daily/almost daily. The response options have numerical scores associated with them: 0 (*never*), 2 (*once or twice*), 3 (*monthly*), 4 (*weekly*), and 6 (*daily*). This variable was used to compute three dichotomous prevalence measures of recent use: (a) *past three-month use* (i.e., those answering greater than 0), (b) *intermittent or daily use* (i.e., those answering 3, 4, or 6), and (c) *daily use* (i.e., those answering 6).

Additional Measures for Tobacco Users

In addition to the above prevalence measures computed for all patients, several tobacco use items were examined for recent tobacco users only, that is, those ED patients who reported tobacco use in the past three months. A dichotomized measure of intermittent use (yes/no) was computed from the ASSIST frequency item and included those reporting using tobacco once or twice, monthly, or weekly during the past three months. Four dichotomized individual ASSIST items assessing problems related to one's tobacco use included (a) experienced urges or desire to use in the past three months (yes/no); (b) experienced health, social, or financial problems related to use during the

past three months (yes/no); (c) whether or not a friend or relative ever expressed concern about their tobacco use (yes/no); and (d) whether or not the patient had ever tried and failed to control, cut down, or stop using tobacco (yes/no). One final tobacco measure for users was a Tobacco Use Severity Score, which was computed by adding the responses from several ASSIST items (Humeniuk, Henry-Edwards, Ali, Poznyak, & Monteiro, 2010). Severity scores could potentially range from 2 to 31, with scores in the 2–18 range considered relatively lower risk for problems related to tobacco use, scores in the 19–26 range considered at moderate risk of health and other problems related to use, and scores in the range of 27–31 indicating high risk of tobacco dependence.

Demographic Characteristics

In addition to tobacco measures, health interviewers collected patients' demographic characteristics. Characteristics used in the present study included (a) gender; (b) age measured in the categories of 18–20, 21–24, 25–34, 35–44, 45–54, 55–64, and 65+ years; and (c) race/ethnicity (Hispanic/Latino, Black, or Non-Latino White). Patients reporting race/ethnicities other than these three were excluded from the analyses. Latino ED patients had the option of completing the screening interview in English or Spanish.

General Statewide Population Smoking Prevalence

As a comparison for the ED patient tobacco use data, general population tobacco use measures were obtained from the 2009 California Health Interview Survey (CHIS, 2011). CHIS is a collaborative project of the UCLA Center for Health Policy Research, the California Department of Public Health, and the Public Health Institute and is the largest state health survey in the nation. CHIS 2009 surveys were conducted in multiple languages between September 2009 and April 2010 using random digit dialing, cell phone numbers, and a computer-assisted telephone interviewing system (more information about the CHIS methodology and capabilities can be found at <http://www.chis.ucla.edu/get-data.html>). CHIS estimates take into account the complex sampling design by employing the Taylor series linearization method for SE calculation (CHIS, 2002). When standard weights are applied, CHIS data give a detailed picture of the health and health care needs of California's large and diverse population of over 26 million adult residents. CHIS data indicate that 51% of the state population of adults is female. Fourteen percent are 18–24 years of age, 28% are 25–39, 44% are 40–64, 10% are 65–79, and 4% are 80 years of age and older. Considering just the three racial/ethnic groups of interest, Latinos comprise about 37%, non-Latino Whites comprise 56%, and Blacks comprise about 7%.

The CHIS does not measure general tobacco use; therefore, two smoking variables from CHIS were used to compare with ED patient's lifetime and daily tobacco use prevalence. Positive responses to the item "Altogether, have you smoked at least 100 or more cigarettes in your entire lifetime?" were used as a lifetime tobacco use measure. Those answering *every day* to the item, "Do you smoke cigarettes every day, some days, or not at all?" were identified as daily smokers. Standard CHIS weights were applied to produce statewide population estimates.

Analyses

All analyses were conducted with SPSS version 19. Chi-square analyses were used to compare crude tobacco use prevalence

estimates for all Non-Latino White, Latino, and Black ED patients. If significant, pairwise comparisons were conducted to assess which race/ethnic pairs differed from one another. Similarly, chi-square analysis was used to compare tobacco users in the three ethnoracial groups on intermittent use and four individual ASSIST items assessing problems related to use. A one-way analysis of variance and post-hoc analyses were performed to assess race/ethnic mean differences in tobacco severity scores. Logistic regression models were used to test dichotomous tobacco use outcomes by race/ethnicity, adjusted for gender and age. Similarly, dummy-coded multiple linear regression assessed racial/ethnic differences on tobacco use severity scores adjusted for gender and age. Adjusted odds ratios (ORs) from the logistic regression models and betas from the linear regression model provided effect sizes.

Two tobacco measures, ED patient lifetime and daily prevalence rates, were compared with those of California statewide estimates. Prevalence by racial group for California adults obtained from the CHIS data (using appropriate methods to account for survey design) are compared graphically with the prevalence for the ED sample.

Results

ED Patient Characteristics

A total of 52,952 patients identifying themselves as one of the three ethnoracial groups of interest were screened during the course of the study (individuals from other racial/ethnic groups were screened, but their numbers were considered too low to provide stable estimates). The number of patients screened at the eight sites varied, ranging from 800 to 13,000. Patient characteristics varied considerably by site with regard to age, gender, racial/ethnic composition, and tobacco use rates. Variation by site was expected because the SAMHSA-funded public health service project attempted to provide screenings in a large number of diverse acute care sites.

Across all sites, Non-Latino Whites comprised 48% of the total study sample, Latinos comprised 41%, and Blacks comprised 11% of the sample. About 41% of the nearly 22,000 Latinos opted to have the interview conducted in Spanish. Fifty-six percent of the overall sample was female; gender varied by race/ethnicity, with women comprising 54%, 58%, and 56% of the Non-Latino White, Latino, and Black groups, respectively. The average age was 47 years ($SD = 19.8$), with a range from 18 to 101 years. With regard to age categories, 4.5% were 18–20 years, 7.8% were 21–24, 17.6% were 25–34, 16.2% were 35–44, 18.6% were 45–54, 13% were 55–64, and 22% were 65 years or older. Income levels among those reporting income were low by U.S. standards, with one third of patients reporting a household income of less than \$10,000 a year. Sixty-three percent of the overall sample reported using tobacco in their lifetime, 31% reported past three-month use, 28% reported recent intermittent or daily use, and 23% reported daily tobacco use.

Tobacco Use Prevalence Among All ED Patients by Race/Ethnicity

Table 1 presents the result of analyses comparing four crude tobacco prevalence estimates for Non-Latino White, Latino, and

Table 1. Tobacco Use Prevalence Rates and Odds of Tobacco Use for Non-Latino White, Latino, and Black Emergency Department Patients

Crude prevalence/adjusted OR	Prevalence or adjusted OR (95% CI)			χ^2	Pairwise comparisons
	Non-Latino White (<i>n</i> = 25,253)	Latino (<i>n</i> = 21,988)	Black (<i>n</i> = 5,711)		
Lifetime use					
Prevalence	70.6	54.3	67.1	1,363.7*	^a
Adjusted OR, 95% CI ^b	1.00	0.48 (0.46–0.49)	0.80 (0.75–0.86)		
Past three-month use					
Prevalence	34.1	21.9	42.8	804.6*	^a
Adjusted OR, 95% CI ^b	1.00	0.41 (0.39–0.43)	1.10 (1.03–1.16)		
Recent intermittent or daily use					
Prevalence	32.3	19.4	41.1	1,557.5*	^a
Adjusted OR, 95% CI ^b	1.00	0.39 (0.37–0.41)	1.12 (1.06–1.19)		
Daily use					
Prevalence	27.9	13.0	34.0	1,795.1*	^a
Adjusted OR, 95% CI ^b	1.00	0.32 (0.30–0.33)	1.05 (0.98–1.12)		

Note. OR = odds ratio.

^aAll groups are significantly different from one another, $p < .001$.

^bAdjusted OR = ORs adjusted for age and gender.

* $p < .001$

Black ED patients as well as ORs for tobacco use adjusted for age and gender. All the chi-square tests for race/ethnicity were statistically significant at the .001 level, indicating ethnoracial differences in the prevalence of lifetime, past three-month, recent intermittent, and daily use of tobacco. Pairwise comparisons showed that the three groups differed significantly from one another, although a consistent pattern was seen in which Latinos had considerably lower rates for all four measures than the other two groups (12–22 percentage points lower, depending on the tobacco measure). Indicating the same patterns, ORs adjusted for gender and age indicated that the magnitude of Latino patients' differences were considerably large, whereas the White–Black differences, although statistically significant for three of the four measures, were relative modest effect sizes (Sánchez-Meca, Marín-Martínez, & Chacón-Moscó, 2003). The ORs for daily use did not differ significantly for Whites and Blacks. Although Non-Latino White patients were at greater risk of lifetime use than Black ED patients, Black patients were at slightly greater risk than Whites for past three-month and recent intermittent use.

ED Patient and Statewide Population Comparisons

Figures 1 and 2 graphically show results of analyses comparing ED patients to the general state population on two tobacco prevalence measures—lifetime and daily use. ED patients in all three race/ethnic groups reported much higher lifetime tobacco use than their statewide counterparts, with a 26 percentage point difference for Non-Latino Whites, a 24 percentage point differences for Latinos, and a 30 percentage point difference for Blacks. With regard to daily use, Non-Latinos White patients' tobacco use prevalence was almost 18 percentage points higher than their statewide counterparts, Latino patients' prevalence was 6.5 percentage points higher than their statewide counterparts, and Black patients' prevalence was about 23 percentage points higher than their statewide counterparts.

Intermittent Use and Problems Related to Use Among ED Tobacco Users

The crude prevalence of intermittent use and problems with use among those using tobacco in the past three months are presented in Table 2 along with ORs for tobacco use adjusted for age and gender. The three ethnoracial groups differed significantly from one another on all unadjusted prevalence measures ($p < .001$). Latino tobacco users were particularly likely to report intermittent use of tobacco (approximately 41%) compared with White (18%) and Black (20%) users. Black and particularly Latino patients were less likely than Non-Latino White patients to report urges to use; health, social, or financial problems related to their use; concern expressed by others about

Lifetime Tobacco Use Prevalence^a for ED Patients and Statewide Population by Race/Ethnicity

Figure 1. Lifetime tobacco use prevalence (the lifetime use item was different in the two samples. In the emergency department (ED) sample, the item was, “In your lifetime, have you ever used tobacco products.” In the California Health Interview Survey sample, the item was, “Altogether, have you smoked at least 100 or more cigarettes in your entire lifetime?”) for ED patients and statewide population by race/ethnicity. Note. SE bars are too small to be seen.

Figure 2. Daily tobacco use prevalence for emergency department (ED) patients and statewide population by race/ethnicity. *Note.* SE bars are too small to be seen.

their use; and failed attempts to quit. Non-Latino Whites had the highest mean tobacco use severity score, Latinos had the lowest severity score, and Blacks were intermediate. Adjusted ORs give an even clearer picture, indicating modest differences between Blacks and Non-Latino Whites, whereas Latino differences were of medium to large effect magnitudes (Sánchez-Meca et al., 2003).

Discussion

This study indicated a high prevalence of lifetime and more recent tobacco use among ED patients. Furthermore, prevalence

and problems related to tobacco use varied by patient race/ethnicity. In general, compared with their statewide population counterparts, Non-Latino White, Latino, and Black ED patients were more likely to have used tobacco in their lifetime and on a daily basis. Others have reported that ED patients have unusually high smoking rate—40% or higher in some studies (Lowenstein et al., 1998; Silverman et al., 2003). However, tobacco use prevalence studies have usually focused on a single or few EDs and have not compared different racial/ethnic groups. The present study is among the first to report that excessive tobacco use is evident among White, Black, and Latino ED patients.

A consistent finding was the lower prevalence of tobacco use among Latino patients compared with Black and Non-Latino White patients, a pattern routinely seen in U.S. and California population-based surveys (Al-Delaimy, White, Gilmer, Zhu, & Pierce, 2008; CDC, 2006a). Latino patients' adjusted lifetime use risk was considerably lower than the other two groups, their past three-month risk was less than half that of the other two groups, and their risk for daily use was about 65% lower than the other two groups. Although all three groups were statistically different from one another on adjusted lifetime, past three-month, and recent intermittent/daily use, the large sample sizes were likely driving these findings of significance. Effect sizes suggest that Non-Latino Whites and Blacks were relatively similar on these measures, whereas Latino patients differed from those two groups. With regard to Black and White prevalence measures, an interesting pattern emerged in which Non-Latino Whites were slightly higher than Blacks on lifetime use but slightly lower than Blacks for the two recent use measures (there

Table 2. Prevalence of Intermittent Use and Problems for Non-Latino Whites, Latino, and Black Emergency Department Patients Who Used Tobacco during the Past three Months

Measure	Prevalence, adjusted OR (95% CI) or M (SD)			χ^2 or F	Pairwise comparisons
	Non-Latino White (n = 8,539)	Latino (n = 4,744)	Black (n = 2,432)		
Intermittent use					
Prevalence	17.8	40.5	20.1	857.6*	^a
Adjusted OR, 95% CI ^b	1.00	2.78 (2.56–3.02)	1.15 (1.03–1.30)		
Experienced urges and desire to use in the past three months					
Prevalence	75.9	54.9	71.9	776.8*	^a
Adjusted OR, 95% CI ^b	1.00	0.39 (0.36–0.42)	0.81 (0.73–0.90)		
Experienced health, social or financial problems related to use in the past three months					
Prevalence	23.7	16.2	21.3	146.2*	^a
Adjusted OR, 95% CI ^b	1.00	0.62 (0.57–0.69)	0.87 (0.78–0.98)		
Others ever expressed concern about use					
Prevalence	59.8	53.8	56.7	96.7*	^a
Adjusted OR, 95% CI ^b	1.00	0.78 (0.72–0.84)	0.88 (0.80–0.96)		
Ever attempted and failed to quit					
Prevalence	52.8	42.4	49.5	198.6*	^a
Adjusted OR, 95% CI ^b	1.00	0.66 (0.61–0.71)	0.88 (0.80–0.96)		
Tobacco severity score					
Mean	16.5 (7.6)	13.6 (8.1)	15.9 (7.5)	319.7*	^a
β	reference	-.173	-.024		

Note. There were missing data for 72 Non-Latino White, 71 Latino, and 12 Black patients. OR = odds ratio.

^aAll groups are different from one another, $p < .001$.

^bAdjusted OR = OR adjusted for age and gender.

* $p < .001$.

were no White–Black differences in adjusted daily use). This pattern may indicate relatively lower quit rates for Black smokers, a finding that has been reported in nonpatient studies (Fiore et al., 1989; Giovino et al., 1994). Reasons for lower quit rates among Blacks have included targeted advertising, greater dependence, stress, lack of social support, and lack of medical advice to quit (Muscat et al., 2002).

Of the six items assessing intermittent use and tobacco use problems among recent tobacco users, all showed significant differences among the three racial/ethnic groups. Typically, a higher percent of Whites than Blacks or Latinos reported problems related to use. However, again taking effect sizes into account, the differences for Non-Latino Whites and Blacks were relatively modest, while Latino tobacco users reported relatively lower prevalence of urges to use, problems related to use, expressions of concern about use from others, failures to quit, and lower tobacco severity scores. A greater proportion of Latino tobacco users than Black or White tobacco users were intermittent users, a pattern consistent with other nonpatient samples (Trinidad et al., 2009). Our findings, however, should not suggest that public health tobacco interventions with Latinos are unwarranted. To the contrary, prior research with Spanish-speaking Latinos, a growing subpopulation of U.S. Latinos, found that Latinos who are low-level smokers are not more likely than heavier smokers to quit smoking and may be equally impacted by the same environmental cues and social norms that influence heavier smokers (Reitzel et al., 2009).

This study has limitations, such as those related to the measurement of tobacco use. Although the ASSIST is a valid and reliable screening instrument, it is not a routinely used tobacco use measure, and therefore, comparisons with other studies are difficult. For example, the ASSIST assesses general tobacco use (cigarettes, pipes, chewing tobacco, and cigars combined), while the CHIS statewide survey assesses cigarette smoking specifically. Therefore, the differences in use between patients and the general population described in this study may be overestimated. On the other hand, the use of tobacco products other than cigarettes is relatively low in California (Al-Delaimy et al., 2008); therefore, we think that the differences we report are useful. In addition, differences in the wording of the ED interview items and those on the statewide survey required us to make some assumptions of equivalence. For example, the lifetime use item in the ED interview was, “In your lifetime, have you ever used tobacco products.” In the CHIS sample, the item was, “Altogether, have you smoked at least 100 or more cigarettes in your entire lifetime?” However, although we believe that the lack of comparability between the ED measures and the CHIS measures is a concern, the very large differences seen give us confidence that the finding of ED patients having considerably higher tobacco use is real and of public health significance for targeted interventions. Another measurement shortcoming was the lack of widely-used measures of cigarette use and addiction—number of cigarettes smoked, the latency to first cigarette of the day, the smoking of mentholated cigarettes, and more detailed cessation history items—all measures that have shown Black–White differences in other studies (Muscat et al., 2002; Okuyemi et al., 2004). Another important covariate, socioeconomic status, was not reliable and therefore not included in our models. A sensitive reliable socioeconomic measure would be important to include because of its likely association with race/ethnicity and health behaviors.

The present ED data were not collected specifically for tobacco research but rather came from opportunistic screenings primarily for alcohol and drug misuse. Although the number of involved EDs reflected an impressive representation of all County EDs and the sample size of patients was large, the present study used a convenience sample rather than a probability sample. Health interviewers attempted universal screening of all capable patients; however, to the degree that the sample does not represent all patients in the area, we cannot assume that the findings are generalizable to all ED patients. Finally, for the purpose of confidentiality and rapport building, HEs avoided asking patients about their immigration status and their insurance coverage, thereby limiting our ability to describe and analyze data by these characteristics.

Results indicate differences in the risk of tobacco use in ED patients by ethnicity (i.e., Latinos being lower than Non-Latino Whites and Blacks) that appear to correspond to patterns seen in non-ED individuals. ED patients use tobacco at higher rates than non-ED patients, underscoring the high tobacco risk status of ED patients regardless of ethnicity. Tobacco intervention in the ED has received some attention as having a potentially large public health impact, particularly screening and brief motivational intervention (Cunningham et al., 2009). Tobacco intervention in the ED has been found to be feasible (Boudreaux et al., 2008), may increase patient satisfaction (Bernstein et al., 2006; Bernstein & Boudreaux, 2010), and appears acceptable to ED staff (Greenberg, Weinstock, Fenimore, & Sierzeza, 2008). In addition, ED patients who use tobacco express interest in help to quit, although they generally do not attend programs prescribed after the initial ED visit (Klinkhammer, Patten, Sadosty, Stevens, & Ebbert, 2005). Unfortunately, a randomized controlled trial found on-site tobacco counseling to be no more effective than usual care (Neuner et al., 2009). Clearly, more work is needed to develop effective approaches for ED-initiated tobacco interventions for patients in various racial/ethnic groups. A window of opportunity exists given that current ED waiting times are 1 hr or more for many ED visits (CDC, 2006b). The current data could be used to inform the development of brief clinical interventions that use motivational interviewing (MI) techniques and audio computer-assisted self-interview (ACASI) to deliver patient-centered messages that are responsive to ethnoracial subgroup smoking patterns. MI is among the most promising behavioral treatment approaches in smoking cessation (Hettema & Hendricks, 2010), and ACASI interventions that incorporate MI have demonstrated efficacy in other fields, such as HIV prevention (Lightfoot, Rotheram-Borus, Comulada, Reddy, & Duan, 2010). Application of computerized MI to support patient-centered and ethnoracially sensitive smoking cessation is worthy of exploration for use in the ED. Offering tobacco cessation support in opportune venues such as the ED holds great potential to improve accessibility to public health interventions for many underserved communities who may not have regular interaction with a primary care provider.

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Declaration of Interests

None declared.

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