# Cancer Screening Among Jail Inmates: Frequency, Knowledge, and Willingness

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In the United States, more than 2 million people were in jail or prison at midyear 2004, <sup>1</sup> with 713 990 in jail. <sup>2</sup> Approximately 11.5 million inmates are released from jails and prisons per year, mostly from jails. <sup>3</sup> An estimated 1 in 15 individuals in the United States will serve time in prison during his or her lifetime, <sup>4</sup> and these individuals are held in jails before sentencing. At current rates of incarceration, one third of African American men will go to prison. <sup>5</sup> Likewise, more than 6 in 10 jail inmates are racial and ethnic minorities. <sup>6</sup> Thus, the jail population is large, with disproportionate representation of African Americans and Latinos.

There is no national registry for tracking disease prevalence and risk factors among incarcerated persons, and they are excluded from national health surveys such as the National Health Interview Survey and the Behavioral Risk Factor Surveillance System (BRFSS). However, smaller studies have demonstrated an increased burden of health problems among incarcerated populations compared with community-dwelling populations, including human papilloma virus infection,7 HIV infection,8,9 and tobacco use,10 all of which may increase the risk of cervical cancer. Incarcerated women have been reported to have higher rates of cervical intraepithelial neoplasia than nonincarcerated women. 11-15

The sociodemographic profile of incarcerated persons also suggests that they may be at higher than average risk for the development of certain cancers and for poor outcomes from those cancers. <sup>16</sup> Incidence rates of cervical cancer are highest among Latina women and higher among African American women than among White women (16.8, 12.4, and 9.2 per 100 000, respectively). Death rates from cervical cancer are highest among African American women compared with Latina and White women (5.9, 3.7, and 2.9 per 100 000, respectively). <sup>16</sup> African American women have higher death rates from breast cancer than

Objectives. We determined jail inmates' knowledge of cancer screening tests, their frequency of screening, and their willingness to undergo screening in jail in order to assess preventive health services for jail inmates.

*Methods.* We performed a cross-sectional interview survey of random samples of county jail inmates (n = 133).

Results. Approximately half (53%) the participants were African American, 17% were White, 11% were Latino, and 9% reported multiple ethnicities. Among women aged 18 years and older, 90% had had a Papanicolaou (Pap) test within 3 years, and 94% were willing to be screened in jail. Having ever had a Pap test while incarcerated was significantly associated with being up to date on cervical cancer screening. For women aged 40 years and older, 41% reported having had a mammogram within 2 years, and 88% were willing to have one. Among men (n=51) and women (n=4) aged 50 years and older, 25% had knowledge of colon cancer screening, 31% were up to date, and 69% were willing to be screened. Increased knowledge about colon cancer screening was significantly associated with being White and having insurance. Jail inmates, particularly African Americans, had significantly lower frequency of sigmoidoscopy and colonoscopy than the general population.

Conclusions. Jail could be an appropriate venue in which to provide cancer screening for a high-risk population. Inmates were receptive to jail-based screening. (Am J Public Health. 2005;95:1781–1787. doi:10.2105/AJPH.2004.052498)

other racial and ethnic groups. 16,17 Colon cancer incidence and mortality rates are higher among African Americans than among Whites and Latinos. 16 Thus, the incarcerated population may be particularly in need of early cancer detection efforts.

Little is known about cancer screening among persons incarcerated in jails in the United States. We chose to examine 3 diseases for which there are well-established guidelines for screening: cervical, breast, and colon cancer. 18–21 The objectives of this study were to examine whether jail inmates could describe common cancer screening tests, whether they reported having had age-appropriate cancer screening, and whether they were willing to undergo screening while in jail.

#### **METHODS**

# Study Design, Setting, and Sample

We conducted a cross-sectional study at the 2 main San Francisco County Jail facilities

located in downtown San Francisco, Calif. The county jails have an average daily census between 1600 and 2200 inmates distributed in 3 buildings, 1 of which is located outside the city and was excluded because it houses only men. Jail Health Services are run by the San Francisco Department of Public Health, and health care is provided by physicians and nurse practitioners in clinics at each jail site. Available cancer screening services include Papanicolaou (Pap) tests, breast examinations, fecal occult blood tests (FOBTs), and referral for mammograms off site. These tests are available to all inmates in an age-appropriate manner by patient or provider request, but many inmates are released before obtaining services, some decline available services, and some are never seen by a provider for the services to be ordered. There is no fee to inmates for health services.

Jail electronic records were used to identify inmates who had been in jail at least 7 days and who were in appropriate age and gender groups for cancer screening on the day we began interviews. Four groups were identified—all women aged 18 to 39 years, women aged 40 to 49 years, women aged 50 years and older, and men aged 50 and older—and each group was randomly ordered using a computergenerated random number list. There was no upper limit of age. Potential participants were approached in succession according to the randomly ordered lists, the study was described to them, and informed consent was obtained from those who agreed to participate.

#### **Procedures**

Inmates who agreed to participate were interviewed using a scripted, pretested Spanish or English questionnaire regarding cancer screening appropriate for their age and gender. Women aged 18 and older were interviewed regarding cervical cancer screening. Women aged 40 and older were interviewed about breast cancer screening. Men and women aged 50 and older were interviewed about colon cancer screening. If a woman appeared on more than 1 list, she was asked for participation in all appropriate areas the first time her name appeared on any of the lists. Interviewers were instructed by 1 of the investigators on a consistent technique for interviews using a standard script. We matched the gender of the interviewer to the gender of the participant whenever possible. One bilingual and bicultural male interviewer conducted interviews with Spanish-speaking men, and 1 female bilingual interviewer conducted interviews with Spanish-speaking men and women. The interviews took place on 4 days over a 2-week period in November 2002 and were conducted in the housing areas of the jail, in interview rooms, or in private areas away from other inmates and correctional staff.

# Questionnaire

Data in the interviews included gender, date of birth, race/ethnicity, country of birth, years lived in the United States, health insurance at the time of incarceration, and total time spent in jail or prison over a lifetime. The instrument adapted cancer screening questions from the 2002 California BRFSS on Pap tests, mammography, FOBTs, and

colonoscopy or sigmoidoscopy and on how recently participants had been tested<sup>22</sup> as well as questions used in previous studies of cancer screening in multiple ethnic groups. 23-25 (The instrument we used is available on request from I.A.B.) The questions were made appropriate to the jail setting (e.g., wording describing a "home kit" for FOBTs was changed) and integrated results of instrument pretesting. We developed new questions about knowledge of the cancer screening procedures, specific screening tests, and willingness to be screened in the jail setting. The questionnaire was written at a sixth-grade reading level and was translated into Spanish using standard forward and backward translations by 2 different bilingual and bicultural research assistants. These translations were reconciled with participation of a third bilingual and bicultural person.26

Each set of questions was written in the following format, with a description of medical terms such as cervix or colon when those words were introduced: "We will be asking you some questions about breast cancer screening. Can you tell me how we look for breast cancer in people who do not have any symptoms?" For breast cancer screening, we also asked, "Can you tell me what a mammogram is?" Interviewers wrote down key descriptive words as spoken. The principal investigator (I. A. B.) made the final decision on participants' knowledge of cancer screening procedures and specific tests on the basis of whether the participant was able to use a key word or phrase (*X-ray of the breast* or breast exam) that summarized the test or test procedures. To assess a history of having had a test, the interviewer then defined and described the screening test and its purpose and asked the participant if he or she had ever had the test done. If the answer was yes, the participant was asked the date of the last test and whether it was done in jail or prison. The participant was also asked whether he or she was willing to have the test done in jail.

Women were rated "up to date" for cervical cancer screening if they reported a Pap test within the last 3 years and were rated up to date for breast cancer screening if they reported having had a mammogram within the

last 2 years. Colon cancer screening involves a choice of tests, and being up to date can involve a combination of tests at different intervals. We considered men and women up to date for colon cancer screening if they reported having had an FOBT within the last year or colonoscopy or sigmoidoscopy within 10 years, because of our assumption that many participants would not be able to distinguish whether they had had colonoscopy or sigmoidoscopy.

#### **Analysis**

Separate analyses were done for cervical, breast, and colon cancer. The samples were described by the sociodemographic variables collected, and proportions generated for each cancer on 3 outcomes: (1) knowledge, assessed by whether the participant could provide appropriate key words to describe how one screens for a cancer; (2) history of screening, assessed by what proportion had ever had the test or tests and, for the subset of those who had, what proportion were up to date; and (3) willingness, assessed by whether participants said they were willing to have the test or tests in jail. Descriptive characteristics were examined to determine if any were associated with knowledge, history of screening, and willingness. In all bivariate analyses, a was set at .10 to determine inclusion in a final logistic regression analysis, with  $\alpha$ =.05 for final interpretation of statistical significance.

Data from the sample were compared with the most recently available data from the BRFSS, the state-based, random-digit-dialed telephone survey of the US noninstitutionalized civilian population.<sup>27</sup> Age-, ethnicity-, and gender-specific frequency of screening in the jail sample was compared with California screening frequency by means of indirect methods of standardization by calculation of observed-to-expected screening ratios and 95% confidence intervals (CIs) in a manner analogous to calculation of standardized morbidity ratios.<sup>28,29</sup> The screening ratio reflects the ratio of the observed proportion screened in the specific jail subgroup to that expected if the screening frequency was the same as it was for the comparable group in the noninstitutionalized California population.

TABLE 1—Characteristics of All Participants (N = 133) and of the Participants Eligible for Cervical (n = 82), Breast (n = 32), and Colon (n = 55) Cancer Screening

	All Participants	Eligible for Papanicolaou Test	Eligible For Mammography	Eligible For Colon Cancer Screening
Total number	133	82	32	55
Mean age, y (SD) <sup>a</sup>	42.9 (13.1)	35.0 (9.7)	44.7 (3.4)	55.4 (5.6)
Male, %	38	***		93
Race/ethnicity, %				
African American	53	54	50	53
White	17	13	19	20
Latino <sup>b</sup>	11	13	13	5
Multiple <sup>b</sup>	9	11	13	7
Other <sup>b</sup>	11	6	6	15
Born in United States, %	88	90	88	85
Insured, %	52	48	53	45
Lifetime years in jail/prison, median (IQR)	2.0 (0.8-6.0)	1.0 (0.5-5)	3.0 (0.8-5.9)	4.0 (2.0-14)
Days in jail this incarceration, median (IQR)	67 (36-167)	65 (38-139)	61 (26-173)	70 (34-220)

Note. SD = standard deviation; IQR = interquartile range (25th to 75th percentile). Some participants were eligible for more than 1 screening test and are included in 2 or 3 of the samples.

# **RESULTS**

A total of 304 persons residing in the main San Francisco jails on the first day of data collection were eligible for participation. Interviewers attempted to sequentially approach 205 persons from the 4 randomly ordered lists; 43 could not be approached for reasons such as being released from jail between the time the inmate lists were generated and the time the potential participant was sought, being in court, being in the gymnasium or another part of the facility, or being in solitary confinement. On subsequent days, interviewers attempted to locate those who were previously unavailable but still in jail. Of the 162 participants who were located and approached, 29 participants declined participation and 133 individuals completed an interview (82 women and 51 men).

Table 1 shows the demographic characteristics of the participants in each of the ageand gender-eligible groups for screening and overall. The distribution by ethnicity was similar to that of the general jail population for the 1-year period April 2000 through March 2001 except for the proportion of Whites in the samples, which was lower because of reporting of multiple ethnicities. For example, among men and women aged 50 years and older, African Americans constituted 54% of the jail population and 53% of our sample; Whites constituted 32% of the jail population and 20% of the sample; Latinos constituted 7% of the jail population and 5% of the sample; and other ethnicities constituted 7% of the jail population whereas other/multiple ethnicities constituted 22% of the sample. Five participants (4%) asked for the interview in Spanish.

#### **Cervical Cancer Screening**

Of 82 women interviewed, 61% (n=50) could describe how health providers screen for cervical cancer (Table 2). All reported having had a Pap test, and 90% (n=74) reported a history of Pap tests within the last 3 years and were considered up to date. Eighty-three percent (n=68) reported ever having had a Pap test in jail or prison; these women were significantly more likely to be up to date on cervical cancer screening than women who had never had a Pap test while incarcerated (P<.001 on the Fisher exact test).

Ninety-four percent (n=77) were willing to have a Pap test in jail. There were no other significant differences in knowledge, status, or willingness by subgroups of the sample. There were no significant differences in the observed-to-expected screening ratios calculated for those who ever had a Pap test and those who were up to date on Pap test by age groups, compared with the California BRFSS data from 2002.

# **Breast Cancer Screening**

Seventy-eight percent (n=25) of 32 women aged 40 years and older thought breast cancer screening was done with a breast examination, and 20% (n=5) of these specified that this was a self-examination; 38% (n=12) both described a mammogram or used the word mammogram and mentioned breast examination; and 13% (n=4) described a mammogram or used the word mammogram alone. One participant referred to a sonogram and another mentioned MRI as methods of screening. Two women (6%) could not name any test. When a clinical breast examination was described to them, nearly all women (94%, n=30) had ever had a clinical breast examination, and 81% (n=27) reported a clinical breast examination within the past 2 years. Although 88% (n=28) could describe a mammogram, only 66% (n=21) had ever had a mammogram; only 41% (n=13) reported the test within the last 2 years (Table 3). Insurance status did not differ among those who were up to date and those who were not. There were no other significant differences in knowledge, status, or willingness by subgroups of the sample. A quarter of the sample (n=8) reported that they had ever had a mammogram while incarcerated, and most (88%, n=28) were willing to have the test in jail.

By age, comparisons with California BRFSS data demonstrated that women aged 40 to 49 years in our sample were less likely to have ever had a mammogram (screening ratio=0.77; 95% CI=0.44, 1.17), whereas women aged 50 years and older were equally likely (screening ratio=1.07; 95% CI=0.28, 2.37), but neither comparison showed statistically significant differences. Likewise, the prevalence of ever having had a mammogram was not significantly different for California

<sup>&</sup>lt;sup>a</sup>The mean and the median ages were similar.

bLatino = Latino or Hispanic; multiple = multiple ethnicities; other = other ethnicities.

TABLE 2—Characteristics of 82 Women Aged 18 and Older Who Knew About Cervical Cancer Screening, Were Up to Date on Papanicolaou (Pap) Tests, and Were Willing to Be Screened in Jail

	No.	Knew About Pap Test, No. (%) <sup>b</sup>	Up to Date on Pap Test, No. (%)	Willing to Have Pap Test in Jail, No. (%)
Total number	82	50 (61)	74 (90)	77 (94)
Age, y				
18-39	50	32 (64)	46 (92)	49 (98)
40-49	28	15 (54)	24 (86)	24 (86)
≥50	4	3 (75)	4 (100)	4 (100)
Lifetime years in jail/prison				
<1	34	24 (71)	29 (85)	32 (94)
1-5	33	18 (55)	30 (91)	30 (91)
>5	15	8 (53)	15 (100)	15 (100)
Race/ethnicity <sup>a</sup>				
African American	44	27 (61)	39 (91)	41 (93)
White	11	8 (73)	11 (100)	11 (100)
Latino	11	6 (54)	10 (91)	10 (91)
Multiple	9	6 (67)	9 (100)	9 (100)
Other	7	3 (43)	5 (83)	6 (86)
Born in United States	74	44 (60)	69 (94)	69 (93)
Born outside United States	8	6 (75)	5 (71)	8 (100)
Insured	39	21 (54)	36 (95)	36 (95)
Not insured/unknown insurance status	43	29 (67)	38 (91)	38 (91)
Ever had Pap test in jail/prison	68	44 (65)	67 (99)	67 (99)
Never had Pap test in jail/prison	14	6 (43)	7 (50)	10 (71)
Knew about Pap test	50		48 (96)	48 (96)
Didn't know about Pap test	32		26 (81)	29 (91)
Up to date on Pap test	74			71 (96)
Not up to date Pap test	7			4 (57)

Note. Numbers do not add to 82 in all rows because of participants declining to answer.

women by ethnicity. For the subset of those who had ever had a mammogram, in each age and ethnic group, women in our sample were less likely to be up to date on mammography than California women, but none of these differences were statistically significant.

# **Colon Cancer Screening**

Only 25% (n=14) of 55 respondents aged 50 years and older could identify a test for colon cancer (Table 4). Ethnicity and insurance status were significantly associated with knowledge. In logistic regression, non-Whites, including persons reporting multiple ethnicities, were significantly less likely to know about colon cancer screening than Whites (odds ratio [OR]=0.035; 95% CI=0.004,

0.337; P=.004). Those who were uninsured were less likely to know about colon cancer screening than those who were insured (OR=.073; 95% CI=.008, 0.629; P=.017).

When the tests were described to them, 31% (n=16) of men and women aged 50 years and older reported that they were up to date on colon cancer screening. Forty-seven percent (n=26) had ever had FOBTs; 18% (n=10) had ever had an FOBT in jail or prison; and 22% (n=12) reported an FOBT within the last year. Eighteen percent (n=10) had ever had a colonoscopy or sigmoidoscopy; all of them were men. Of the 9 participants who remembered when, the mean time since lower colonoscopy or sigmoidoscopy was 6.4 years (median 5 years, range 6

months to 15 years), and 7 had undergone colonoscopy or sigmoidoscopy within the past 10 years. One participant knew that he had undergone a colonoscopy and another recalled a sigmoidoscopy; the remaining 8 could not recall which test they had undergone. Only 1 participant reported that he had undergone a sigmoidoscopy or colonoscopy while in jail or prison. Sixty-nine percent (n=38) were willing to have an FOBT while in jail, and 56% (n=31) were willing to undergo colonoscopy or sigmoidoscopy while in jail.

Although the percentage ever having had an FOBT was not significantly different from that of Californians, men and women aged 50 to 59 years were significantly less likely to have ever had sigmoidoscopy or colonoscopy than other Californians according to BRFSS data (screening ratio=0.29; 95% CI=0.09, 0.60). Older age groups were not significantly different, perhaps because of the small numbers in each group (8 were aged 60 to 64 years; 4 were aged 65 or older). By ethnicity, African Americans were significantly less likely to have had sigmoidoscopy or colonoscopy than their African American counterparts in the California population (screening ratio=0.20; 95% CI=0.04, 0.50).

#### **DISCUSSION**

Our study examined 3 preventive measures among incarcerated men and women and demonstrates the feasibility of surveying jail inmates about their health and key quality-of-care indicators. A single measure does not adequately describe current practices in cancer screening among incarcerated persons. Although female inmates were up to date on cervical screening, men and women aged 50 and older had low colon cancer screening frequency. The frequency of sigmoidoscopy and colonoscopy among inmates was significantly lower than among noninstitutionalized Californians. The proportion of female inmates aged 40 years or older who had had mammography was low but not significantly different from the corresponding proportion among noninstitutionalized women in California.

Our results suggest that cervical cancer screening is being performed in this correctional facility and has a high level of acceptance

<sup>&</sup>lt;sup>a</sup>Latino = Latino or Hispanic; multiple = multiple ethnicities; other = other ethnicities.

<sup>&</sup>lt;sup>b</sup>Used a key word/words indicating knowledge of Pap test or Pap test procedures for cervical cancer screening.

TABLE 3—Characteristics of 32 Women Aged 40 Years and Older Who Knew About Breast Cancer Screening With Mammograms, Were Up to Date, and Were Willing to Be Screened in Jail

	No. With Characteristic	Could Describe Mammograms, No. (%)	Up to Date on Mammograms, No. (%)	Willing to have Mammogram in Jail, No. (%)
Total number	32	28 (88)	13 (41)	28 (88)
Age, y				
40-49	28	24 (86)	9 (32)	24 (86)
≥50	4	4 (100)	4 (100)	4 (100)
Lifetime years in jail/prison				
<1	10	9 (90)	5 (50)	8 (80)
1-5	13	12 (92)	6 (46)	12 (92)
>5	9	7 (78)	2 (22)	8 (89)
Race/ethnicity <sup>a</sup>				
African American	16	15 (94)	8 (50)	14 (88)
White	6	5 (83)	3 (50)	6 (100)
Latino	4	3 (75)	1 (25)	2 (50)
Multiple	4	4 (100)	1 (25)	4 (100)
Other	2	1 (50)	0 (0)	2 (100)
Born in United States	28	25 (89)	12 (43)	24 (86)
Born outside United States	4	3 (75)	1 (25)	4 (100)
Insured	17	16 (94)	8 (47)	15 (88)
Not insured/unknown insurance status	15	12 (80)	5 (33)	13 (87)
Ever had mammogram in jail/prison	8	8 (100)	7 (88)	8 (100)
Never had mammogram in jail/prison	24	20 (83)	6 (25)	10 (42)
Knew about mammograms	28		13 (46)	25 (89)
Didn't know about mammograms	4		0 (0)	3 (75)
Up to date on mammograms	13			10 (77)
Not up to date on mammograms	19			18 (95)

Note. Numbers do not add to 32 in all rows because of participants declining to answer.

among these incarcerated women, although knowledge of cervical cancer screening is poor. Given the high prevalence of risk factors for cervical cancer in this population, cervical cancer screening is particularly important in correctional systems. Our study did not assess whether women had a history of total hysterectomy for a benign cause; cervical cancer screening is not routinely recommended in these women. 18 The proportion of women who had been screened for cervical cancer in our sample was similar to the proportion of noninstitutionalized California women who had been screened but higher than that found in a study of noninstitutionalized homeless women in San Francisco (54%)30 and among women prisoners in England (69% in 5 years).31 Willingness to be screened for cervical cancer was also

found to be high in a Canadian correctional system.<sup>32</sup> The large percentage of women who have had Pap tests while in jail or prison (83%) and the significant association between having had a Pap test in jail or prison and being up to date suggests that correctional systems may be a principal provider of this preventive test for many female inmates.

Knowledge about breast cancer screening could be improved as most women eligible for screening identified breast examinations rather than mammography as a means of screening, despite the fact that the clinical breast examination and self-examination are of less certain benefit than mammography. Our results were limited by the small number of women in older age groups, and further investigation in a larger sample and other cor-

rectional health systems may be helpful to determine if there is an unmet need for breast cancer screening.

We found that inmates were less likely to have been screened for colon cancer with sigmoidoscopy and colonoscopy than noninstitutionalized Californians in the same age and gender groups. Only 1 participant had ever had a colonoscopy or sigmoidoscopy while in jail or prison, whereas many others who were eligible did not. Financial and logistical concerns related to procedures such as colonoscopy may present a challenge to some correctional systems. African Americans in jail were significantly less likely than African Americans in the noninstitutionalized population to have been screened for colon cancer.

The correctional population may be an excellent group to target for screening efforts. These efforts would likely be successful because our results suggest that the majority of inmates were willing to be screened in the jail setting. Access to cancer screening may vary by correctional institution and system. The high proportion of women who reported Pap testing may represent the influence of the San Francisco Department of Public Health, which manages the County Jail Health Services. Our results may also be limited by small samples of older inmates and our inability to locate all eligible inmates, in part owing to the rapid turnover of jail inmates and frequent absences for court dates. Further studies are needed to determine the frequency of testing in other correctional systems with differing management systems and whether appropriate follow-up for abnormal test results can be achieved.

Although these data are limited by self-report, our in-person interview used questions similar to those asked in the BRFSS, which relies on self-report via telephone interview, so our data can be compared to state-specific screening patterns. Other studies suggest that self-report data are likely to overestimate frequency, and thus cancer screening may be less common among incarcerated persons than our results suggest. Among low-income multiethnic women, 69% of reported Pap tests could be validated, and 75% of reported mammograms could be validated via chart review. Self-report data for Pap tests, mammography, and clinical breast examination

<sup>&</sup>lt;sup>a</sup>Latino = Latino or Hispanic; multiple = multiple ethnicities; other = other ethnicities.

TABLE 4—Characteristics of 55 Men and Women Aged 50 Years and Older Who Knew About Screening for Colon Cancer, Were Up to Date on Colonoscopy/Sigmoidoscopy, Fecal Occult Blood Tests, or Both, and Were Willing to Have Colonoscopy/Sigmoidoscopy in Jail

	No.	Knew About Col/Sig, No. (%) <sup>a</sup>	Up to Date Col/Sig or FOBT, No. (%) <sup>b</sup>	Willing to Have Col/Sig in Jail, No. (%)
Total number	55	14 (25)	16 (29)	31 (56)
Age, y				
50-59	43	9 (21)	11 (26)	24 (56)
60-64	8	3 (38)	2 (25)	4 (100)
≥65	4	2 (50)	3 (75)	3 (75)
Lifetime years in jail/prison				
<1	7	0 (0)	1 (14)	3 (43)
1-5	24	7 (29)	8 (33)	15 (63)
>5	22	7 32)	7 (32)	13 (59)
Male	51	13 (56)	15 (29)	28 (55)
Female	4	1 (25)	1 (25)	3 (75)
Race/ethnicity <sup>c</sup>				
African American	29	6 (21)	7 (24)	19 (66)
White	11	7 (64)	4 (35)	4 (36)
Latino	3	0 (0)	2 (67)	3 (100)
Multiple	4	0 (0)	1 (25)	2 (50)
Other	8	1 (12)	2 (25)	3 (37)
Born in United States	47	14 (30)	13 (28)	27 (57)
Born outside United States	8	0 (0)	3 (37)	4 (50)
Insured	25	10 (40)	10 (40)	17 (68)
Not insured/unknown insurance status	30	4 (13)	6 (20)	14 (47)
Knew about col/sig	14		6 (43)	8 (57)
Didn't know about col/sig	41		10 (24)	23 (56)
Up to date on col/sig or FOBT	16			10 (63)
Not up to date on col/sig or FOBT	39			21 (56)

Note. FOBT = fecal occult blood test; col/sig = colonoscopy/sigmoidoscopy. Numbers do not add to 55 in all rows because of participants declining to answer.

overestimated screening among California health plan members and overestimated screening with sigmoidoscopy and FOBTs among Latino men.23 A cancer screening registry or statewide computerized medical records in correctional institutions would permit validation of self-reported data, and it would allow tracking results and follow-up as inmates move between institutions, are released, and reenter the correctional system.

Incarcerated persons are a subset of the community at large and should be included in prevention efforts. Jail may be an appropriate setting for cancer screening directed to

persons at high risk for and with poor outcomes from cancer.

# **About the Authors**

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#### Contributors

I.A. Binswanger originated the study, developed the questionnaire, supervised the implementation and acquisition of the data, and participated in data collection and the writing of the article. M.C. White originated the study, developed the questionnaire, participated in data collection and the writing of the article, and oversaw the data analysis. J. C. Goldenson originated the study and coordinated data acquisition. E.J. Pérez-Stable originated the study and developed the questionnaire. J.P. Tulsky originated the study, developed the questionnaire, participated in data collection, and supervised the study's implementation. All authors helped to conceptualize ideas, interpret findings, and review drafts of the article.

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# **Human Participant Protection**

The protocol was approved by the University of California, San Francisco, committee on human research. The San Francisco Department of Public Health, of which Jail Health Services is a part, has been authorized to designate the University of California, San Francisco, as the institutional review board of record in its federalwide assurance, which ensures that all studies conducted at an institution are reviewed according to federal guidelines.

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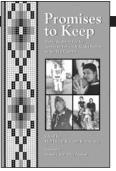
<sup>&</sup>lt;sup>a</sup>Used a key word/words indicating knowledge of colonoscopy or sigmoidoscopy for colon cancer screening; no participants indicated knowledge of FOBT

One participant who could not remember the length of time since his last test was considered not up to date.

<sup>&</sup>lt;sup>c</sup>Latino = Latino or Hispanic; multiple = multiple ethnicities; other = other ethnicities.

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