CLINICAL UPDATE

Update in Health Disparities

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Racial and ethnic disparities in health and health care have been widely documented in the United States.¹ Disparities are pervasive across many clinical conditions and all dimensions of access to care. The elimination of disparities therefore requires interventions on multiple levels.² This update in disparities focuses on recent key advances in this field. In this paper, we summarize selected articles chosen for presentation at the 30th annual session of the Society of General Internal Medicine. Articles were selected if they focused on racial/ethnic disparities or single population non-White racial/ethnic groups, are immediately applicable to the practice of general internal medicine, and have the potential to reduce racial/ethnic health disparities.

We used a systematic search strategy to survey the relevant literature for the period January 1, 2006 to December 31, 2006. We performed a MEDLINE search using the medical subject heading (MeSH) terms ethnic groups and continental population groups. We added a title search term to capture all citations containing the title word disparity or disparities. We limited our search to English language citations that were not letters or editorials, and that were published in one of the 109 journals reviewed by the ACP Journal Club or one of 4 additional journals with a health services research or a vulnerable population focus. As our audience is general internists, we excluded studies of obstetrics and those that did not include adult populations.

Using this approach, we identified 822 titles that were each screened by 2 reviewers, with a third reviewer adjudicating any discordant ratings. Five hundred five abstracts were selected for review, with 2 reviewers screening all abstracts for inclusion criteria, clinical relevance, and potential to reduce disparities, and a third reviewer adjudicating discordant ratings. Resulting

abstracts were rescreened by two additional reviewers using the same criteria. We identified 23 papers that were the most highly rated with respect to relevance to clinical practice and potential to reduce disparities. These papers were each rated by two reviewers for methodological quality, innovation, and relevance to general internists. We discuss here 9 important studies that impact on health care delivery to U.S. racial/ethnic minorities.^{3–11}

CARDIOVASCULAR RISK FACTORS AND PREVENTION

Bennett GG, Wolin KY, Viswanath K, Askew S, Puleo E, Emmons KM. Television Viewing and Pedometer-determined Physical Activity Among Multiethnic Residents of Low-income Housing. *Am J Public Health*. 2006;96(9):1681–5

Television viewing is the third most common time-consuming activity nationally, after work and sleep.¹² Television viewing is associated with excess body weight. Most research on television viewing and physical activity focuses on leisure-time physical activity, which is a less accurate representation of total physical activity among lower-income populations who derive a higher proportion of their daily physical activity through routine, non-leisure-time activities. The authors evaluated the association between hours spent watching television and pedometer-determined total physical activity in a sample of predominantly racial/ethnic minority residents of 7 low-income housing communities in Boston.

Six-hundred-ninety-six participants completed a survey in which they reported the number of hours they spent watching television on an average weekday and on an average weekend day. Thirty percent of the sample was excluded, with the most common reasons being that they were not ambulatory, or their literacy levels were too low to complete the sampling log. The analytic sample was comprised of 486 participants (45% African American, 38% Hispanic) who wore a pedometer for 5 days that did not display the accumulated step count.

Average daily television viewing was associated with a reduction of approximately 520 steps, or almost 10% of the average 4,650 to 6,051 daily steps per day in this sample. In multivariate analyses, each hour of television viewing on an average day was associated with 144 (95% confidence interval [CI] –276, –12)

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fewer steps per day and a decreased likelihood of walking 10,000 steps per day (odds ratio [OR] 0.84, 95% CI 0.71, 0.99).

The authors did not measure the detrimental impact of television content on health behaviors such as diet; consequently they were limited in measuring the overall impact of television viewing. In addition, they relied on self-reported average daily viewing, which may have been underreported given social desirability. Thus, their modest effect size may underestimate the true impact of television viewing. However, given that an association was observed, health care providers should include recommendations to reduce television viewing in discussions with patients about weight management and physical activity. Taking into account the modest effect size, these discussions should also include recommendations for replacement activities that have a higher metabolic expenditure than television viewing.

**Thornley-Brown D, Wang X, Wright JT Jr, et al.
Differing Effects of Antihypertensive Drugs
on the Incidence of Diabetes Mellitus
Among Patients with Hypertensive Kidney Disease.
Arch Intern Med. 2006;166(7):797–805**

The incidence, prevalence, and rates of complications from diabetes mellitus (DM) are higher in African Americans than in Whites. In recent hypertension trials, there was a lower incidence of DM among participants taking angiotensin-converting enzyme inhibitors (ACEIs) or angiotensin II receptor blockers (ARBs) in comparison to other classes of anti-hypertensive medications; however, few African Americans were enrolled in these trials. The African-American Study of Kidney Disease and Hypertension (AASK) was a multicenter trial of nondiabetic African-American adults with chronic kidney disease caused by hypertension. Kidney disease was defined as a glomerular filtration rate between 20 to 65 mL/min per 1.73 m², which is equivalent to late stage 2 through stage 4 kidney disease as defined by the Kidney Disease Outcomes Quality Initiative (K/DOQI). Participants were randomized to 1 of 3 classes of initial antihypertensive medications: an ACEI (ramipril), a beta-blocker (metoprolol succinate), or a calcium channel blocker (amlodipine besylate). If the blood pressure goal was not achieved with the study drug, additional unmasked drugs were added. In this post-hoc analysis of the AASK intervention, the authors sought to evaluate the association of these therapies on incident DM or the composite outcome of impaired fasting glucose (IFG) or DM (IFG/DM) among the 1,017 African-American participants. DM was defined as a clinical diagnosis of DM or a fasting serum glucose level (FSG) of ≥ 126 mg/dL. IFG was defined as a FSG of 100 to 125 mg/dL.

Most participants needed more than 1 antihypertensive medication to achieve their assigned blood pressure goal. During a 3.8-year mean follow-up period, 14.5% of participants developed DM, 42.9% developed IFG/DM. The relative risk for DM was 0.53 (95% CI 0.36, 0.78) for ramipril compared to metoprolol, and 0.49 (95% CI 0.31, 0.79) for ramipril compared to amlodipine. The relative risk for IFG/DM was 0.64 (95% CI 0.50, 0.82) for ramipril compared to metoprolol. Other drug-drug comparisons for the development of DM or IFG/DM were not statistically significant.

Because the AASK was not designed to study DM as a main outcome, there were several unmeasured potential confounders, including waist-hip ratio, baseline insulin levels, and family history of DM. In addition, weekly exercise was self-reported and concomitant DM medication use was not assessed and thus may have influenced FSG measurements. Nonetheless, the authors' finding that treatment with ramipril was associated with lower risk of DM in African Americans with hypertensive kidney disease suggests that ACEI should be considered as first-line or additive agents for hypertension treatment in African Americans at high risk of DM.

**Sisk JE, Hebert PL, Horowitz CR, McLaughlin MA,
Wang JJ, Chassin MR. Effects of Nurse
Management on the Quality of Heart Failure Care
in Minority Communities: A Randomized Trial.
Ann Intern Med. 2006;145(4):273–83**

Congestive heart failure (CHF) is a leading cause of hospitalizations among people 65 years and older. Hospitalization, disability, and death caused by CHF are more common among African Americans than among whites. This randomized effectiveness trial compared the effects of a nurse-led intervention focused on CHF management problems against usual care in community-dwelling ethnically diverse patients with systolic dysfunction. Enrollees spoke English or Spanish, and were recruited from ambulatory care practices affiliated with hospitals in Harlem, NY. The 406 participants included 46% African Americans, 33% Hispanics, 14% New York Heart Association (NYHA) class III, and 45% class IV.

During the 12-month intervention, bilingual nurses counseled patients on diet, medication adherence, and self-management of symptoms through an initial visit, regularly scheduled follow-up telephone calls, and discussions with patients' clinicians to facilitate evidence-based medication changes. Outcomes were hospitalizations at 12 and 18 months, and self-reported functioning as assessed by the Short Form-12 (SF-12) physical component score (PCS) and the Minnesota Living with Heart Failure (MLHF) questionnaire.

At both 12- and 18-month follow-up assessments, nurse management patients had fewer hospitalizations (adjusted difference -0.13 hospitalization/person-year [95% CI -0.25 , -0.001] and -0.10 hospitalization/person-year [95% CI -0.19 , -0.02], respectively) than usual care patients. They also had better functioning, with the 12-month SF-12 PCS being 39.9 versus 36.3 (difference, 3.6 [95% CI 1.2, 6.1]), and the MLHF score being 38.6 versus 47.3 (difference -8.8 [95% CI -15.3 , -2.2]). Eighteen-month functional assessments and mortality were similar in the two groups.

This trial was initiated in the outpatient setting, and not peri-hospitalization, and so is applicable to patients in ambulatory settings. This study demonstrated that nurse management could reduce hospitalizations and improve functioning in ethnic minority patients with CHF. However, the intervention was delivered by 3 nurses in a limited number of sites, and therefore may have different effects in other settings. Given that functional improvements were not maintained post intervention, improved long-term functioning in similar populations may require continued nurse contact.

BREAST CANCER DIAGNOSIS AND TREATMENT

Smith-Bindman R, Miglioretti DL, Lurie N, et al. Does Utilization of Screening Mammography Explain Racial and Ethnic Differences in Breast Cancer? *Ann Intern Med.* 2006;144(8):541–53. Gorin SS, Heck JE, Cheng B, Smith SJ. Delays in Breast Cancer Diagnosis and Treatment by Racial/Ethnic Group. *Arch Intern Med.* 2006;166(20):2244–52

U.S. breast cancer mortality rates differ by race/ethnicity. Although non-Hispanic white women have a higher incidence of breast cancer, African-American, followed by Hispanic women, have higher death rates. Reasons for these mortality differences are difficult to ascertain; poorer screening, later stage at diagnosis, more aggressive tumor, and treatment delays have all been hypothesized. These 2 studies independently sought to determine reasons for disparities in breast cancer outcomes across racial and ethnic groups.

Smith-Bindman and colleagues pooled data from 7 mammography registries participating in the Breast Cancer Surveillance Consortium, and linked cancer diagnoses from tumor registries, to examine the relationship between patterns of mammography use and disparities in outcomes in 1,010,515 women with 1 or more mammograms during 1996–2002. In this cohort, 17,558 were diagnosed with breast cancer. Gorin and colleagues used the Surveillance, Epidemiology, and End Results–Medicare database of 49,865 female Medicare recipients age 65 years and older, who were diagnosed with breast cancer in 1992–1999, to determine the association between diagnostic, treatment, or combined (diagnostic plus treatment) clinical delay and outcomes. Diagnostic delay was defined as the time from initial consultation to biopsy-proven diagnosis, where the initial consultation date was defined as the date of diagnostic mammography or diagnostic ultrasonography or the date of a consultation for breast symptoms. Treatment delay was the time from diagnosis to the beginning of treatment. Both studies determined breast cancer prevalence, stage, and other tumor characteristics for white, African-American, Hispanic, Asian and Pacific Islander, and Native American or other women.

Smith-Bindman and colleagues found that inadequate mammography screening was more likely among African-American, Hispanic, Asian and Pacific Islander, and Native American women (relative risk [RR] ranging from 1.2 to 1.4, all $p < .001$). African-American women were more likely than white, Asian and Pacific Islander, and Native American women to have large, advanced-stage, high-grade, and lymph node-positive tumors. For all groups, rates of all cancers, and of large, advanced-stage, high-grade tumors, increased with increasing screening interval. Differences in stage between African Americans and whites were attenuated when the cohort was stratified by screening history. However, African-American versus white differences in high-grade tumors were independent of screening history.

As in the study by Smith-Bindman and colleagues, Gorin and colleagues found that African-American women, followed by Hispanic women, had the largest and most advanced stage tumors. After adjusting for sociodemographics, comorbidity, cancer detection method, health care use, and tumor stage and characteristics, they found that African-American women, com-

pared with white women, were more likely to experience diagnostic delay beyond 2 months (adjusted OR [AOR] 1.39; 95% CI 1.18, 1.63), treatment delay beyond 1 month (AOR 1.64; 95% CI 1.40, 1.91), and a combined clinical delay beyond 3 months (AOR 2.24; 95% CI 1.75, 2.86). Other racial/ethnic groups had similar delays to whites.

Taken together, these studies document delays in every step of the breast cancer screening, diagnosis, and treatment continuum, particularly for African-American women. Both studies had sufficient sample within each racial/ethnic group to allow for meaningful comparison with other subgroups, and they had detailed data on mammography use, tumor characteristics, and treatment. However, claims files and registries omit symptom history that may affect testing and treatment, therefore both studies were limited to describing what happened, but not why. These studies found that poorer screening, later stage at diagnosis, more aggressive tumors, and treatment delays are all factors that could contribute to disparities in breast cancer mortality. These data provide an incentive for efforts to increase adherence to recommended mammography screening intervals, and to reduce diagnostic and treatment delays.

Maly RC, Umezawa Y, Ratliff CT, Leake B. Racial/Ethnic Group Differences in Treatment Decision-making and Treatment Received Among Older Breast Carcinoma Patients. *Cancer.* 2006;106(4):957–65.

Racial/ethnic disparities have been identified in breast cancer treatment and outcomes.^{6,7} African-American and Hispanic women with breast cancer are less likely than non-Hispanic whites to receive breast-conserving surgery (BCS). Treatment differences may be related to racial/ethnic disparities in physician–patient relationships, which are central to treatment decision making. However, little is known about the comparative contributions of patients, their family members, and physicians in the decision-making process. The aims of this study were to determine the roles of the patient, the family, and physicians in treatment decision making, to assess whether these roles differ by racial/ethnic group, and to determine if racial/ethnic group differences in the treatment decision-making process are associated with treatment received.

The authors conducted a cross-sectional survey in Los Angeles County of Latina, African-American, and non-Hispanic white women with newly diagnosed breast cancer. Potential respondents were sampled from the county tumor registry 1 month post-treatment. Two-hundred-fifty-seven (64%) of those eligible for the study enrolled. The main outcomes were patient report of the final treatment decision maker, and initial surgical treatment received (mastectomy vs. BCS). Acculturation to U.S. culture among Latina women was determined by the Marin Acculturation Scale.¹³ Survey measures also included social support, perceived self-efficacy in communicating with physicians, and patient report of physician participatory decision-making (PPDM) style (i.e., their propensity to involve patients in diagnostic and treatment decisions).

Table 1 describes the final treatment decision maker by race ethnicity and acculturation. Forty-nine percent of less accultur-

Table 1. Final Treatment Decision-Maker by Race/Ethnicity (% Reporting)

Final decision-maker	Less acculturated Latina (n=71)	More acculturated Latina (n=28)	African American (n=66)	White (n=92)
Self*	36.6	75.0	69.7	69.6
Physician [†]	9.9	7.1	24.2	28.3
Spouse/partner [‡]	4.2	0.0	3.0	0.0
Other family/friend*	49.3	17.9	3.0	2.2

Adapted from Maly RC, Umezawa Y, Ratliff CT, Leake B. *Cancer*. 2006; 106(4):957-65. Copyright 2006 American Cancer Society. This material is reproduced with permission of Wiley-Liss, Inc., a subsidiary of John Wiley & Sons, Inc.

Physician includes surgeon, medical oncologist, radiation oncologist, or primary care doctor.

* $p < .001$; $^{\dagger}p = .006$; $^{\ddagger}p = .19$

ated Latinas and 18% of more acculturated Latinas indicated that their family members determined the final treatment decision, compared with less than 3% of African Americans and whites ($p < .001$). These differences persisted after controlling for social support, perceived self-efficacy, PPDM, socio-demographics, and health variables (AOR 7.97; 95% CI 2.43, 26.20, for less acculturated Latinas; AOR 4.48; 95% CI, 1.09, 18.45, for more acculturated Latinas). Controlling for socio-demographics, comorbidity, and breast cancer stage, patients were less likely to receive BCS when the family made the final treatment decision (AOR 0.39; 95% CI 0.18, 0.85).

This is one of the few studies to examine the role of family in treatment decision-making, particularly in a Latina population. The authors conclude that family plays a powerful role in treatment decision making among Latina breast cancer patients, regardless of the level of acculturation. Approximately two-thirds of the Latina population in Los Angeles County is of Mexican origin, and it is unknown if the magnitude of these findings would be similar in other Latina populations. Nonetheless, this study demonstrates the pivotal role of family members in the medical encounter, beyond providing language translation, explaining concepts, and providing social support. The findings suggest that physicians should acknowledge and educate patients' family members as potential key participants in medical decision making.

CULTURALLY APPROPRIATE CARE FOR ASIAN AMERICANS

Ahn AC, Ngo-Metzger Q, Legedza AT, Massagli MP, Clarridge BR, Phillips RS.

Complementary and Alternative Medical Therapy Use Among Chinese and Vietnamese Americans: Prevalence, Associated Factors, and Effects of Patient-Clinician Communication. *Am J Public Health*. 2006;96:647-53.

Among the major racial/ethnic groups in the United States, Asian Americans rank lowest in health care seeking, satisfac-

tion with health care, and ratings of interpersonal care. This may be related to "east-west" differences in health beliefs and practices. Focus groups have suggested that complementary and alternative medical therapy (CAM) use is common among Chinese and Vietnamese patients. The authors speculated that communication, or lack thereof, about CAM might contribute to lower satisfaction with health care among Asian Americans. The authors sought to assess prevalence and correlates of CAM use among Chinese and Vietnamese Americans, and to determine if communication about CAM is associated with higher patient ratings of quality of care.

Informed by focus groups in the target population, in 2001-2002, the authors conducted a national survey, enrolling limited English proficiency (LEP) Cantonese, Mandarin, or Vietnamese speakers who visited one of 11 community health centers in 8 major cities. Potential enrollees were mailed surveys, and received up to 10 follow-up telephone reminders. There were 3,258 completed surveys, representing a 74% response rate. More than 99% of respondents were immigrants.

Most respondents reported having used CAM (defined as use of herbs, acupuncture, acupressure, coining, cupping, tai chi, qigong, or massage therapy), ranging from 55% of Mandarin respondents to 72% of Vietnamese. CAM use in the week before the health center visit ranged from 10% to 18%, with higher use among Cantonese-speaking and Vietnamese groups, and among those with fair or poor health status. There was more use of herbs among Chinese respondents, and more use of coining, cupping, and massage among Vietnamese. Among all CAM users, 8% had discussed it with their health care providers, whereas 26% of recent CAM users had discussed it with providers. CAM users who discussed it with their providers gave higher ratings to their physicians, and the care they received during their most recent visit. They were also more likely to recommend the clinic to others and to report receiving a thorough exam, being treated with courtesy and respect, and having confidence and trust in their physicians.

Strengths of this study were the high response rate in a difficult-to-reach LEP population, and collaboration with a national Asian community health center organization in identifying potential respondents. However, the findings linking discussion of CAM use to higher patient satisfaction were not adjusted for possible confounders (e.g., ethnicity, health status). Additionally, it is possible that the association between discussion of CAM and patient satisfaction was related to better doctor-patient communication overall, rather than discussion of CAM per se.

This study found that CAM use is common in immigrant, LEP Chinese and Vietnamese populations. These patients are likely to be more satisfied with care when CAM use is openly asked about and discussed. However, in applying these findings, health care providers should be careful not to profile patients and their likelihood of CAM use based on race/ethnicity.

Kandula NR, Wen M, Jacobs EA, Lauderdale DS. Low Rates of Colorectal, Cervical, and Breast Cancer Screening in Asian Americans Compared with Non-Hispanic Whites: Cultural Influences or Access to Care? *Cancer*. 2006;107(1):184-92.

Asian Americans have lower cancer screening rates than non-Hispanic whites. These disparities may be related to access to

Table 2. Associations Between Race/Ethnicity and Cancer Screening Tests after Adjusting for Socioeconomics (SES), Access to Care, and Acculturation*

	Colorectal cancer screening	Cervical cancer screening	Breast cancer screening
Unadjusted	C F K V	C F K V O	C F K
+ SES and access to care	C F k V o	C F K V O	C F K O
+ Acculturation	F	C K V O	f k o

*C, F, K, V, and O denote Chinese, Filipino, Korean, Vietnamese, and other Asian, respectively. SES/access measures were income, education, insurance status, and usual source of care. Acculturation measures were birthplace (U.S. versus foreign-born), number of years in the United States, and language spoken at home.

Capital letters in bold: Odds ratio <0.5 ($p < .05$) compared with non-Hispanic whites

Capital letters, normal: Odds ratio 0.5–0.8 ($p < .05$) compared with non-Hispanic whites

Lower case (small) letters: Odds ratio 0.5–0.8 ($p \geq .05$) compared with non-Hispanic whites

care, language or communication barriers, or health beliefs. This study was aimed to determine if the association between Asian race/ethnicity and cancer screening is explained by access or acculturation, and to determine if the association between acculturation and cancer screening is related to health beliefs.

The authors analyzed cross-sectional data from the 2001 California Health Interview Survey (CHIS), which is a population-based, random digit dial telephone survey with a response rate of 38%. The analytic sample was comprised of 36,660 non-Hispanic whites, 1,298 Chinese, 944 Filipinos, 803 Koreans, 857 Vietnamese, and 1,036 other Asians. Data were weighted to reflect the population of California. The primary outcomes were appropriate colorectal (CRC), breast, and cervical cancer screening, based on the cancer-specific recommendations for screening by age and gender endorsed by the American Cancer Society at the time that CHIS data collection began.¹⁴ Reasons for not being screened were also determined. The authors used hierarchical logistic regression analyses to determine the association between race/ethnicity and cancer screening tests after first adjusting for socioeconomic (SES) and access to care, then additionally adjusting for acculturation.

All Asian subgroups had lower unadjusted screening rates for all screening tests compared with non-Hispanic whites, with most of these differences achieving statistical significance (Table 2). Adjusting for SES and access to care attenuated CRC screening differences for Koreans, increased breast cancer screening differences for “other” Asians, and generally did not modify other differences. Adjusting for acculturation reduced or eliminated most of the CRC and breast cancer screening disparities. Except in the case of Filipinos, cervical cancer disparities were largely unexplained by SES, access to care, and acculturation.

In exploring reasons for the effect of acculturation on screening services, the authors found that foreign-born Asians were significantly more likely than U.S. born whites to report having “not had problems or symptoms” as the primary reason for not undergoing screening. Notably, however, relatively small percentages of foreign-born Asians cited this reason (ranging

from 17% for cervical cancer screening to 35% for flexible sigmoidoscopy).

The authors concluded that acculturation may be a marker of cultural differences that are mediating cancer screening disparities. Important study limitations were the low survey response rate and the use of self-report to determine cancer screening. It also remains unclear from this study whether disparities associated with acculturation are caused principally by different health beliefs, or to other correlates of acculturation, such as language, communication, or cultural barriers to care. However, this large, population-based study was able to examine subgroups of Asians and document substantial disparities in cancer screening across Asian subgroups. The belief that cancer screening is not indicated for asymptomatic patients may contribute to the disparities found. Explicitly addressing the purpose of screening may enhance uptake and reduce disparities.

Tu SP, Taylor V, Yasui Y, et al. Promoting Culturally Appropriate Colorectal Cancer Screening Through a Health Educator: A Randomized Controlled Trial. *Cancer*. 2006;107(5):959–66

Colorectal cancer incidence has been rising among Asians in both the United States and in Asian countries. However, CRC screening rates among Asian Americans are low.¹⁰ As language and cultural differences may create barriers to CRC screening, health educators/promoters who bridge the linguistic and cultural divide may serve a promising role in reducing disparities. This randomized controlled trial assessed the effectiveness of a culturally tailored, clinic-based, health educator-driven program to promote fecal occult blood test (FOBT) screening in a low-income, low-acculturation Chinese-American population.

This study was conducted in 2003–2004 at an Asian-American-serving community clinic in Seattle. The multifaceted, clinic-based intervention included a trilingual and bicultural Chinese-American health educator, bilingual educational materials that were developed based on focus groups and interviews (a video, motivational pamphlet, informational pamphlet, and FOBT instructions), and 3 FOBT cards. Patients in the control arm received usual care. The primary outcome was FOBT screening within 6 months.

Of 228 eligible patients, 210 (92.1%) were enrolled. Enrollee characteristics included 79% Cantonese speakers, 20% Mandarin speakers, 88% with public or no insurance, and 41% with a prior FOBT. The intervention was associated with a significant difference in FOBT completion rates (70% versus 28% in the intervention and control groups, respectively; OR 5.98; 95% CI 3.29, 10.85; number needed to treat 2.4). Age, gender, language, insurance, or prior FOBT were not associated with the study outcome.

This study was a well-designed and implemented RCT of a patient-centered intervention, informed by focus groups and interviews, with masked outcome assessment. Although the generalizability is unclear, with no reporting on the content of the counseling, and the single clinic, ethnic group, and health educator design, the concept for this intervention is potentially applicable to other populations and services. This study demonstrates that a culturally and linguistically tailored health promotion intervention can dramatically increase CRC screening rates. Health educators/promoters can help bridge cultural

gaps, improve quality, and lower burden of primary care for busy health care providers.

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