



FAX TRANSMISSION

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Cover Sheet plus 14 Pages Transmitted

Message

Attached info is from several sources:

- ① NIH consensus conference
- ② PDO - look at 3rd page
- ③ NCI fact sheet - general info on Pap test
- ④ new NCI study on abnormal Pap tests - news release

April 1-3, 1996

N.H. Consensus Conference Statement

of HPV infections and their associated lesions. Factors under investigation include smoking; use of hormonal contraceptives; number of live births; young age at first sexual intercourse; use of vitamins such as carotenoids, vitamin C, and folic acid; co-infection with other sexually transmitted diseases (e.g., herpes simplex, HIV, chlamydia); growth factors; cytokines; and humoral and cellular immunity.

Screening

Squamous cell cervical cancer is an ideal disease for screening because of the typically long preclinical phase, which permits early detection. Use of the Pap smear is effective in reducing morbidity and mortality from cervical cancer. Despite the recognized benefits of Pap smear screening, substantial subgroups of American women have not been screened or are not screened at regular intervals. One-half of the women with newly diagnosed invasive cervical carcinoma have never had a Pap smear, and another 10 percent have not had a smear in the past 5 years.

The unscreened populations include older women, the uninsured, ethnic minorities, especially Hispanics and elderly blacks, and poor women, particularly those in rural areas. One-fourth of the cases of cervical cancer and 41 percent of the deaths occur in women age 65 and older. Data from the 1992 National Health Interview Survey indicate that one-half of all women age 60 and older have not had a Pap smear in the past 3 years. Although older women are screened less frequently, they have the same number of recent physician visits as younger women, which indicates the need to educate older women and their health care providers about the importance of Pap smear screening. For patients who are not involved in routine screening programs, any health care encounter should be an opportunity to obtain a Pap smear and offer other screening modalities. On the other hand, recent evidence demonstrates that the gap in the incidence of cervical cancer between black and white women under age 50 is disappearing, suggesting that the rate of screening has increased among young black women.

To improve outreach to unscreened populations, reasons for nonparticipation in screening must be determined and addressed with appropriate interventions. Community-based approaches to reaching diverse ethnic populations are recommended and should include using community leaders and members to assess attitudes and concerns prior to instituting screening programs, and as part of the process of education and awareness. Culturally sensitive and linguistically compatible staffing for outreach and screening is a key component.

Logistical problems associated with screening in both metropolitan and rural settings should be addressed during outreach planning (e.g., transportation, child care, duration of appointments, multiple site referrals, accessible screening sites). Options such as mobile screening services and incentives should be considered.

A concerted effort to standardize Pap smear terminology resulted in The Bethesda System (TBS) (Table 1). TBS evaluates the specimen for adequacy, uses diagnostic terminology, and makes recommendations pertaining to the smear when necessary. Determining the adequacy of the specimen is a major contribution, because retrospective reviews of smears from women with cervical cancer have shown that many were unsatisfactory. Smears may be unsatisfactory for a variety of reasons, the most common of which are obscuring blood or inflammation. Evaluation of others may be less than optimal because of factors such as absence of sampling from the transformation zone.

TABLE 1. The 1991 Bethesda System

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PDQ • Detection & Prevention

Important: *This information is intended for use by doctors and other health care professionals. If you are a cancer patient, your doctor can explain how it applies to you, or you can call the Cancer Information Service at 1-800-422-6237.*

Screening for cervical cancer

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SUMMARY OF EVIDENCE

Evidence strongly suggests a decrease in mortality from regular screening with Pap tests in women who are sexually active or who have reached 18 years of age. The upper age limit at which such screening ceases to be effective is unknown.

Levels of Evidence: 3,4,5

Evidence obtained from cohort or case-control analytic studies, preferably from more than one center or research group

Evidence obtained from multiple time series with or without intervention

Opinions of respected authorities based on clinical experience, descriptive studies, or reports of expert committees

SIGNIFICANCE

In 1997, an estimated 14,500 cases of invasive cervical cancer are expected to occur, with about 4,800 women dying from this disease. [1] From 1950 to 1970, the incidence and mortality rates of invasive cervical cancer fell impressively by more than 70%. [2] Since the early 1980s, however, the rates of incidence and mortality appear to be decreasing more slowly. According to incidence and mortality rates, screening for cervical cancer should start in the late teens when these rates begin their upward trend.

Rates for carcinoma in situ reach a peak for both black and white women between 20 and 30 years of age.

After the age of 25, however, the incidence of invasive cancer in black women increases rapidly with age, while in white women the incidence rises more slowly. Mortality also increases with advancing age, with dramatic differences between black and white women.

Extra effort is warranted to reach older women who have not been screened. Over 25% of the total number of invasive cervical cancers occur in women older than 65, and 40%-50% of all women who die from cervical cancer are over 65 years of age.[3,4] A large proportion of women, particularly elderly black women and middle-aged poor women, have not had regular Pap smears.[5] In some areas, as many as 75% of women over 65 have not had a Pap smear within the previous 5 years.[6] These patterns underscore the importance of special screening efforts targeted to reach women who do not receive regular screening.

Although vaginal smears are often done for follow-up of women who have had a hysterectomy for malignancy, a retrospective study suggests little or no benefit of routine vaginal screening for women who have had a hysterectomy for benign conditions.[7] Investigators found a low prevalence of vaginal dysplasia (0.1%) and a high false-positive rate for vaginal smears from women who have had a hysterectomy for benign disease.

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EVIDENCE OF BENEFIT

↓ The widespread acceptance of the Pap smear makes the possibility of testing the efficacy of cervical cytology by randomized trials remote. There is, nevertheless, substantial evidence from observational studies that mortality from cervical cancer can be reduced by screening.

Mortality from cervical cancer has decreased in several large populations following the introduction of well-run screening programs.[1-4] Data from several large Scandinavian studies show sharp reductions in incidence and mortality following the initiation of organized screening programs. Iceland reduced mortality rates by 80% over 20 years, and Finland and Sweden reduced their mortality by 50% and 34%, respectively.[1] Similar reductions have been found in large populations in the US and Canada.

Reductions in incidence and mortality seem to be proportional to the intensity of screening efforts. The Scandinavian countries with the highest rates of screening activity reported greater reductions in mortality than those countries with lower rates of screening.[1,5] Mortality in the Canadian provinces was reduced most remarkably in British Columbia, which had screening rates two to five times those of the other provinces.[6]

Case-control studies have found that the risk of developing invasive cervical cancer is 3-10 times greater in women who have not been screened.[7-10] Risk also increases with longer duration following the last normal Pap smear, or similarly, with decreasing frequency of screening.[11,12] Screening every 2-3 years, however, has not been found to increase significantly the risk of finding invasive cervical cancer above the risk expected with annual screening.[12,13]

The analysis of survival data shows that survival appears to be directly related to the stage of disease at diagnosis. The 5-year relative survival rate for cervical cancer is 88% for women with an initial diagnosis of localized disease. For those initially diagnosed with distant disease, the survival rate is only 13%. Early detection, using cervical cytology, is currently the only practical means of detecting cervical cancer in localized or premalignant stages.

Targeting high-risk patients:

Progress in mortality reduction will be accelerated most significantly by increasing the percentage of cervical neoplasms discovered in the precancerous or localized stages. This can be accomplished most effectively by screening women at greatest risk for cervical cancer, i.e., those who have not had a Pap test or those who have not had one for several years. Often, these women are older, of lower socioeconomic status, and may be members of minority groups, and are often seen by physicians for a variety of acute and chronic conditions unrelated to preventive medical care.[13-17] Other well-known risk factors, such as early age of first intercourse and multiple sexual partners, have less practical clinical significance due to the difficulty in obtaining adequate histories of these risk factors. Advances in understanding the relationship between specific HPV types and the risk of cervical neoplasia may have future applications in targeting high-risk groups for screening and other preventive interventions. In particular, HPV testing is under investigation as an intermediate test in the evaluation of women with minor cytologic abnormalities. In the majority of such cases, abnormal changes regress spontaneously; however, some women may harbor an occult high-grade lesion that should be treated. In one study of women with equivocal Pap smear results, testing for elevated levels of HPV DNA from cancer-associated viral types was found to be more sensitive than repeat cytology alone in identifying women with high-grade lesions who required therapy.[18] In another study, of the 31 women who tested negative for HPV16 by DNA-based methods, 29 (94%) were also negative for systemic IgG antiviral antibodies by an enzyme-linked immunosorbent assay (ELISA).[19,20] However, of the 54 women positive for HPV16 by DNA-based methods, only 32 (59%) were also found positive by the ELISA method.

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CANCER FACTS

National Cancer Institute • National Institutes of Health

Questions and Answers About the Pap Test

1. **What is a Pap test?**

The Pap test (sometimes called a Pap smear) is a way to examine cells collected from the cervix and vagina. This test can show the presence of infection, inflammation, abnormal cells, or cancer.

2. **What is a pelvic exam?**

In a pelvic exam, the uterus, vagina, ovaries, fallopian tubes, bladder, and rectum are felt to find any abnormality in their shape or size. During a pelvic exam, an instrument called a speculum is used to widen the vagina so that the upper portion of the vagina and the cervix can be seen.

3. **Why are a Pap smear and pelvic exam important?**

A Pap test and pelvic exam are important parts of a woman's routine health care because they can detect abnormalities that may lead to invasive cancer. These abnormalities can be treated before cancer develops. Most invasive cancers of the cervix can be prevented if women have Pap tests and pelvic exams regularly. Also, as with many types of cancer, cancer of the cervix is more likely to be treated successfully if it is detected early.

4. **Who performs a Pap test?**

Doctors and other specially trained health care professionals, such as physician assistants, nurse midwives, and nurse practitioners, may perform Pap tests and pelvic exams. These individuals are often called clinicians.

5. **How is a Pap test done?**

A Pap test is simple, quick, and painless; it can be done in a doctor's office, a clinic, or a hospital. While a woman lies on an exam table, the clinician inserts a speculum into her vagina to open it. To do the test, a sample of cells is taken from in

some conditions are more of a threat than others. A woman may want to ask her doctor for specific information about her Pap test result and what the result means.

There are several terms that may be used to describe abnormal results.

- **Dysplasia** is a term used to describe abnormal cells. Dysplasia is not cancer, although it may develop into very early cancer of the cervix. In dysplasia, cervical cells undergo a series of changes in their appearance. The cells look abnormal under the microscope, but they do not invade nearby healthy tissue. There are three degrees of dysplasia, classified as mild, moderate, or severe, depending on how abnormal the cells appear under the microscope.
- **Squamous intraepithelial lesion (SIL)** is another term that is used to describe abnormal changes in the cells on the surface of the cervix. The word squamous describes cells which are thin, flat, and lie on the outer surface of the cervix. The word lesion refers to abnormal tissue. An intraepithelial lesion means that the abnormal cells are present only in the surface layers of the cells. A doctor may describe SIL as being low-grade (early changes in the size, shape, and number of cells) or high-grade (a large number of precancerous cells that look very different from normal cells).
- **Cervical intraepithelial neoplasia (CIN)** is another term that is sometimes used to describe abnormal cells. Neoplasia means a new abnormal growth of cells. Intraepithelial refers to the surface layers of the cells. The term CIN, along with a number (1 to 3), describes how much of the cervix contains abnormal cells.
- **Carcinoma in situ** describes a pre-invasive cancer that involves only the surface cells and has not spread into deeper tissues.

Cervical cancer, or invasive cervical cancer, occurs when abnormal cells spread deeper into the cervix or to other tissues or organs.

10. How do these terms compare?

- Mild dysplasia may also be classified as low-grade SIL or CIN 1.
- Moderate dysplasia may also be classified as high-grade SIL or CIN 2.
- Severe dysplasia may also be classified as high-grade SIL or CIN 3.
- Carcinoma in situ may also be classified as high-grade SIL or CIN 3.

11. What are atypical squamous cells of undetermined significance (ASCUS)?

Abnormalities that do not fulfill the criteria that define SIL, CIN, or dysplasia are termed atypical squamous cells of undetermined significance (ASCUS). Persistent abnormal smears are often further evaluated by a physician.

12. Is the human papillomavirus associated with the development of cervical cancer?

Human papillomaviruses (HPV) are viruses that can cause warts. Some HPVs are sexually transmitted and cause wart-like growths on the genitals. Scientists have identified more than 70 types of HPV; 30 types infect the cervix, and about 15 types are associated with cervical cancer.

HPV is a major risk factor for cervical cancer. In fact, nearly all cervical cancers show evidence of HPV. However, not all cases of HPV develop into cervical cancer. A woman with HPV may want to discuss any concerns with her doctor.

13. Who is at risk for HPV infection?

HPV infection is more common in younger age groups, particularly in women in their late teens and twenties. Because HPV is spread mainly through sexual contact, risk increases with number of sexual partners. Women who become sexually active at a young age, who have multiple sexual partners, and whose sexual partners have other partners are at increased risk. Nonsexual transmission is also possible. The virus often disappears but may remain detectable for years after infection.

14. Does infection with a cancer-associated type of HPV always lead to a precancerous condition or cancer?

No. Most infections appear to go away on their own without causing any kind of abnormality. However, infection with cancer-associated HPV types may increase the risk that mild abnormalities will progress to more severe abnormalities or cervical cancer. With regular follow-up care by trained clinicians, women with precancerous cervical abnormalities should not develop invasive cervical cancer.

15. What are false positive and false negative results?

Unfortunately, there are occasions when Pap test results are not accurate. Although these errors do not occur very often, they can cause anxiety and can affect a woman's health.

A false positive Pap test occurs when a patient is told she has abnormal cells when the cells are actually normal. A false negative Pap test result occurs when a specimen is called normal, but the woman has a lesion. A variety of factors may contribute to a false negative result. A false negative Pap test may delay the diagnosis and treatment of a precancerous condition. However, regular screening helps to compensate for the

false negatives because if abnormal cells are missed at one time, chances are good that the cells will be detected next time.

The Food and Drug Administration has recently approved two computerized systems for rescreening of samples to detect abnormal cells from a Pap test. These systems are beginning to be used in laboratories across the country. Rescreening may also be done manually. It is important for a woman to discuss the results of her Pap test with her physician and to inquire about the quality control measures that are taken in the laboratory in which the tissue sample is evaluated.

16. What if Pap test results are abnormal?

If the Pap test shows an ambiguous or minor abnormality, the physician may repeat the test to ensure accuracy. If the Pap test shows a significant abnormality, the physician may then perform a colposcopy using an instrument much like a microscope (called a colposcope) to examine the vagina and the cervix. The colposcope does not enter the body. A Schiller test may also be performed. For this test, the doctor coats the cervix with an iodine solution. Healthy cells turn brown and abnormal cells turn white or yellow. Both of these procedures can be done in the doctor's office.

The doctor may also remove a small amount of cervical tissue for examination by a pathologist. This procedure is called a biopsy and is the only sure way to know whether the abnormal cells indicate cancer.

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Information about cancer is available from several sources, including the ones listed below.

1/23/97

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Update



Office of Cancer Communications Building 31, Room 10A24 Bethesda, Maryland 20892

National Institutes of Health

Thursday, January 30, 1997

Caroline McNeil
NCI Press Office
(301) 496-6641

NCI Launches National Study of Abnormal Pap Tests in Cervical Cancer Screening

The National Cancer Institute (NCI) is launching a large national study to answer one of the most controversial questions in women's health: What should women and their physicians do about the mild abnormalities that often show up on Pap tests? The results could affect the 2 to 3 million American women each year who learn that their Pap test -- the routine screening test for cervical cancer -- has uncovered a mildly abnormal change in cells lining the cervix.

The new trial will evaluate three different ways of managing these abnormalities:

- 1) colposcopy -- a procedure in which a physician examines the cervix through a magnifying instrument and biopsies any abnormal areas;
- 2) repeating the Pap test every six months (because most abnormalities return to normal without treatment); and
- 3) testing for certain types of human papillomavirus (HPV), as a means to differentiate between abnormalities that need immediate colposcopy and those that can be best followed with repeat Pap tests at six-month intervals.

Each year, Pap tests reveal serious, precancerous abnormalities called HSIL (high-grade squamous intraepithelial lesions) in about 300,000 women in the United States. There is little controversy about the management of HSIL; it must be treated to prevent cervical cancer.

However, no consensus exists on the way to manage the far more common, milder abnormalities known as ASCUS (atypical squamous cells of undetermined significance) and LSIL (low-grade squamous intraepithelial lesions).

At present, many physicians recommend immediate colposcopy and biopsy for ASCUS and LSIL. This is because the mild abnormalities may, in a small proportion of cases, indicate the

(more)

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COC



YOUR LINK TO CANCER INFORMATION

July 21, 1997

Dear Ms. Naurwitz,

Thank you for your recent call to the Cancer Information Service. We are pleased to provide the enclosed information in response to your request. If this information is not what you are seeking, please call us again so that we may help you further.

As you read this information, please keep in mind that articles from professional journals and textbooks represent the viewpoints of the authors. Other health professionals and researchers may have different opinions that do not appear in this material, and more up-to-date information may be available in more recent textbooks or journal articles.

The enclosed material is not a recommendation by the National Cancer Institute or the Cancer Information Service. All decisions about the care and treatment of a person with cancer should be based on the relevant scientific information, as well as on the condition and needs of the individual. We encourage you to discuss the enclosed material with the patient's doctor, who is familiar with the case before making any decisions about treatment or care.

If you have additional questions, please contact us again.

Sincerely,

The Cancer Information Service

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A Program of the National Cancer Institute serving Maryland, District of Columbia and N. Virginia in cooperation with the Johns Hopkins Oncology Center

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CERVICAL CANCER CONTROL

Status and Directions

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Prepared by

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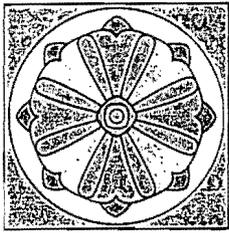
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CENTERS FOR DISEASE CONTROL

U.S. Department of Health & Human Services
Public Health Service
National Institutes of Health

NIH Publication No. 91-3223
September 1991



Section III

Use of Screening Services

Despite the general availability of cervical cancer screening services, subgroups of women at risk for the disease are infrequently screened or have never been screened. Attention to the factors that affect use of screening services is important because of the potential benefit of early detection on survival. These factors include but are not limited to whether a woman believes that she is susceptible to the disease, whether her physician recommends having a Pap test, and whether she has the money or health insurance to pay for the test. Assessment of these variables and their relative importance is critical to determining how to improve the level of screening among women who are inadequately screened (Green et al., 1980).

This section is a review of published research on factors associated with utilization of cervical cancer screening services. When available, study information, such as sample size, response rate, and relevant statistical information are provided.

Sociodemographic Variables

Sociodemographic variables are generally used to characterize high-risk and inadequately screened populations. The 1973 National Health Interview Survey, which used a national probability sample of women who reported never having had a Pap test, revealed that the women at highest risk for cervical cancer were the least likely to have been screened (Kleinman and Kopstein, 1981). Women who had never had a Pap test tended to

be black, poor (below poverty, as determined by Census for family size), 65 years old or older, and non-metropolitan residents. Yet data indicated that more than 75 percent of these women had visited a physician at least once in the 2 years preceding the interview.

The 1976 National Survey of Family Growth (NSFG) Cycle II produced similar results (Hendershot, 1981). Ever-married women and single mothers ages 15 to 44 (N=8611) were asked about their reproductive history and intentions, contraceptive practices, use of reproductive health services, and other related topics. To allow for comparison with data from the 1973 NHIS, the sample analyzed consisted of women 25 to 44 years old; never-married, nulliparous women—about 7 percent of women over age 25—were excluded. The NSFG asked about Pap tests during a 3-year period (1973-1976), but the NHIS asked about Pap tests at any time before 1973. Data from the NHIS, which showed that most women have had a Pap test, were confirmed; only 8.3 percent of women in the NSFG reported not having had a Pap test within the past 3 years, although differences among subgroups were significant. Lack of screening was higher for women who were black, nonmetropolitan, and poor, but not all differences, including racial differences, were statistically significant. Poverty was the most important factor, followed by nonmetropolitan residence. Lack of screening was twice as high among poor, nonmetropolitan women than among non-poor, metropolitan women.

Table III-1. Factors Associated with Having a Pap Smear

Variable	R	Odds ratio	95% Confidence interval
Increased age‡	-0.212†	0.31	0.25, 0.39
No health insurance	-0.077†	0.47	0.34, 0.66
Higher income	0.063†	1.56	1.23, 1.97
More education	0.041§	1.41	1.06, 1.87
Not in labor force	0.031¶	1.30	1.03, 1.63
Being black	0.027¶	1.51	1.02, 2.22

‡ Compares women age 20 to 49 with women age 50 or older.
 † P <.001.
 § P <.01.
 || Compares women not in the labor force with employed and unemployed women.
 ¶ P <.05.

Source: Hayward et al., 1988.

Data from the 1986 Access to Care Survey, a telephone survey of a large random sample of the U.S. population, provided more recent information on cervical cancer screening behavior (Hayward et al., 1988). Women age 20 or older (N=4659) were asked if they had a Pap test within the past year (response rate=76 percent). Women who said no were asked when they last had a Pap test. Fifty-four percent of women reported having had a Pap test within the past year, and 78 percent within the past 3 to 5 years. Six variables were significantly related to having had a Pap test within a 3- to 5-year period (Table III-1).

Changes in women's use of preventive health care have been described by using NHIS data from 1973 to 1974 and from 1985 (Makuc et al., 1989). The age-adjusted proportion of women who had a Pap test within the past 2 years was almost unchanged between the two periods (64 percent and 65 percent, respectively). However, an increase in use of cervical cancer screening was found among older women (60 to 79 years old) and

black women. In 1985, black women were more likely than white women to have recently had a Pap test (71 percent vs. 64 percent), and older women who were poor were the least likely to have ever had a Pap test. Within each race/age group, poor women were less likely than women who were not poor to have recently had a Pap smear. Poor, white women were the least likely to have had the test within the past 2 years, and black women who were not poor were the most likely. In the 1985 survey, only 42 percent of older white women and 50 percent of older black women reported having had the test within the past 2 years. Most of these women had not had recent contact with a physician. For these women, the level of blood pressure testing was higher than the level of screening for cervical cancer or breast cancer. This difference may result from a lack of emphasis on cancer prevention within the health-care system these women use (Makuc et al., 1989).

Data from the 1987 NHIS Cancer Control Supplement also provides information on cervical cancer screening among women age 18 or over (National Cancer Institute, 1989). Forty-eight percent of these women, including those who had a hysterectomy, reported having had a Pap test in the past year (table III-2). black women (52.8 percent) were more likely than white women (47.9 percent) and Hispanic women (44.8 percent) to have had a Pap test in the past year. For older women of all racial or ethnic groups, as age increased, the likelihood of having been recently screened declined.

The percentage of women who had a Pap smear within 1 year of the interview decreased with age for both whites and blacks (Figure III-1). For both groups, older women were much more likely to have had a Pap test more than 3 years before the interview (Figure III-2). Excluding the 18 to 29 age group, never having had a Pap smear increased with age (Figure III-3).

Table III-2. Percentage* of Women 18 Years Old or Older by Pap Smear History and Racial or Ethnic Group

Racial or ethnic group	Sample size N	Never had test (Percent)		Had test (Percent)			
		Never heard of test	Heard of but never had test	For health problem	For screening		
					<1 yr	1-3 yrs	>3 yrs
All women	3,062	4.0	7.3	7.8	48.0	17.0	15.8
White (non-Hispanic)	2,164	2.1	6.9	7.6	47.9	17.8	17.7
Black (non-Hispanic)	516	4.1	7.8	10.6	52.8	15.4	9.2
Hispanic	284	15.1	9.6	7.4	44.8	12.9	10.3
Mexican American	138	16.4	9.8	8.6	46.1	11.5	7.6
Puerto Rican	61	15.0	7.1	6.7	49.9	9.9	11.5
Cuban	21	8.7	23.2	6.1	31.1	14.4	16.5
Other	64	15.5	5.4	6.1	45.0	16.4	11.7

*Weighted to 1987 U.S. population.

Source: National Cancer Institute and National Center for Health Statistics, 1987.

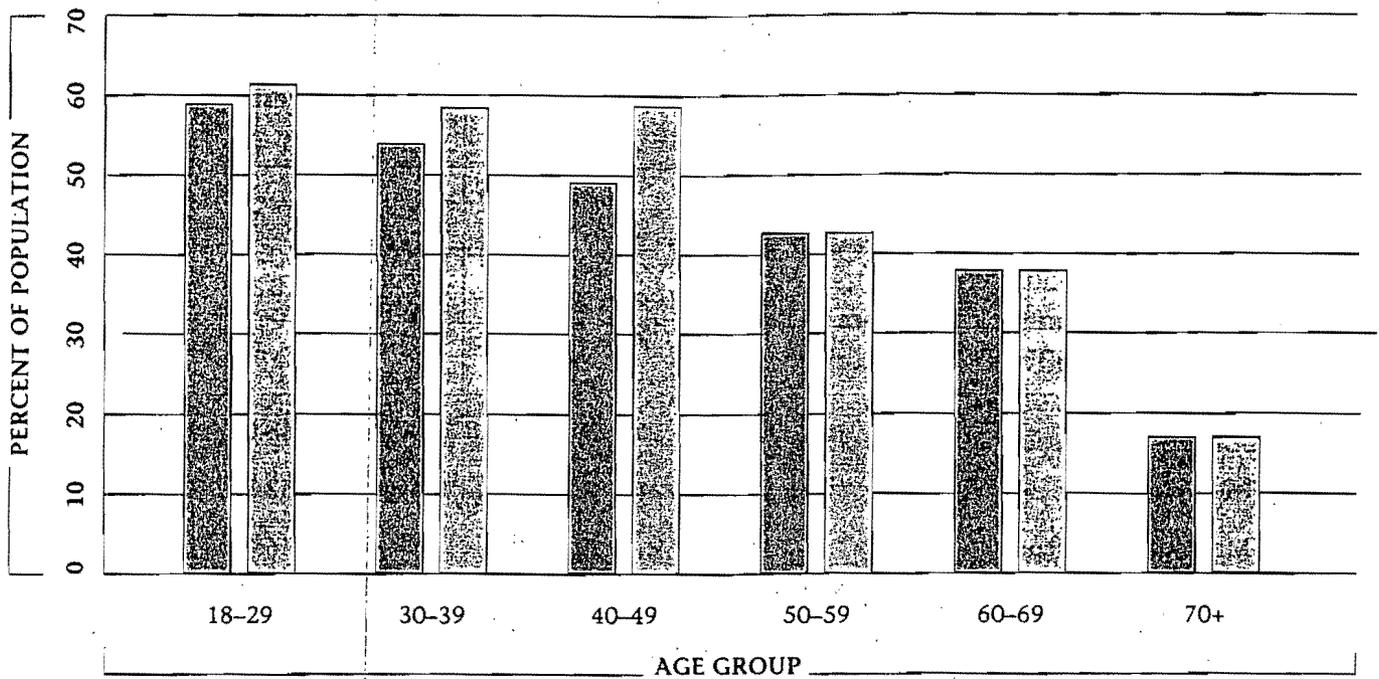
Data from the 1988 Behavioral Risk Factor Surveillance System (BRFSS), which includes cervical cancer screening data from 15 states and the District of Columbia, are consistent with the NHIS findings. Black women (82 percent) were more likely than non-Hispanic white women (71 percent) to have recently had a Pap test (Centers for Disease Control, 1989). In the sample (N=8741) of women 18 years of age or older who had not had a hysterectomy, younger women and women with higher income were more likely to have had a Pap test within the past year.

In addition to the national surveys, much information about the use of screening services by subgroups of women can be gleaned from local population-based and nonpopulation-based studies. Some of these studies and their findings are described below.

A population-based women's health survey (N=603) was conducted in 1986 in a 36-county area of southeastern Kentucky (CDC, 1988) where the cervical cancer mortality rate

was high. The area was primarily rural, and most residents were white. Because few black women lived in the area, they were excluded from the analysis. Most participants reported having heard of the Pap test (97 percent), but older women (65 years old or older; 91 percent) were somewhat less likely to have heard of the test than were younger women (18 to 49 years old; 99 percent). Over 90 percent of women who had heard of the test stated that they had at least one test. However, older women (79 percent) were less likely than younger women (96 percent) to have had a Pap test. The proportion of women who had a Pap test within the past 3.5 years was 85 percent for women under age 50, slightly more than 50 percent for women age 50 to 64, and 39 percent for women age 65 or older. Most of the older women who had not recently had a Pap test also reported having been screened irregularly during earlier years of their life. As found in other surveys, most older women (77 percent) who did not report

Figure III-1. Percentage of Women Who Had Had a Pap Test Less Than 1 Year Before Interview



Legend

White Women Black Women

Source: National Cancer Institute and National Center for Health Statistics, 1987.

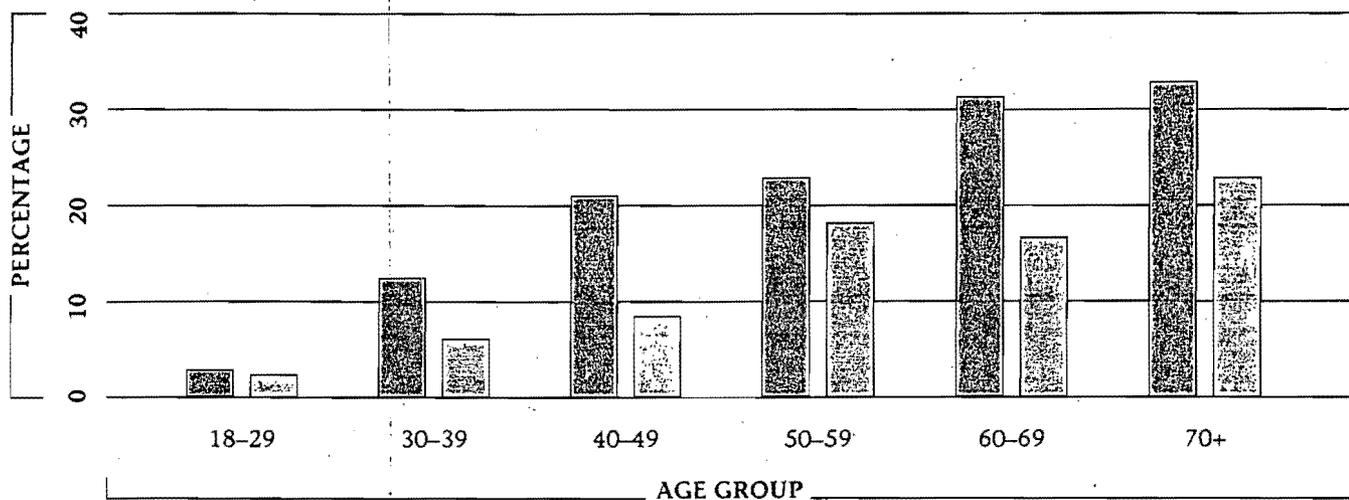
recent screening (within 3.5 years) did report having visited a health-care facility other than an emergency room at least once within the previous year.

Chow and colleagues (1988) analyzed data for controls (N=393) of a population-based, case-control study of reproductive cancers in metropolitan women age 20 to 54 who had not had a hysterectomy. The frequency of screening declined for women with little education (<12 years) or low household income (<\$25,000), for unmarried women age 50 or older, and for women who had never been pregnant. White women with low income were less likely to have been screened annually, but an inverse relationship between screening and income was found for black women. Participants were not asked their usual source of gynecologic care, but the investigators speculated that low-income black women were obtaining free Pap tests at local health department clinics. Other studies that

have collected data on sources of health care and on frequency of contact with the health care system support the idea that these factors may influence frequency of screening.

Randomly selected black women (N=696) in Buffalo, New York, were interviewed in person and asked about previous Pap tests; their reported histories were verified in medical records (Warnecke, 1976). Having had a Pap test decreased with increasing age and lack of contact with physicians, clinics, or hospitals. An association was found between having been treated for a chronic condition and having had at least one Pap test, but for older women (over 44 years of age), use was still the lowest, regardless of their treatment experiences. A relationship was found between increased use and increased education, but this association was attributed to the fact that use was higher among younger women, and younger women were more educated.

Figure III-2. Percentage of Women Who Had Had a Pap Test More Than 3 Years Ago



Legend

White Women Black Women

Source: National Cancer Institute and National Center for Health Statistics, 1987:

Patient (Psychosocial) Variables

Knowledge, attitudes, and beliefs may also contribute to whether or not a woman is routinely screened. Knowledge may increase the likelihood that a woman will seek screening services, but knowledge alone is probably not sufficient to ensure that she does. A recommendation for annual screening, made by several groups,* may have helped make Pap smears routine and may have discouraged a longer interval between tests or a failure to obtain three tests 1-year apart. For approximately 300,000 women followed over a 21-year period, during which time annual Pap smears were advised, only one in four who had one test returned for a repeat test the following year, and about two in four never came back (Wied, 1981).

Data from the 1987 NHIS (NCI, 1989) revealed that most women (96 percent) know about the Pap test, but differences in knowledge were found by racial or ethnic group.

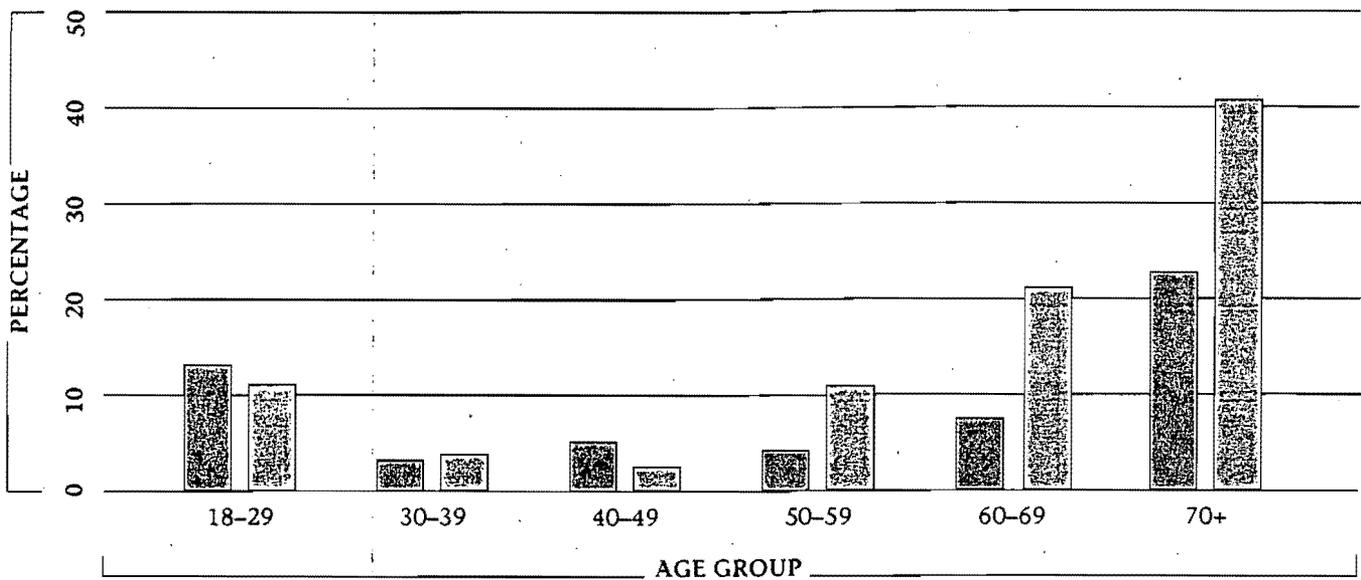
*The American Cancer Society recommended (from the 1950's through the 1970's) annual Pap smears, which was supported by the American College of Obstetricians and Gynecologists.

Hispanic women (15.1 percent) were more likely than black women (4.1 percent) or white women (2.1 percent) not to have heard of Pap tests (table III-2). Furthermore, women may know about the test, and even report having had one, but may not know its purpose.

Baseline data from a telephone survey (N=459) in Forsyth County, North Carolina, conducted before developing a public health education program for cervical cancer, showed that older women (over 45 years) were about four times more likely than younger women not to have had a Pap test in the past year (Michielutte et al., 1989). Women with less than high school education had the highest estimated odds of not knowing that the Pap smear tests for cancer. Although a large proportion of young women reported having recently had a Pap smear, many did not know its purpose.

Belief in the benefit of having a Pap smear may also predict screening behavior. Data for women (N=884) who accurately defined Pap tests as tests for cancer were compiled from a national probability sample of adults

Figure III-3. Percentage of Women Who Had Never Had a Pap Test



Legend

White Women Black Women

Source: National Cancer Institute and National Center for Health Statistics, 1987.

21 years old or older (Kegeles et al., 1965). Women who indicated that professional judgment is better than self-diagnosis and that early detection and treatment are beneficial were classified as believing in the benefit of early detection. A greater proportion (48.2 percent) of women who believed in the benefit of screening obtained Pap tests than did women who did not believe in the benefit (27.5 percent). Within every demographic group analyzed, women who believed in the benefit of early detection were more likely to report having had the test. However, it is not possible to conclude that belief in the efficacy of early detection was the motivation for obtaining Pap tests; we do not know whether women held this belief before having the test or if they acquired this belief after having the test.

Other factors that may contribute to inadequate screening include language and cultural barriers. Information from a screening program for immigrant Caribbean women at churches, schools, and other neighborhood

sites in a low-income area of Brooklyn, New York, suggests that these barriers may affect the level of screening in certain populations (Fruchter, 1985). Forty-nine percent of the participating Haitian women (N=361) had not had a Pap test, but 23 percent of English-speaking Caribbean women (N=228) and 11 percent of U.S.-born black women (N=264) had not done so. Furthermore, only 47 percent of Haitian women reported having a regular source of health care, compared with 74 percent of English-speaking Caribbean women and 83 percent of U.S.-born black women. Invasive cervical cancer was more likely to be diagnosed for Haitian and English-speaking Caribbean women than for U.S.-born black women. Pap test use among the immigrant women was a function of age, socioeconomic status, and country of origin.

To determine the cancer prevention needs of Vietnamese refugees (the fastest-growing Asian minority in the United States (Jenkins et al., 1990), randomly selected Vietnamese women (N=215) age 21 or over residing in

the San Francisco Bay Area were surveyed. Among eligible women (Vietnamese ethnicity, residence in the San Francisco Bay area and age > 21 years, N=99), 71 percent were either overdue for or had never had a Pap test. Limited proficiency in English was not thought to be a barrier to access to health care because Vietnamese physicians and translators were widely available to the population. The investigators suggested that the low rate of cancer screening found reflects the low level of cancer screening in Vietnam. Cultural factors also may have been a barrier to screening; according to these investigators, Vietnamese women are reluctant to disrobe for physical examinations. Because the response rate to this survey was low (55 percent), results must be viewed with caution, but this study and others in immigrant populations highlight the need to determine which cultural factors are barriers to screening.

A population-based, case-control study of white women (N=200) under age 76 with invasive squamous-cell cervical cancer and their matched neighborhood controls was conducted in Los Angeles County (Peters et al., 1989). The study was designed to identify factors that predicted regular, recent screening. All women were interviewed in person in their preferred language (English or Spanish). Seventy-one percent of cases and 72 percent of first-eligible controls (identified by the selection algorithm) were interviewed. Participants were asked about screening history, sexual practices, reproductive history, contraceptive use, genital infections and other medical history, personal habits, demographic characteristics, and reasons for not regularly having Pap tests. Ordinal logistic regression analysis revealed several factors that significantly and independently predicted screening behavior. Some factors were predictive of recent screening for both cases and controls: cognitive barriers (such as lack of understanding about the importance and nature of cervical smears), emotional barriers (such as expressed fear of

embarrassment), having had a urogenital infection, number of pregnancies during the last 5 years, number of pregnancies for which no prenatal care was sought, and knowing the recommended screening interval. Age and number of years using oral contraceptives predicted screening for cases but not controls, and years living in the United States was predictive of screening for controls only. These findings were the same for both English- and Spanish-speaking participants, regardless of heritage.

Provider Variables

The type of health-care provider a woman uses (e.g., family physician or obstetrician/gynecologist [ob/gyn]) also appears to be associated with recency of screening. For a random sample of women (N=675, overall response rate=84.9 percent) in rural and suburban communities in Maryland, interviewed by telephone, a negative linear relationship was found between age and the proportion of women who had recently had a Pap test (Celentano et al., 1982). Fifty-one percent of women age 65 or older had never had a Pap test or had not had one in the previous five years. Factors assessed that could have contributed to the relationship between screening and age included source of medical care, type of provider, perceived health status, and attitudes toward and knowledge about cancer. Type of health-care provider was associated with regularity and recency of screening, regardless of age. Women who regularly saw an ob/gyn were more likely than those who saw another type of physician to have had Pap tests regularly. In multivariate analysis of differences between women who reported having had a Pap test within the past 2 years and those who did not, age, currently going to an ob/gyn, ever having been advised to have Pap tests regularly, and having a personal physician were predictive of having had a Pap test recently. These variables accounted for 18 percent of the variance in outcome.

Having visited a gynecologist recently was the most predictive variable tested. In contrast, perceived susceptibility, socioeconomic status, and knowledge of cancer were not predictive of recent screening.

In another study of health-care use, women with invasive cervical cancer were matched by age, race, and neighborhood with controls who had an intact uterus (Celentano et al., 1988). Interviews were completed with 157 patients (85 percent response rate), and suitable controls were found for 153 of them. Patients were more likely than controls not to have had a Pap test before the one that led to diagnosis. Controls were more likely than patients to have had a Pap test done recently. Older women age 60 and over in both groups were less likely than younger women to have been screened recently, and the disparity between cases and controls increased with age. These differences were due to differences in use of medical services. Significant risk factors were never having visited an ob/gyn, not having visited an internist within the past three years, and not having any outpatient visit. Additionally, patients of all ages were more likely than controls to be older (over 25 years) at their first Pap test, were less likely to have been told to have Pap tests routinely, and were less likely to use contraceptives. After adjusting for the interaction between age and Pap test history, having recently visited a doctor and use of an ob/gyn were protective.

Research indicates that when physicians recommend screening procedures to their patients, a majority of patients will accept their physician's recommendations (Burack and Liang, 1987). However, it has been suggested that one reason older women are sometimes excluded from screening programs is that they routinely decline testing (Weintraub et al., 1987). Weintraub (1987) evaluated a screening program for women age 65 or over attending a large, urban, outpatient geriatric clinic. Despite widespread unfamiliarity with the examination, no patient declined testing when it

was offered by her primary-care provider. Women who agreed to be screened by a health-care provider they did not know, at a separately scheduled visit, kept their appointment 75 percent of the time. These findings seem to indicate that cervical cancer screening is accepted by older women when it is offered by their primary-care physician.

Women age 65 or older (N=75), who were receiving ongoing care at the outpatient clinic of a New York City hospital and who had been offered Pap tests, were asked about factors that influenced their participation in the screening examinations (Tarr, 1988). Patients generally visited the clinic every three months and were scheduled to see the same provider at each visit. Women who reported that their physician had strongly recommended that they have a Pap test were more likely to participate in screening ($P < 0.05$). Screening data were verified through medical records. The physician's sex and the patient-physician relationship were not associated with participation in screening. Again, these data suggest that physicians can improve patient compliance with cervical cancer screening.

What factors influence whether physicians recommend the Pap test for screening? Ziffer (1987) examined the use of Pap smears in nongynecologic admissions at a large tertiary-care hospital in New York State and the attitudes of the house staff toward Pap smears. Sixty-three physicians (84 percent response rate) were surveyed, randomly selected patient charts (N=150) were reviewed, and a random sample of examining rooms were visited to determine the availability of the equipment needed for Pap smears. Although residents believed that it was important to offer a Pap test to all women at admission, pelvic examination was documented on only 67 percent of medical charts. The equipment necessary for a Pap test was present in the examining room on only three of the hospital's 15 medical floors. The three most important reasons physicians gave for not performing a

Table III-3. Number and Percentage of Physicians Who Reported Following or Exceeding American Cancer Society Guidelines for Cervical Cancer Screening

Type of physician	1984 survey		1989 survey	
	N	%	N	%
All physicians	1,035	75	1,029	55
General/family practitioner	532	77	507	54
Internist	211	58	314	40
Obstetrician/gynecologist	292	96	208	85

Source: American Cancer Society, 1990.

Pap smear or pelvic examination were lack of equipment, lack of examining rooms, and patient being in a multiple-bed ward. These factors may influence compliance with a New York State law which mandates that a Pap test be offered to all inpatients at admission (Ziffer, 1987).

In 1984 and 1989, the American Cancer Society (ACS) surveyed by phone primary-care physicians (general and family practitioners, internists, and obstetricians/gynecologists) in the United States and asked about their practices for cancer detection in asymptomatic patients (ACS, 1990). The sample for each study was separately drawn and results were weighted by specialty in proportion to its presence in the population of practicing physicians. Both survey instruments followed the same format, but the 1989 survey asked for additional information on some topics. The response rate was better in the 1984 survey (91 percent) than in the 1989 survey (74 percent). When asked the question, "When you are examining a patient who has no personal history of cancer and who is asymptomatic, do you ever do a Pap test?", 94 percent of all physicians in 1984 and 96 percent in 1989 said yes. All obstetrician/gynecologists in both surveys said that they did Pap tests, fol-

Table III-4. Percentage of Physicians Who Agreed With American Cancer Society Guidelines for Cervical Cancer Screening*

Agreement	1984 survey (N=1035)	1989 survey (N=1029)
Do not agree	26	14
Partially agree	18	16
Completely agree	56	70

*In 1989, 65 percent of physicians said they were aware of changes in the guidelines for Pap testing. The question was asked following the question on agreement with each guideline.

Source: American Cancer Society, 1990.

lowed by 96 percent and 97 percent of general/family practitioners and 86 percent and 93 percent of internists in 1984 and 1989, respectively. These results should be interpreted with caution, however, since research indicates a frequent lack of correlation between physicians' actual performance of screening activities and their perception of their performance (Pommerenke, in press). Most obstetrician/gynecologists stated that they follow or exceed ACS guidelines for Pap tests, while a smaller percentage of general/family practitioners said that they did (Table III-3). Agreement with ACS guidelines increased between the two periods (Table III-4). Of the physicians who disagreed with the recommendations (N=309), 82 percent believed that screening should be done annually, and 6 percent disagreed with the starting age (age 20 in 1984 and age 18 in 1989).

Health System Variables

Economic factors may be barriers to cervical cancer screening for some segments of the population, particularly the elderly and the poor. Many forms of insurance do not cover screening of asymptomatic patients, and until July 1990, Medicare did not pay for Pap tests for asymptomatic women. Women with

health insurance or insurance supplements to Medicare are more likely to have recently had a Pap test than are women without insurance or with less coverage (Office of Technology Assessment, 1990). Although health maintenance organizations often pay for screening tests as part of their prepaid services, unemployed persons tend to be excluded from these plans (Warnecke et al., 1983).

A study that analyzed insurance claims from enrollees in the Rand Health Insurance Experiment (HIE) concluded that elimination of economic barriers would increase the level of Pap smear use, but this incentive would not necessarily be sufficient to reach recommended levels of preventive care (Lurie et al., 1987). The HIE, which ran from 1974 to 1982, was a randomized trial of the demand for health services among participants of several insurance plans. The sample (N=3,823) for which data are reported here was drawn from four of five sites and from the first three years of the experiment (one site was excluded due to incomplete data). For both the 17 to 44 and the 45 to 65 age groups, the proportion of women who had a Pap test was greater among those who had free plans than among those who had cost-sharing plans (66 percent and 57 percent, respectively), but use was still low. The authors suggested that both physician factors (e.g., did not know the guidelines, forgot to recommend screening, and lack of time for performing the exam) and patient factors (e.g., socioeconomic status, fear, and discomfort) may also have contributed to use of preventive services lower than that recommended. Thus, removal of economic barriers—without attention to physician and patient variables—may not greatly increase screening of populations at high-risk for cervical cancer.

Woolhandler and Himmelstein (1988) suggested that the populations at highest risk for disease are the least likely to have insurance coverage and, in turn, the least likely to be screened. In an analysis of use of preventive

services by middle-age women, the investigators determined that lack of insurance was most prevalent among the socioeconomically disadvantaged and was also the strongest predictor of failure to receive screening tests. The data analyzed were from the 1982 NHIS supplements on health insurance and preventive services. Eleven percent of the study sample (women age 45 to 64; N=10,653) were uninsured, and prevalence of not being insured was even higher for certain subgroups (blacks [20 percent], the poor [35 percent], rural residents [13 percent], women with less than high-school education [19 percent], women with poor health [18 percent], and women with a limited activity level [16 percent]). The relative risk for inadequate screening (no Pap test within the past 4 years) was 1.55 (95 percent CI, 1.43 to 1.68) for uninsured women compared with insured women. In multiple logistic regression analysis, lack of insurance was the strongest predictor of inadequate use of Pap screening, even when controlling for demographic and health-status variables. These data support the hypothesis that economic barriers contribute to the use of screening services.

It has been suggested by Howard (1982) that unscreened or inadequately screened segments of the population could be reached through existing channels of the health-care system. Women who might otherwise not receive Pap tests could be recruited when they enter the health-care system for reasons other than Pap testing. Fruchter (1980) interviewed 97 women for whom invasive cervical cancer was diagnosed from July 1976 to December 1978 and who were admitted to one of two hospitals serving a medically indigent community in Brooklyn, New York. Their medical history and previous care information were verified by a review of medical records. Fifty-two percent of the women had not been previously screened, and 62 percent of the women had not been tested in 5 years. In the 5 years prior to first evidence of cervical disease, 73

percent of the unscreened women had received outpatient medical care, and 16 percent had been hospitalized. The latter group of women did not receive a Pap smear despite state law.

Steiner and colleagues (1989) reported that women with invasive cervical cancer had been screened less frequently than were other women of metropolitan Atlanta. Controls for this case-control study were randomly selected by conducting telephone interviews with women age 18 to 75 who had no history of cervical cancer or hysterectomy. Patients with histologically confirmed invasive cervical cancer or cervical carcinoma *in situ* were also interviewed by telephone. Women who had not had a Pap test for three or more years had been seen by a doctor at least once within the past 2 years; in fact, 28 percent of controls and 31 percent of cases had seen a doctor four or more times in the past 2 years. Cases were more likely to have gone to hospital outpatient services or emergency rooms, and controls were more likely to have gone to a private physician. These data support other findings that opportunities to reach inadequately screened populations are often overlooked.

Howe and Bzduch (1987) also investigated how medical care variables affect frequency of screening. A systematic sample was drawn from a computerized listing of women age 25 to 74, residing in upstate New York, who had renewed their driver's license within the previous year. The authors believed that selection bias was minimal. Participants were mailed a questionnaire that collected information about cervical cancer screening behavior. Women who had a hysterectomy were excluded from analysis. In multivariate analysis, the most important predictors of having been screened recently were variables related to medical care—the use of various medical services (e.g., pregnancy-related services) and physicians for health maintenance, care for minor illnesses, and treatment for symptoms.

Why a woman uses health-care services may also influence whether she is screened. A study was conducted in a population (N=253) of Appalachian women, at high risk for cervical cancer, who were attending a family-practice clinic. The researchers examined the characteristics associated with having a Pap test during a clinic visit (Fisher and Page, 1986). Reason for the visit was the strongest predictor of outcome, followed by age. The medical reason for the visit was coded as 1) general physical, which was indicated if the patient requested a physical or had a chronic condition or nonspecific symptoms where a physical was necessary, 2) pelvic indicator, which was indicated if the patient requested a Pap test, birth control, or had medical condition which would require the doctor to examine the pelvic area (e.g., pregnancy, vaginal infection) and 3) nonpelvic complaint, which was indicated if the patient had a complaint that would not require the doctor to examine the pelvic area (e.g., sore throat). Of three reasons for the visit, the odds for having a Pap test (odds ratio [OR]=43.7) was highest for women whose reason was pelvic indicator (Table III-5). Medical care in response to nonpelvic symptoms rarely included a Pap test. The odds for having a Pap test at the first visit was highest for women under 20 (OR=10.3) or age 40 to 49 (OR=6.7). Of 253 patients who visited the clinic during the study period, only 41.5 percent had a Pap test at the first visit. If a Pap test was not done at the first visit, patients were unlikely to have one done during subsequent visits.

Note on Self-Reported Data

Although it is beyond the scope of this document to discuss in-depth the reliability or validity of measures used to characterize screening behavior, some mention of the use of self-reported data is warranted.

Much of our knowledge about use of screening services is based on self-reported data,

Table III-5. Odds Ratio for Having a Pap Test Done at First Visit to a Family-Practice Clinic by Selected Variables

	Test done (N=77)		Test not done (N=176)		Odds ratio
	(N)	(%)	(N)	(%)	
Age					
50 or older	4	(5%)	35	(20%)	1.0*
40-49	10	(13%)	13	(7%)	6.7
30-39	14	(18%)	39	(22%)	3.1
20-29	28	(36%)	71	(40%)	3.5
Less than 20	21	(27%)	18	(10%)	10.3
Reason for visit					
Nonpelvic complaint	8	(10%)	125	(71%)	1.0*
General physical	13	(17%)	31	(18%)	6.5
Pelvic indicator	56	(73%)	20	(11%)	43.7

*Reference population.

Source: Fisher and Page, 1986.

usually collected through interviews, and biases may have resulted. Walter and colleagues (1988) reported on data from two case-control studies that compared self-reported frequency and timing of Pap smears with physician records. For the first study, the population included women (N=181) age 20 to 69 with newly diagnosed invasive squamous-cell cervical cancer and age-matched controls (N=905). The second study used 250 women with cervical dysplasia and 500 age-matched controls. With the participants' consent, physicians were contacted by mail and asked to report the symptoms of all women for whom Pap tests were done and the test result. In both studies, physician response rates were high, but proportionately fewer controls gave consent for physician contact. Physician response rate was not associated with the number of physicians named by the patient, her marital status, or her age. The investigators were confident that physician reports were representative of all Pap tests that had been done for study participants. Agreement

between patients and physicians on time since last Pap test was measured. In the cancer study, the kappa statistic was 0.52 for cases and 0.27 for controls, indicating that agreement was better for cases. In both studies, both cases and controls over reported frequency of Pap smear use, when compared with that shown by medical records for the previous five years. All patients, but especially controls, also under-estimated time since most recent Pap test. The researchers noted that women with cancer were somewhat more accurate than were controls or women with dysplasia in reporting frequency and timing of Pap tests, probably because the seriousness of their disease motivated them to give careful responses. Patients also reported more symptoms than physician records indicated. The authors concluded that when a high response rate can be obtained from physicians, physician records are preferred over patient reports for obtaining accurate dates of tests, but it is unclear whether physician records are preferable for the evaluation of symptoms.

In another study (Sawyer et al., 1989), which compared interview data and physician records, self-reported data correlated poorly with medical records. Personal interviews were conducted with 149 black women in rural North Carolina. Fifty-one women were excluded because they had a hysterectomy, had no source of medical care, or were not listed on the rosters of the providers they named. The final sample (N=98) comprised women, ages 16 to 75, of low socioeconomic status. As in other studies, women underestimated time since their most recent Pap smear. Twenty percent of women did not accurately report whether a Pap smear had been done within 3 years (sensitivity=0.95, specificity=0.47). Only a fair agreement was found between physicians and patients on timing of Pap tests (kappa statistic=0.46). Women who saw internists or family physicians were least likely to accurately report

time since their last Pap test, while women who saw nurse practitioners were most accurate in their reporting. Women who saw physicians were more likely to have pelvic examinations for reasons other than Pap smears, and they may have confused the two procedures. Women who inaccurately reported data were also more likely to report logistic barriers to having the test and to view it as embarrassing or unpleasant. Negative experiences may be recollected as having occurred more recently than positive experiences, which may account for some of the inaccuracy of self-reported data. Data from this study also support previous findings that educational level is unrelated to the accuracy of self-reporting.

Although results from these studies are not generalizable, they do highlight the potential error associated with respondent recall, which may be an important consideration when evaluating cervical cancer screening programs.

Working Group Issues and Discussion

ISSUE 1:

The greatest public health benefit may ensue by reaching special populations, women over 50 years old, and women who have never been screened.

Numerous studies have examined characteristics of women and other factors that contribute to the frequency with which women are screened for cervical cancer. Although the focus, design, and results of these investigations vary considerably, a picture emerges of women least likely to be screened.

In recent years, use of cervical cancer screening has increased among black women and older women, but research continues to show an association between lack of appropriate screening and both increasing age and low socioeconomic status. Older women, in particular, appear to be at high risk for not being adequately screened. Because older women are more likely than younger women

to die from cervical cancer, and because special populations are unlikely to be screened (e.g., low income groups, Hispanic women, and Asian women), program planners should consider which population groups to target.

ISSUE 2:

Support research on the determinants of screening behavior and on characterizing the populations at risk for noncompliance with followup procedures for abnormal test results.

We lack behavioral science research results that describe the process or determinants of participation in screening programs. We know even less about determinants of compliance with recommendations for followup of abnormal test results. Research in these areas must be supported.

ISSUE 3:

Reopen for discussion the current screening guideline which recommends that, after three consecutive annual Pap tests with normal results, screening should be done at the discretion of a woman's physician.

Concern was raised about the current recommendation of leaving the frequency of screening to the discretion of the physician.

One difficulty in interpreting the recommendation concerns the age at which the three consecutive tests are done. For example, are three consecutive tests done at ages 18, 19, and 20 as protective as tests done at ages 30, 31, and 32? According to data from the International Agency for Research on Cancer (Hakama et al., 1986), screening should be done for the age groups for which cervical cancer is most common. Incidence data for high- (Colombia) and low-risk populations (United Kingdom) show that a test done for women between the ages of 35 and 60 is 30 times more effective in detecting a lesion that may become invasive than a test done when a woman is age 20 (Day, 1989). In countries such as Iceland and Finland, where screening was initially targeted to older women, an early impact on incidence and

mortality was observed. In contrast, programs that concentrated on younger women (e.g., in North America) showed a delayed impact on incidence and mortality (Hakama et al., 1986).

Another difficulty in implementing the guideline concerns frequency of testing. In the United States, no centrally organized screening program invites women to return for annual screening tests. Women who do not have a personal physician to remind them of when they are due for their next Pap test may not be screened at all. Physicians who are seeing women for reasons other than Pap screening may not detect risk factors, especially in older women. The word discretion leaves much room for interpretation and does not offer sufficient guidance to women or their health-care providers.

ISSUE 4:

Educate primary-care practitioners, whose primary interest is not cervical cancer, on the importance of screening older women.

Screening frequency has been linked to patterns of health-care use and type of provider. The number of visits to obstetrician/gynecologists decreases as a woman ages, but the number of medical visits does not. The lower use of screening among older women today may be because many of these women were past childbearing age and no longer seeing an obstetrician/gynecologist when screening became more prevalent (Office of Technology Assessment, 1990). Is screening at younger ages predictive of screening at older ages? Will future cohorts of older women comply with screening recommendations?

Because many older women may see providers other than obstetrician/gynecologists, primary-care providers of various types should be targeted for educational programs on the importance of screening older women for cervical cancer.

ISSUE 5:

Educate young women on the need for regular and continued screening.

Health-seeking behavior also differs with age and may contribute to the lower use of screening services as age increases (Celentano, 1988). Older women seek medical care for specific symptoms rather than prevention more often than younger women do. Health-care providers are most likely to focus on the reported symptoms, and the visit may not be conducive to providing preventive services. Research indicates that women with a low level of cervical cancer screening report having had recent contact with the health-care system. Younger women who are appropriately screened may not realize that they should continue to receive Pap tests beyond the childbearing years.

ISSUE 6:

The health-care system should offer preventive services to women when they enter the system for reasons other than disease prevention.

Interventions should stress the need for screening independent of other health needs. The need for regularly having Pap tests should not be associated with family planning so that demand for Pap smears will not end when gynecologic or family-planning services are no longer needed.

ISSUE 7:

Improve the instruments that measure screening behavior.

We need to address problems with the validity and reliability of the self-reported data we are using to determine frequency of cervical cancer screening.

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HEALTHY PEOPLE 2000

*National Health Promotion and
Disease Prevention Objectives*

Full Report, With Commentary

U.S. Department of Health and Human Services
Public Health Service



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The text of this document is reprinted from the original government publication, with the addition of a preface by Lawrence W. Green. The preface provides commentary on the original goals of *Healthy People 2000* and discusses how the information accepted by the government for publication departs from some of the original goals.

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Healthy People 2000 is a statement of national opportunities. Although the Federal Government facilitated its development, it is not intended as a statement of Federal standards or requirements. It is the product of a national effort, involving 22 expert working groups, a consortium that has grown to include almost 300 national organizations and all the State health departments, and the Institute of Medicine of the National Academy of Sciences, which helped the U.S. Public Health Services to manage the consortium, convene regional and national hearings, and receive testimony from more than 750 individuals and organizations. After extensive public review and comment, involving more than 10,000 people, the objectives were revised and refined to produce this report.

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DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Office of the Assistant Secretary
for Health
Washington DC 20201

The Honorable Louis W. Sullivan
Secretary of Health and Human Services

Dear Mr. Secretary:

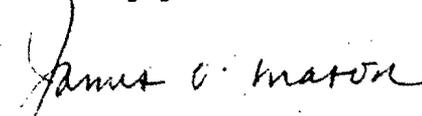
I am pleased to submit to you Healthy People 2000: National Health Promotion and Disease Prevention Objectives. This document contains a national strategy for significantly improving the health of the Nation over the coming decade. It addresses the prevention of major chronic illnesses, injuries, and infectious diseases.

The Public Health Service has served as leader, convener, and facilitator over the three-year period of this report's development. However, it can truly be labelled a national, not just a Federal, initiative to focus existing knowledge, resources, and commitment to capitalize on our opportunities to prevent premature death and needless disease and disability. Thousands of professionals from many different disciplines, as well as many health advocates and consumers, have contributed substantially to produce this set of measurable targets to be achieved by the year 2000. They have voluntarily testified at public hearings, written eloquent letters and papers, engaged in extensive reviews of draft materials, and organized and attended informational forums in support of Healthy People 2000. The comprehensiveness and depth of this report stand as a tribute to their commitment to better health for Americans through prevention. In addition to their contribution, Federal staff from other departments, other Operating Divisions of this Department, and the Public Health Service Agencies, have worked above and beyond the call of duty to produce this national prevention strategy. The Institute of Medicine of the National Academy of Sciences has served as an important partner in our efforts to involve a broad consortium of participants in the process. Each deserves a special note of appreciation.

I commend Healthy People 2000 to you and through you to the American people. This set of objectives for the year 2000 makes an important, compelling point to us and to all health policy makers: we can no longer afford not to invest in prevention. From the perspective of avoiding human suffering as well as saving wasteful costs for treating diseases and injuries that could have been prevented, the 1990s should be the decade of prevention in the United States.

With the submission of Healthy People 2000, I commit the Public Health Service to work toward achievement of these objectives for the coming decade.

Sincerely yours,


James O. Mason, M.D., Dr.P.H.
Assistant Secretary for Health

Enclosure

For the purposes of this modeling effort, it was assumed that women aged 50 through 75 would receive the stage-shift benefit from increased breast cancer screening. Increased utilization of mammography was assumed to occur in three increments. The proportion of women aged 50 and older annually receiving mammography and clinical breast examination was set at 30 percent between 1990 and 1994, 45 percent between 1995 and 1998, and 60 percent between 1999 and 2000. These figures compare with the 1987 estimate of 19 percent of women aged 50 and older who received a mammogram and clinical breast examination in the previous year.⁴⁹

Given these parameters, the CAN*TROL model estimates a reduction in the age-adjusted death rate for female breast cancer of 9.5 percent from a projected rate in the year 2000 of 22.8 per 100,000 to 20.6 per 100,000 women. Using the same parameters, but assuming annual mammography utilization will increase to either 40 percent or 80 percent among women aged 50 and older, the model predicts age-adjusted mortality reductions of 7 or 15 percent, respectively.

16.4 Reduce deaths from cancer of the uterine cervix to no more than 1.3 per 100,000 women. (Age-adjusted baseline: 2.8 per 100,000 in 1987)

Note: In its publications, the National Cancer Institute age adjusts cancer death rates to the 1970 U.S. population. Using the 1970 standard, the equivalent baseline and target values for this objective would be 3.2 and 1.5 per 100,000, respectively.

Baseline data source: National Vital Statistics System, CDC.

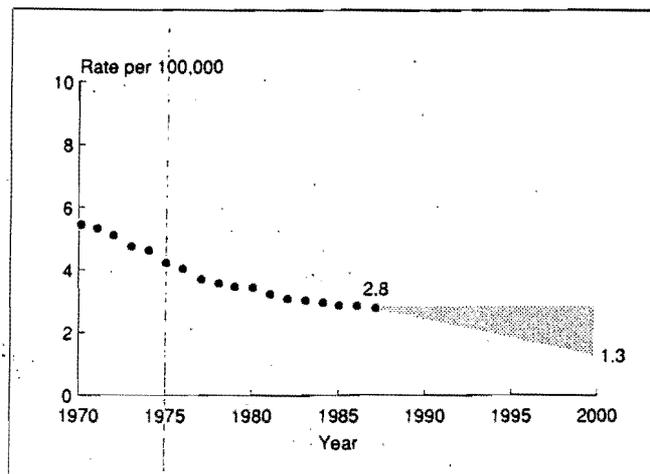


Fig. 16.4
Age-adjusted
cervical cancer
death rate

Cancer of the uterine cervix is one of the most commonly occurring cancers for women. More than 50,000 cases of carcinoma in situ of the uterine cervix are detected annually. In 1990, approximately 13,500 new cases of invasive cancer of the uterine cervix will be diagnosed, and about 6,000 women will die from cervical cancer.²

Use of the Pap test to screen for cervical cancer greatly reduces the risk of death from invasive cervical cancer. The decline in cervical cancer mortality in the 1970s and 1980s is thought to be due primarily to the widespread use of the Pap test for early detection of cervical cancer. The most recent National Health Interview Survey suggests that a significant proportion of women are not receiving Pap tests regularly and that the women at greatest risk of cervical cancer mortality (older women) are least likely to have been screened.⁴⁹

Increasing Pap test utilization has the potential to reduce mortality from cancer of the uterine cervix between the years 1990 and 2000. Data from the International Agency for

Research on Cancer (IARC) indicate the impact of recency of Pap test utilization on the incidence of invasive cervical cancer.²⁹ Furthermore, increased utilization of Pap tests may produce a shift toward earlier stage disease, with its attendant improved survival rate.⁴⁷ Realizing the full potential for risk reduction due to Pap tests will also require efforts to ensure the quality of specimen collection and laboratory analysis (see Objective 16.15).

To set a target value for this objective, the age-adjusted death rate for cervical cancer was projected to the year 2000 assuming a logarithmic trend. The estimated reduction in cervical cancer deaths was developed using the CAN*TROL computer model¹⁵ and then applied to the expected value. The CAN*TROL model calculates the effect of specified cancer control activities on cancer incidence, prevalence, and mortality. The model calculations included the following data inputs: (1) the estimated 1985 U.S. female population, (2) incidence rates for cancer of the uterine cervix among women, (3) stage distributions for women receiving and not receiving annual Pap test screening, and (4) stage-specific survival rates.

For the purposes of this modeling effort, it was assumed that women aged 20 through 85 would receive the stage-shift benefit from increased cervical cancer screening. Increased utilization of Pap tests was assumed to occur in three increments. The proportion of women aged 20 and older annually receiving Pap tests was set at 62 percent between 1990 and 1995, 69 percent between 1996 and 1998, and 75 percent between 1999 and 2000. These figures compare with the 1987 estimate of 56 percent of women aged 18 and older who received a Pap test in the previous year.⁴⁹

Given these parameters, the CAN*TROL model estimates that the age-adjusted death rate for cancer of the uterine cervix will decline by 12 percent from a projected rate in the year 2000 of 1.5 per 100,000 to 1.3 per 100,000 women.

16.5 Reduce colorectal cancer deaths to no more than 13.2 per 100,000 people. (Age-adjusted baseline: 14.4 per 100,000 in 1987)

Note: In its publications, the National Cancer Institute age adjusts cancer death rates to the 1970 U.S. population. Using the 1970 standard, the equivalent baseline and target values for this objective would be 20.1 and 18.7 per 100,000, respectively.

Baseline data source: National Vital Statistics System, CDC.

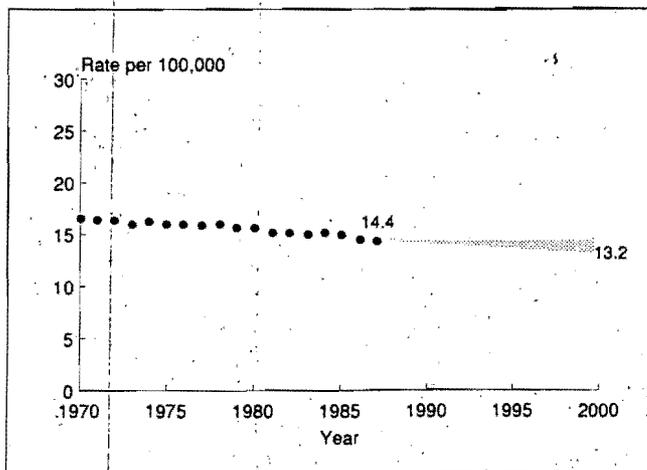


Fig. 16.5
Age-adjusted colorectal cancer death rate

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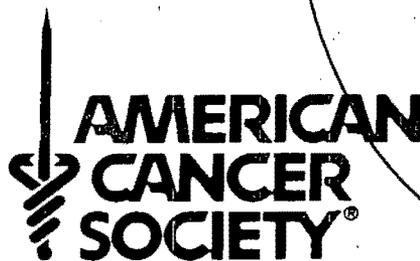
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Breast Cancer Detection Goals

The American Cancer Society has identified breast cancer detection as a priority program for the 1990s and has set a goal for the year 2000 that 65% of breast cancers will be diagnosed at Stage I or earlier. In 1989, approximately 48% of breast cancers were diagnosed in the earliest stages.

Although mammography utilization has increased significantly during the first half of this decade, ensuring that women follow guidelines and make routine screening, including mammography and clinical breast examination, part of their health habits will require continued efforts. Promoting screening among women and physicians, assuring the availability of a quality examination, and improving access to follow-up and treatment are all part of the Society's strategic plan for breast cancer detection during the 1990s.

Table III-D. Status: American Cancer Society Breast Cancer Detection Measures of Success by the Year 2000

	Baseline 1987 %	1992 %	Year 2000 Goal %
Women 40 and older, ever had mammogram	40	68	75
Women 40-49, had mammogram within 2 years	20	46	50
Women 50 and older, had mammogram within 1 year	15	30	50
Women 65 and older, had mammogram within 1 year	10	25	35

Source: National Health Interview Survey 1987, 1992.

Cervical Cancer

Since the introduction of the Papanicolaou (Pap) test in the 1950s, cervical cancer mortality has been reduced by 75% in the US. In 1994, approximately 15,000 women will develop invasive cervical cancer and 4,600 women will die from it. The American Cancer Society estimates that about 55,000 cases of *in situ* cervical cancer are diagnosed annually.

American Cancer Society Guidelines for Cervical Cancer Detection

Women who are or have been sexually active, or have reached age 18, should have an annual Pap test and pelvic examination. After a woman has had three or more consecutive satisfactory normal annual examinations, the Pap test may be performed less frequently at the discretion of her physician.

Pap Test Screening

In 1992, data from a national survey indicated that 91% of women with a uterine cervix had ever had a Pap test and that 74% had had one within the preceding three years (Healthy People 2000 Review, 1993). In the states participating in the BRFSS in 1992, younger women (18-44) were more likely to report a recent Pap test (median, 85%) than those 45 and older (median, 70%) (Table III-E). Low income, low education, and increasing age are all associated with a decreased likelihood of having had a Pap test.

Table III-E. Use of Pap Test Among Women 18 and Older, by State, 1992

	Sample Size	% Ever had a Pap test	% Recent*	
			18-44	45 & older
Alabama	1262	95.5	87.9	74.5
Alaska	612	96.8	90.9	72.9
Arizona	1046	95.5	89.5	81.0
California	2186	92.2	82.2	77.8
Colorado	1027	97.5	86.8	77.1
Connecticut	1079	90.1	80.1	71.0
Delaware	919	94.8	87.3	69.7
Dist. of Col.	938	89.0	85.4	80.5
Florida	1596	93.1	85.3	70.0
Georgia	1101	95.1	88.8	67.6
Hawaii	1073	91.1	82.2	71.9
Idaho	986	91.9	77.6	68.8
Illinois	1295	87.4	81.3	73.1
Indiana	1394	92.9	82.0	69.9
Iowa	974	91.1	81.9	68.7
Kansas	786	91.7	76.5	76.8
Kentucky	1340	91.2	80.6	63.1
Louisiana	994	91.5	82.0	59.8
Maine	725	95.2	85.1	74.2
Maryland	1280	93.5	86.9	74.2
Massachusetts	816	90.7	85.8	69.9
Michigan	1373	92.1	84.7	68.9
Minnesota	1924	95.2	87.5	73.6
Mississippi	987	92.9	84.5	55.9
Missouri	894	93.1	85.7	70.3
Montana	673	92.0	81.9	66.6
Nebraska	926	91.8	81.8	63.9
Nevada	989	92.1	86.9	56.7
New Hampshire	777	92.7	84.7	69.2
New Jersey	210	87.4	78.1	62.4
New Mexico	691	94.1	81.0	73.2
New York	1651	89.1	80.0	66.7
North Carolina	1244	95.2	88.5	74.8
North Dakota	983	92.7	86.2	61.4
Ohio	730	92.7	85.2	60.5
Oklahoma	941	96.0	88.9	67.0
Oregon	1916	94.2	79.8	75.7
Pennsylvania	1389	92.8	83.4	65.6
Rhode Island	1027	92.2	79.5	64.4
South Carolina	1202	93.8	82.6	67.6
South Dakota	1057	94.9	85.3	70.3
Tennessee	1528	90.6	85.3	64.8
Texas	1475	90.9	82.9	65.1
Utah	1036	91.5	79.7	65.9
Vermont	1090	95.3	87.5	75.4
Virginia	1039	92.6	82.5	72.6
Washington	1444	96.0	85.6	75.9
West Virginia	1491	91.1	78.9	61.6
Wisconsin	815	94.5	82.8	70.9
Median		93.1	84.7	69.7
Range		87.4-97.5	77.6-96.5	55.9-96.8

* → why such a good %?

*Recent Pap test: within last 2 years (women with a uterine cervix).

Source: Behavioral Risk Factor Surveillance System, 1992.

Survey Sources

The data reported here are compiled from several different survey sources that are designed to provide estimates of the prevalence of selected health-related behaviors and practices in the general population. Some surveys sample from a national frame, while others are designed to provide state specific estimates. A brief description of each survey source used for this report follows.

Behavioral Risk Factor Surveillance System (BRFSS)

The BRFSS is an ongoing system of surveys conducted by state health departments in cooperation with the Centers for Disease Control and Prevention to collect, analyze, and interpret state-specific behavioral risk factor data. Comparable methods are used from state to state and from year to year, allowing states to compare risk factor prevalences with other states and monitor the effects of interventions over time. In 1992, 48 states and the District of Columbia randomly selected a sample of the non-institutionalized population of adults 18 and older who have telephones. Interviews were conducted by telephone and covered selected risk factors and preventive health measures.

Monitoring the Future (MTF)

Sometimes referred to as the High School Senior Survey, MTF is an ongoing national research and reporting program conducted at the University of Michigan and funded by the National Institute on Drug Abuse. Each year a representative sample of seniors in public and private high schools in the US is surveyed about their use of drugs, alcohol, and tobacco as well as factors that explain trends in use, such as norms, beliefs, and availability. The study also includes follow-up mail surveys of young adults from previous graduating classes, samples of American college students, and annual surveys of 8th- and 10th-grade students.

National Health and Nutrition Examination Survey (NHANES)

The NHANES began in 1960 with the National Health Examination Survey, and since then has been conducted periodically. The survey measures and monitors indicators of the nutrition and health status of the American people through dietary intake data, biochemical tests, physical measurements, and clinical assessments. The survey sample, of 20,000-30,000 persons, is representative of the civilian, non-institutionalized population, and includes children and adults.

National Health Interview Survey (NHIS)

The NHIS is a continuing nationwide sample survey conducted by the Bureau of the Census for the National Center for Health Statistics. It consists of personal interviews in a population-based national sample of about 49,000 households. Data are collected on the personal, sociodemographic, and health characteristics of the members of these households by self-reporting or as reported by an informant. Each year the questionnaire is reviewed and special health topics are added or deleted.

Youth Risk Behavior Survey (YRBS)

The YRBS consists of biennial, national, state, and local school-based surveys of representative samples of 9th- through 12th-grade students. A self-administered questionnaire was completed by 16,296 students in the national sample in 1993. State and local surveys were conducted by state and local education agencies using a variety of sampling schemes. Because of differences in the sampling methods and data quality, direct comparisons of data among the states should be made with caution.

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M. MINNAERT

PAPANICOLAOU, GEORGE NICHOLAS (b. Kími, Greece, 13 May 1883; d. Miami, Florida, 19 February 1962), *anatomy*.

The son of a physician, George Nicholas undertook the study of medicine and received the M.D. from the University of Athens in 1904. After postgraduate work in biology at the universities of Jena, Freiburg, and Munich, from which he received his doctorate in 1910, he returned to Greece and married Mary Mavroyeni, the daughter of a high-ranking military officer.

Papanicolaou decided to forgo the practice of medicine in favor of an academic career, in which his wife served as his lifelong associate. En route to Paris, Papanicolaou stopped for a visit at the Oceanographic Institute of Monaco and accepted an unexpected offer to join its staff. He worked for one year as a physiologist and then returned to Greece upon the death of his mother. After serving for two years as second lieutenant in the medical corps of the Greek army during the Balkan War, he immigrated to the United States.

In 1913 Papanicolaou was appointed assistant in the pathology department of New York Hospital, and in 1914 he became assistant in anatomy at Cornell Medical College. Until 1961 he conducted all of his scientific research, devoted almost exclusively to the physiology of reproduction and exfoliative cytology, at these two affiliated institutions, each of which named a laboratory in his honor. He was designated professor emeritus of clinical anatomy at Cornell in 1951. In November 1961 Papanicolaou moved to Florida and became director of the Miami Cancer Institute, but died three months later of acute myocardial infarction. The institute was renamed the Papanicolaou Cancer Research Institute in November 1962. An indefatigable worker, Papanicolaou is said never to have taken a vacation.

Papanicolaou is best known for his development of the technique, eponymically termed the Papanicolaou smear, or "Pap test," for the cytologic diagnosis of cancer, especially cancer of the uterus—second only

to the breast as the site of origin of fatal cancers in American women.

The history of cancer cytology dates from 1867, when Beale observed tumor cells in the smears of sputum from a patient with carcinoma of the pharynx. He suggested the microscopic examination of desquamated cells for the detection of cancer of other organs, including the uterus and urinary tract.¹ Friedlaender noted, in his subsequent microscopic examination of fluid exuding from ulcerating cancers of the uterus, distinctive cellular elements that helped establish the diagnosis.² In 1908 Königler called attention to the striking differences in the size and shape of cancer cells obtained from serous cavities, the abundance of vacuoles and fatty droplets in the cytoplasm, the enlargement of the nucleus, and the presence of multiple nucleoli within it.³

Papanicolaou was invited by Charles R. Stockard, chairman of the Cornell Medical School department of anatomy, to join him in his work in experimental genetics. In 1917 he began a study of the vaginal discharge of the guinea pig, with the hope of finding an indicator of the time of ovulation; he would thus be able to obtain ova at specific stages of development. He sought traces of blood, as seen during estrus in certain other species, such as the cow and bitch, and in the menstrual discharge of primates and women. In the course of his daily examination of the guinea pig vaginal fluid, obtained through a small nasal speculum, Papanicolaou saw no blood. He noted instead a diversity in the forms of the epithelial cells in a sequence of cytologic patterns recurring in a fifteen- to sixteen-day cycle, which he was able to correlate with the cyclic morphologic changes in the uterus and ovary. Papanicolaou thus established the technique that became the standard for studying the sexual (estrous) cycle in other laboratory animals, especially the mouse and rat, and for measuring the effect of the sex hormones.

In 1923 Papanicolaou extended his studies to human beings in an effort to learn whether comparable vaginal changes occur in woman in association with the menstrual cycle. His first observation of distinctive cells in the vaginal fluid of a woman with cervical cancer gave Papanicolaou what he later described as "one of the most thrilling experiences of my scientific career" and soon led to a redirection of his work.

His early reports on cancer detection, however, which appeared from 1928, failed to arouse the interest of clinicians. Cytologic examination of the vaginal fluid seemed an unnecessary addition to the proven procedures for uterine cancer diagnosis—cervical biopsy and endometrial curettage. In 1939, while collaborating with the gynecologist Herbert Traut, Papanicolaou

began to concentrate his studies on human beings. Their research culminated in the publication of *Diagnosis of Uterine Cancer by the Vaginal Smear*. This monograph encompassed a variety of physiologic and pathologic states, including the menstrual cycle, puerperium, abortion, ectopic pregnancy, prepuberty, menopause, amenorrhea, endometrial hyperplasia, vaginal and cervical infections, and 179 cases of uterine cancer (127 cervical and 52 corporeal). The work was instrumental in gaining clinical acceptance of the smear as a means of cancer diagnosis, for superficial lesions could thus be detected in their incipient, preinvasive phase, before the appearance of any symptoms.

The Papanicolaou smear soon achieved wide application as a routine screening technique. The death rate from cancer of the uterus among women aged thirty-five to forty-four who were insured under industrial policies by the Metropolitan Life Insurance Company was almost halved in the decade from 1951 to 1961, decreasing from 16.0 to 8.2 per 100,000; while the corresponding reduction in the death rate from cancer of all sites was from 74.0 to 66.0.

Although the *Atlas of Exfoliative Cytology* lists the criteria for malignancy in the shed cells, Papanicolaou used to state that he could not explain how he recognized a smear as positive for malignancy any more than he could explain how to recognize an acquaintance by describing his facial expression. Yet he taught thousands of students how to detect cancer cells under the microscope, and they carried his teachings to all parts of the world. Papanicolaou's technique was rapidly extended to the diagnosis of cancer of other organs from which scrapings, washings, or exudates could be obtained. The principal value of the Papanicolaou smear lies in cancer screening, but it is also applied to the prediction of cancer radiosensitivity, the evaluation of the effectiveness of radiotherapy, and the detection of recurrence after treatment.

It has been suggested that Papanicolaou's work ranks with the discoveries of Roentgen and Marie Curie in reducing the burden of cancer. Cancer of the uterine cervix is nearly 100 percent curable when recognized in its incipency.

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3. Königer, H., *Die Zytologische Untersuchungsmethode, ihre Entwicklung und ihre Klinische Verwertung an den Ergüssen Seröser Höhlen* (Jena, 1908), pp. 99-100.

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HAROLD SPEERT

PAPIN, DENIS (b. Blois, France, 22 August 1647; d. London [?], England, ca. 1712), technology.

Papin was the son of Denys Papin and Magdaleine Pineau. He studied medicine at the University of Angers, from which he received the M.D. in 1669. He was apparently early intent upon a scientific career, since shortly after graduation he went to Paris, where he began working as an assistant to Christiaan Huygens. Papin was a skillful mechanic; he constructed an air pump, with which he performed a number of experiments under Huygens' direction. These were eventually published (1674), and included some attempts at preserving food in a vacuum that testify to Papin's utilitarian bent of mind.

In 1675 Papin went to London. He took with him letters of introduction to Henry Oldenburg, but it was with Robert Boyle that he soon established himself. In *A Continuation of New Experiments*, published by Boyle in 1680, Papin described both the investigations that he had made with Boyle (chiefly on the air pump) and those that he had conducted himself. In Boyle's scientific household Papin also invented his "steam digester," a pressure cooker for which he invented a safety valve that was to be technologically important in the development of steam power. He demonstrated the digester to the Royal Society, under the auspices of Robert Hooke, in May 1679. In the latter part of the same year, he was employed by Hooke to write letters for the society, at two shillings each. He was not elected a fellow until late in 1680.

Papin was again in Paris with Huygens at some time in 1680; in 1681 he went to Venice, where he was director of experiments at Ambrose Sarotti's academy.

DRAFT of Pap Smear Report

Background on George Papincolaou and the Discovery of the Pap Smear

George Papincolaou was born on the Greek island of Euboea and studied medicine at the University of Athens. In 1910, he married Mache Mavrogenous who became his lifelong research partner. After serving in the Balkan wars, he immigrated to America where he took jobs at New York Hospital and Cornell Medical College.

In _____, Papincolaou discovered a method to determine whether a women is developing or has developed cervical cancer; the method was dubbed the "Pap smear." He recalled the first time he could discern distinctive cells indicating a positive cancer diagnoses as "one of the most thrilling experiences of my scientific career." When he first tried to make his results public in 1928, he was scorned by the scientific community. Eventually, in 1948, he published *The Diagnosis of Uterine Cancer by the Vaginal Smear* which was well-received and highly regarded.

Sketchy

The Impact of the Pap Smear

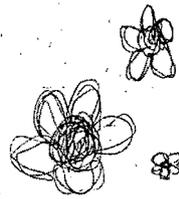
Today, approximately 14,500 new cases of cervical cancer, and ~~4,800~~ deaths from the disease occur each year. Factors which increase a woman's risk of cervical cancer include early age in initiating sexual activity, multiple sexual partners, infection with human papilloma virus 16 and cigarette smoking.

Why this reaction?

stet

However, since cervical cancer has a lengthy asymptomatic, precancerous phase, the vast majority of deaths from cervical cancer are preventable by regular pap smear testing. A pap smear test can detect precancerous lesions which can be treated to prevent cervical cancer. Authorities recommend screening every 1 to 3 years for women 18 or older and for younger women who are sexually active. The National Cancer Institute has stated that "Evidence strongly suggests a decrease in mortality from regular screening with Pap tests in women who are sexually active or who have reached 18 years of age." Dr. Kenneth Noller of the UMass medical center, a national cervical cancer expert, concurs, noting, "If a woman has a Pap smear every year, the chances of cervical cancer are practically zero."

Studies have confirmed that cervical cancer mortality rates decline greatly in populations of women who obtain regular Pap screening. In the United States, in 1961, 30% of women received pap tests and the cervical cancer rate was 32.6/100,000; in 1987, 87% of women received pap tests and the cervical cancer rate was 8.3/100,000. From 1950 to 1970, incidence and mortality rates of invasive cervical cancer fell by over 70%, and since the early 1970's incidence and mortality rates have declined by about 40%. However, recent evidence indicates that since the early 80's, levels of incidence and mortality are decreasing more slowly. Overall, since the introduction of the Pap smear test in the 1940's, mortality rates from cervical cancer have decreased by 75%.



Full blown or signs for

Further, until the early 70's, around 75% to 80% of cervical cancer in the US was invasive at the time of diagnosis. Today, about 78% of diagnosed cervical cancer cases are found at the in situ (precancerous) stage at which they can best be treated.

Studies of the results of Pap testing in other countries are equally impressive. By implementing well-run Pap testing programs, the country of Iceland cut mortality rates by 80% over 20 years, Finland reduced mortality rates by 50% and Sweden reduced mortality rates by 34%.

Reductions in mortality in a country are generally proportional with the intensity of the testing efforts in the country: Scandinavian countries with higher testing rates had greater death reductions, and deaths in Canada decreased most in British Columbia which had 2 to 5 times more testing efforts than other provinces.

The consequences for women who do not have access to Pap testing are severe. The risk of getting cervical cancer is 3 to 10 times greater in untested women, and the risk increases the less frequently women are screened. It is even estimated that if Pap smear screening were abolished in the US, the incidence of invasive cervical cancer would increase by twofold to threefold. 50% of women actually diagnosed with invasive cervical carcinoma have never had a Pap smear, and another 10% haven't had a smear in the past five years. Survival is directly related to the stage of the disease when diagnosed -- the earlier the disease is diagnosed, the more likely women a woman is to survive.

Screening and Incidence Rates

Ethnic minorities (especially Hispanics, elderly African Americans and Native Americans), economically disadvantaged women (especially those in rural areas), and elderly women -- groups of women which often have least access to preventive services, are most likely to go untested.

1) The Elderly: The 25% of cases of cervical cancer and the 41% of deaths that happen in women 65 and older correspond closely to data showing that 50% of all women age 60 and older haven't had a Pap smear in the past 3 years. While older women report having the same number of recent physician visits as younger women, older women are screened less often, indicating the need to educate older women and their health care providers about the importance of Pap screening.

2) African-American Women: ~~Among women over the age of 25, the numbers of black women with cancer grows more quickly than the numbers of white women.~~ However, recent evidence shows that the gap in the occurrence of cervical cancer between black and white women under age 50 is disappearing, indicating that more young black women are being screened. However, elderly black women still have very low screening rates: one study indicates that more than 40% of African-American women over 65 have never had a Pap smear. Black women also have the highest age-adjusted cervical cancer mortality rate.

3) Hispanic Women: An analysis of 1987 NHIS data indicates that 20% of Hispanic women

cervix is growing



what the rates are for black vs white over 65

have never even heard of a Pap smear. Another study indicates that only 46% of Mexican-American women have had a Pap test in the last two years. Hispanic women have the second highest rates of invasive cervical cancer among 30 to 54 year old women.

4) Native American Women: In one area of California, only 40% of Native American women had had a Pap test within the last year, and only 22% had had one in the last 3 years.

5) Poor Women: According to a 1985 NHIS study, screening rates for poor women were 10% to 13% lower than those for nonpoor women for all ages and ethnic subgroups. A 1987 analysis of NHIS data indicated that poor women were twice as likely as nonpoor women to never have heard of a Pap smear and to not have had a recent screening. Other studies have found that among women covered by Medicaid, 40% had had no Pap test in the last 3 years, and 90% of women who had not received Pap tests in the last 4 years were covered by Medicaid.

6) Rural Women: Rural women, like black women, poor women and the elderly, also have difficulty obtaining necessary screening. In a recent survey, only 57% of women in rural Texas and 55% in Appalachia had had a Pap smear within 3 years of the survey.

7) Vietnamese Women: Among 30 to 54 year old women, Vietnamese women have the highest cervical cancer rate.

8) Lesbians: Lesbians also have unusually low screening rates. (Finding more information about this)

Reasons Women Are Not Screened

1) Lack of Insurance: Most studies have shown that lack of insurance corresponds to lack of adequate Pap testing. In the United States, 20% of African Americans and 30% of Hispanics are uninsured. In an analysis of 1992 NHIS data, women who took part in HMO's were much more likely to have received appropriate Pap testing than women who were uninsured or in private insurance plans.

2) Language Barriers: One study which used Caribbean-born black people found that 25% of Haitian-born women obtained follow-up smears while 86% of women born in English-speaking Caribbean countries did. Researches believe the difference was caused by language and socioeconomic barriers. Spanish-speaking women tend to avoid English-only clinics.

3) Lack of knowledge: Lack of knowledge about the importance of the test on the part of both patients and health care providers keeps many women from being screened. Women of all backgrounds reported not obtaining a smear because they did not understand the purpose of the test.

Not health
MS

Does Medicaid
cover cervical
cancer?
no fed.
requirements
Call
HCEA

4) Lack of physician reminders: Women often don't obtain Pap smears because their physicians don't recommend it.

5) Poor relationships between patient and provider: Women on public assistance have often complained that health care providers treated them with less respect because they were on welfare. This caused poor communication between patient and provider regarding health care procedures.

6) Fear and misconceptions: Among certain populations of poor women and ethnic minority women, beliefs that cancer is incurable and misconceptions about treatment (including the idea that surgery will make cancer spread by exposing it to air) stop some women from getting tested since they are afraid of discovering that they have cancer.

7) Cultural barriers: Native American and Hispanic women tend to believe that one's health condition is a very private matter. Further, past negative experiences with health care (such as the Tuskegee experiment) may make women uneasy about Pap testing.

8) Logistical barriers: Basic obstacles such as lack of child care, lack of transportation, long work hours, long waiting times and multiple appointments for screening may prevent women from receiving screening.

9) Economic Constraints: The cost of the test may constitute a barrier to economically constrained women. Further, for women in poverty, preventive care is often lower in priority than the daily struggles to make ends meet. Many women are not informed about low-cost programs.

Efforts to Increase Access to Pap Testing

In 1991, the Public Health Service (PHS) established that by the year 2000, 85% of women should receive a Pap smear test within the preceding one to three years.

Ways to expand Pap testing efforts include both "outreach" and "inreach" initiatives.

Outreach initiatives include computerized letters, phone calls and reminders to obtain screening, recruiting community members to become lay health workers to help plan Pap screening education, physician and patient education, and various community partnerships. Other programs focus on targeting cultural or religious centers such as black churches in urban communities in which church leaders are trained to become lay health educators. A program called the Talking Circle Project uses appropriate communication techniques and appropriate stories, myths and legends to encourage Native American women to receive screening. Other programs offer free transportation and childcare services.

Inreach initiatives include offering screening at non-gynecological health visits (e.g. if a patient has an appointment to have a blood pressure test, make it possible for her to receive a Pap test at the same time).

The National Cancer Institute

The National Cancer Institute (NCI) has implemented several outreach programs including:

- * Tracking cancer rates in minority populations: NCI supports the collection, analysis and dissemination of information to prevent, diagnose and treat cancer among minorities.
- * Recruiting minority populations for clinical trials: NCI makes an effort to include minorities in studies by giving research grants to researchers studying minority cancer health.
- * Increasing the participation of members of minority groups in research and medical practice: The NCI conducts programs with the aim of increasing research on cancer among minorities and increasing the pool of minority researchers. One such program, called The Science Enrichment Program, attempts to encourage minority high school students to pursue careers in biomedical studies.
- * Implementing community-based national education and outreach initiatives: NCI supports outreach programs which use both lay and professional coalitions and leaders to decrease risks of cancer among various populations.

Do you have all this stuff? After we start we would pass.

CDC's Cervical Cancer Screening Efforts

Passed by Congress in 1990, the Breast and Cervical Cancer Mortality Prevention Act authorized CDC to implement a national program to ensure that women receive appropriate high-quality cervical cancer screening and follow-up. The legislation provides for grants to be allocated to states for activities in six areas:

- 1) Screening medically underserved women for breast and cervical cancer.
- 2) Providing treatment referrals and follow up services for women with abnormal screening results.
- 3) Creating and disseminating public information and education about cervical and breast cancer screening and control.
- 4) Improving health professionals' training.
- 5) Implementing programs to monitor screening and analysis procedures.
- 6) Evaluating program activities through surveillance systems.

The act stipulates that at least 60% of funds given to states must be spent on screening and referral services, and the other 40% may be used for provider and public education, quality monitoring and surveillance activities. Only 10% of state funding may be used for

administrative purposes. States are required to ensure that women with precancerous lesions receive necessary treatment although such services cannot be paid for by money authorized by the Act.

To achieve these goals, CDC developed the National Breast and Cervical Cancer Early Detection Program (NBCCEDP). Through this program, CDC reimburses states for clinical breast exams, screening mammograms, pelvic exams, Pap tests and some diagnostic procedures. State health agencies contract with various provider agencies including the YWCA, family planning organizations, community organizations, county health departments, and private physicians. Fifty states, five territories, the District of Columbia and 13 American Indian/Alaska Native organizations currently participate in the program.

Components of the NBCCEDP

D) Screening and Education/Outreach Programs

CDC works with a number of state, local, national, consumer and voluntary organizations to provide screening services for traditionally underserved populations of women. Examples of such programs include:

- * A program to enable Alaska Natives close to populations of Alaska Native women to create culturally appropriate outreach strategies and education materials.
- * A collaborative program between the Breast and Cervical Cancer Early Detection Program in the California Department of Health, the YWCA of Glendale, the Mission City Clinic, University of California Los Angeles and other community organizations to improve and expand screening services and outreach efforts.
- * The Nebraska Breast and Cervical Cancer Early Detection Program which manages culturally sensitive outreach programs aimed at Vietnamese women (a population with a high rate of cervical cancer). Through this program, letters in Vietnamese are mailed to all women over the age of 18 which invite the women to a local YWCA to learn about screening services.
- * A program run through the Texas Department of Health which uses funds to pay the YWCA to recruit women for screening and treatment services through churches, clinics, senior centers and YWCA programs.
- * A Maryland state health department program which places funded outreach workers at county health departments throughout the state; workers come from the community and are mainly older minority women.
- * An educational program in Massachusetts which provides printed educational materials in languages other than English, including Haitian-Creole, French and Spanish.
- * Collaborative programs with the American Cancer Society, Avon Products Inc., YWCA, National Alliance of Breast Cancer Organizations, National Cancer Institute, National Center for

Farmworker Health Inc., and other organizations to sponsor education and outreach efforts.

Through September 1996, 690,560 Pap tests were provided by NBCCEDP. 21,257 cases of cervical intraepithelial neoplasia (CIN, the precursor to cervical cancer which can be detected by Pap testing) and 258 cases of invasive cervical cancer were discovered. As of January 31, 1995, 48% of Pap tests were provided to minority women.

II) Professional Education Programs:

The CDC established a number of professional education programs for program managers, health care professionals, health educators, administrative staff and outreach workers. The programs have focused on detection and diagnostic procedures, guidelines for screening, communication skills, data collection, reporting requirements and strengthening clinical skills.

III) Quality Assurance:

The CDC has created screening guidelines and helped the FDA to conduct quality assurance training programs. Programs have focused on improving specimen collection by the primary care practitioner and specimen interpretation by the laboratory.

IV) Surveillance Programs:

When the NBCCEDP was created in 1991, the CDC created a program to monitor screening, diagnostic and treatment activities. States collect and report to CDC information on screening location, demographic characteristics of those screened, screening results, diagnostic procedures and outcomes, and initial treatment. Reminder systems have also been implemented to encourage women to return for rescreening.

V) Treatment:

The legislation which authorized CDC to enact NBCCEDP does not allow CDC to use funds for treatment. However, many women manage to obtain treatment through state and local government support, donated medical services and community programs. State-funded cancer clinics and legislative mandates to use cigarette tax revenues for diagnostic or treatment services both help to provide treatment.

Monetary Allocations for NBCCEDP:

In fiscal year 1993, \$72 billion was appropriated for NBCCEDP; in FY 1994, \$78 billion was appropriated; and in 1997, \$140 million was appropriated.

Recent Advances in Pap Testing Technology

There have been several recent advances in Pap testing technology. In March of 1997, a technique for using brushes to take cell samples was developed. This innovation significantly reduced errors in diagnosis that often occurred as a result of smearing the sample on a slide. Another breakthrough was the creation of PAPNET, a program that computerizes examples of positive pap smear patterns, making Pap analysis more efficient and reducing the possibility of

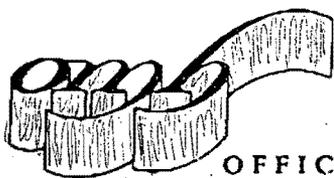
all for low-income
% of population of
off

error.

Honors Received by George Papincolaou

George Papincolaou was elected an Honorary Fellow at the Academy of Athens, an honor that has been bestowed upon only three other individuals (Dwight D. Eisenhower, Conductor D. Metropoulos, and French President Valery Giscard d'Estaing). In 1978, a commemorative 13-cent stamp was issued to honor Papincolaou's achievements. The American Cancer Society has noted, "This man has contributed to progress more than anyone in this century in accelerating cancer research. His name will endure in the same manner as Jenner and Lister, Pasteur and Koch, a one of the immortals in medicine for all times."

Handwritten notes:
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ACS



*A nationwide service of the U.S. Department of Health and Human Services
Public Health Service ■ Office of Minority Health ■ 1-800-444-6472*

OFFICE OF MINORITY HEALTH RESOURCE CENTER

BILINGUAL/BICULTURAL SERVICE DEMONSTRATION GRANTS

THE PROGRAM

Program Description

The Bilingual/Bicultural Service Demonstration Grant Program is administered and funded by the Office of Minority Health (OMH) of the U.S. Department of Health and Human Services (DHHS). The OMH was created in December 1985 to address the historical disparity between the health status of whites and that of racial and ethnic minorities. Its mission is to improve the health of racial and ethnic populations through the development of effective health policies and programs.

The Bilingual/Bicultural Service Demonstration Grant Program was developed in 1993 to reduce social, cultural and linguistic barriers between providers and clients with limited-English-proficiency, and to improve their access to good health care. The projects described in this fact sheet are funded for the three-year project period 9/30/95 through 9/29/98. The grants are administered by community-based organizations linked with health care facilities. These projects seek to improve the ability of health care providers and other health care professionals to deliver linguistically and culturally competent health services to populations that speak limited English.

Each of the projects offers activities unique to the needs of the target community. In addition to developing cultural competency training programs for physicians, nurses, and other professionals, the projects work to increase the use of case managers and outreach workers from the racial and ethnic communities they serve. They provide counseling, mentoring, and support group programs for clients who speak limited English, and enhance translation and interpreting services for minority populations. For additional information, please contact the Division of Program Operations, Office of Minority Health at (301) 594-0769.

AMERICAN SAMOA

American Samoa Government

Department of Health
LBJ Tropical Medical Center
Pago Pago, AS 96799

PHONE: 011 (684) 633-2243
FAX: 011 (684) 633-5379

Title:

Health Education Curriculum
Improvement and Service Extension Project

Project Director:

Joseph Tufa, D.S.M.; M.P.H.

Grant No.:

D56MP95091

Target Population:

Asian/Pacific Islander

Age Group:

All age groups

American Samoa, a United States territory located in the Pacific region, consists of five islands. It is a territory of minority populations, with the majority (approximately 97%) living on the main island of Tattily.

Health care services are provided by two main government agencies: LBJ Tropical Medical Center and the American Samoa Department of Health. The LBJ Tropical Medical Center is the island's only hospital and provides inpatient and outpatient care. The Department of Health is responsible for providing home care and preventive health care services, including health education programs.

The Department of Health is expanding its health education services to previously unserved or underserved communities. *The Health Education Curriculum Improvement and Service Extension Project* targets women from the islands' three main ethnic groups--Samoans, Tongans, and Filipinos--who have limited-English-speaking proficiency.

Health education materials are under development in the following subject areas: prenatal care, immunization, oral health care, and skin diseases/problems. Once designed, the materials will be translated into the appropriate languages. Some of these materials are videos in the Samoan language with Polynesian cast members. The videos will also be translated to the Tongan and Filipino languages. Culturally and linguistically appropriate training programs are also being prepared for health educators chosen by the Tongan and Filipino communities.

CALIFORNIA

Asian Aids Project

785 Market Street, Suite 420
San Francisco, CA 94103
PHONE: (415) 227-0946
FAX: (415) 227-8945

Title:
HIV Case Management-Education to
High Risk Asians and Pacific Islanders

Project Director:
John Manzon-Santos

Grant No.:
D56MP95078

Target Population:
Asian/Pacific Islander

Age Group:
Adults

Formed in 1987, the Asian Aids Project (AAP) was the first HIV/AIDS program in the United States to target the Asian Pacific Islander (API) community. In 1989, the AAP conducted a baseline survey of HIV/AIDS knowledge, attitudes, beliefs and behavior among Chinese and Japanese communities in San Francisco.

The HIV Case Management-Education to High Risk Asians and Pacific Islanders Project targets the following high risk groups for HIV infection: women working in massage parlors, transgender/transsexuals, and men who have sex with men. These groups currently have limited or inadequate access to HIV health services.

Over the three-year period of this project, AAP is: 1) increasing the utilization of health and human services through its case management-education model; 2) increasing the target group's future accessibility to health and human services through health education; and 3) expanding the cultural competency and linguistic capacity of health care professionals and para-professionals working with these groups. The project is providing in-service training and instituting referral protocols between and among health care organizations for the target groups.

CALIFORNIA

Asian Americans for Community Involvement, Inc.

2400 Moorpark Avenue, Suite #300
San Jose, CA 95128
PHONE: (408) 975-2730
FAX: (408) 975-2745

Title:
Asian Seniors Health Promotion Project

Project Director:
Carlina Yeung, M.S.W.

Grant No.:
D56MP95083

Target Population:
Asian/Pacific Islander

Age Group:
55 years and older

The Asian Seniors Health Promotion Project (ASHPP), conducted by Asian Americans for Community Involvement, Inc., serves as a point-of-entry program for seniors who have been unable to use or are distrustful of local health care services. The goal of the ASHPP is to bring seniors and the health care system in closer alignment. Problems that the project addresses include language and cultural barriers between the Asian seniors and the service providers, lack of knowledge about disease and disease management, and lack of trust and understanding of Western medical practices, including the complexity of the system itself.

The project offers six main activities: intercultural communication effectiveness workshops for health care providers, bicultural and bilingual volunteer training, health screenings, lectures, In-Home Promotion and Support Services, and an Information and Assistance Phone Support System.

The ASHPP recruits and trains bilingual and bicultural volunteers (Cambodian, Chinese, Laotian, and Vietnamese) to assist the Asian seniors. The project conducts health screenings to help the seniors learn about health problems and recognize their need for medical attention. Through the Information and Assistance Phone Support System, the project connects homebound seniors with health care services and case management services, including translation and transportation.

CALIFORNIA

Special Services for Groups

605 W. Olympic Blvd., Suite 600
Los Angeles, CA 90015
PHONE: (213) 553-1818
FAX: (213) 553-1812

Title:
Pacific Asian Language Services Project
(PALS)

Project Director:
Heng L. Foong

Grant No.:
D56MP95068

Target Population:
Asian/Pacific Islander

Age Group:
All age groups

The Pacific Asian Language Services Project (PALS) is conducted by Special Services for Groups, a multi-service "umbrella" agency that provides an array of human services to ethnic minority communities and groups. This project is based on a PALS model previously developed in 1991 through the Special Services for Groups to address language issues that become problematic in the treatment of HIV/AIDS.

This PALS project has implemented a mobile, interpretation service staffed by bilingual/bicultural interpreters. The goal is to increase health care access for low-income, monolingual, limited-English-speaking residents of Los Angeles County, with special emphasis on areas with a high concentration of Asian Pacific Islanders (APIs).

PALS has assembled a team of trained interpreters, some of whom will be further trained in mental health assessments and crisis intervention. The language consultants who have mental health and crisis intervention skills help with the Psychiatric Emergency Teams at mainstream mental health clinics. Seminars are conducted to enhance the skills of the consultants in such areas as interpreter techniques, resources, medical updates, HIV/AIDS, tuberculosis, mental health, and women's health.

Promotion of the PALS project is two-tiered: outreach and education to the medical care providers is carried out through mass mailings, and consumers are targeted through the ethnic media. The project's promotion campaign uses bus stop advertisements, bill boards, and television public service announcements.

CALIFORNIA

The Cambodian Family

1111 E. Wakeham Ave., Suite E
Santa Ana, CA 92705
PHONE: (714) 571-1966
FAX: (714) 571-1974

Title:
Health Care Access for Cambodians

Project Director:
Rifka Hirsch

Grant No.:
D56MP95066

Population:
Asian/Pacific Islander

Age Group:
All age groups

The mission of The Cambodian Family is to help refugees develop knowledge, skills, and self-esteem to become self-reliant, contributing members of society. The Cambodian Family has been in existence since 1982 and its services include providing translation services for hospitals, doctors, and clinics, as well as offering health education programs for Cambodian families.

The Health Care Access for Cambodians Program seeks to build the skills of both providers and clients to bridge the gap between Western medicine practices and the traditional, spirit-oriented health practices of the new Cambodian arrivals. The primary target area is the neighborhood with the densest population of Cambodians in Orange County, an area referred to as the Minnie Street area. The program provides cultural and linguistic interpretation for health care providers, health screenings in the Cambodian community, health promotion among Cambodians, and cultural competence training systems. Seminars for health care providers include presentations on the Cambodian culture, health beliefs and health accessing behaviors, as well as working translators and non-literate clients. Project staff design, test and use culturally and linguistically appropriate health promotional materials.

CALIFORNIA

Union of Pan Asian Communities

1031 25th Street
San Diego, CA 92102
PHONE: (619) 232-6454
FAX: (619) 235-9002

Title:
Southeast Asian Health Care Access Project

Project Director:
Irene Linayao-Putman

Grant No.:
D56MP95057

Target Population:
Asian/Pacific Islander

Age Group:
Adults

The Union of Pan Asian Communities (UPAC) has a 21-year history of providing services, both independently and in partnership with other health/human service providers, to San Diego's diverse Asian and Pacific Islander population. Among its many efforts, the organization addresses mental health, child abuse and domestic violence issues, as well as the cultural adjustment and language assistance needs of Southeast Asians.

The major goals of the *Southeast Asian Health Care Access Project* are to: 1) reduce barriers and improve access to cancer relevant health care among limited-English-proficient Vietnamese, Chinese-Vietnamese, Laotian, and Cambodians in San Diego County; and 2) improve the cultural competency level of local health care providers.

The project is involved in developing culturally and linguistically appropriate cancer screening and educational materials, and small group educational presentations; producing and disseminating a health services resource directory; conducting on-site visits to cancer-relevant health care facilities; and providing interpretation services and cultural competency training for health care providers.

The project has health education materials in several Chinese languages, including Cantonese, Mandarin, Chau Chieu, Toisan and Taiwanese. Materials are being adapted and translated into four Southeast Asian languages (Vietnamese, Chinese, Lao and Cambodian). UPAC is also preparing a bilingual health care resource directory in Chinese/English, Vietnamese/English, Cambodian/English and Laotian languages.

Training programs on cancer are conducted for patients, as well as providers. Topics include health information on hepatitis B and cancers of the liver, lung, cervix, and breast. Prevention strategies take into account knowledge, attitudes, beliefs, and values of targeted ethnic groups toward cancer in general, and more specifically toward preventive health care practices, early cancer detection procedures, and various cancer treatment options. Project staff participate in an ongoing review program of cancer terminology to ensure accurate translations.

CALIFORNIA

Vista Community Clinic

956 Vale Terrace, Suite 201

Vista, CA 92084

PHONE: (619) 631-5040

FAX: (619) 631-5010

Title:

Medical Interpretation and Cultural Competency Training Project for Community Clinic Support Personnel

Project Director:

Fernando Sanudo

Grant No.:

1J56MP95012

Target Population:

Hispanic

Age Group:

All age groups

Vista Community Clinic has offered health care and health education since 1972 for those residents who have been unable to access care due to economic, social, or cultural barriers. Its Health Promotion Center is known for its innovative and culturally sensitive health promotion and disease prevention programs.

The Medical Interpretation and Cultural Competency Training Project for Community Clinic Support Personnel (MICC) is developing a medical interpretation and cultural competence training program for community clinic support personnel in San Diego County. Topics address such issues as professional and ethical conduct, intercultural issues, technical vocabulary in both languages, pre-interpreting skills and consecutive interpreting. The support personnel are also trained to elicit accurate information from the limited-English-speaking patients.

A medical interpretation and cultural competence training manual for use in the *Train a Trainer* program has been pilot tested in several community clinics in San Diego, Orange County and Imperial Valley. Upon completion of the course, trainers are certified in the MICC program. The program has linked with local colleges where medical assistant programs are conducted in an effort to institutionalize the *Train the Trainer* program for medical interpretation and translation. In the last year of this project, the MICC program will be modified for use with district hospital support personnel. This will enhance the interpretation and cultural competency skills of support personnel who can also provide interpretation for medical personnel in hospitals, emergency room, and urgent care facilities.

DISTRICT OF COLUMBIA

Clinica del Pueblo

1470 Irving Street, N.W.
Washington, D.C. 20010
PHONE: (202) 462-4788
FAX: (202) 667-3706

Title:
Bilingual/Bicultural Interpreter Services Project

Project Director:
Juan Romagoza, M.D.

Grant Number:
D56MP95100

Target Population:
Hispanic/Latino

Age Group:
All Ages

La Clinica del Pueblo, founded in 1983, is the only free bilingual/bicultural medical clinic for Hispanics and Latinos in the Washington, D.C. area. It serves more than 7,000 clients per year. The clinic offers a predominantly Central American population access to primary health care and subspecialty medicine. Health areas include adult primary care, diabetes, mental health, AIDS, neurology, rheumatology, occupational medicine, reproductive health, adolescent medicine, pediatrics, and dermatology.

The goals of the *Bilingual/Bicultural Interpreter Services Project* are to: 1) establish on- and off-site culturally appropriate interpreter services; 2) provide on-site education to health care providers; 3) conduct cultural sensitivity workshops; and 4) develop a culturally appropriate English-Spanish dictionary comprised of 300 words that are unique to predominantly Central American countries, including slang phrases and key medical words. Through the activities of this project, La Clinica del Pueblo is addressing the barriers to health care encountered by its target population, such as the inability to pay for health insurance, linguistic isolation, lack of cultural sensitivity in the medical profession, and fear of government institutions.

DISTRICT OF COLUMBIA

Mary's Center for Maternal and Child Care, Inc.

2333 Ontario Road, NW
Washington, D.C. 20009
PHONE: (202) 483-8196
FAX: (202) 797-2628

Title:
Proyecto Conexion

Project Director:
Maria S. Gomez, R.N.

Grant Number:
D56MP95002

Target Population:
Hispanic/Latino

Age Group:
Infant through Adult

Mary's Center for Maternal and Child Care, Inc. (Mary's Center), established in 1988, is a non-profit, minority community-based agency. It focuses on increasing access to health care for limited-English-proficient (LEP) Hispanic and Latina women and children through the provision of low-cost, comprehensive services.

The goal of *Proyecto Conexion* is to decrease barriers and increase access to culturally and linguistically appropriate health care for the target population. Project activities are divided into three primary components.

Entitlement Assistance provides guidance in applying for services including Medicaid, food stamps, emergency assistance, and Social Security.

The Home Visiting Team, in partnership with Providence Hospital, provides education, counseling, HIV/AIDS testing/counseling, advocacy, immunizations, and case management services for pregnant women and babies from the prenatal stage to one year of age.

Pediatric Case Management provides assistance and education to ensure proper child development.

ILLINOIS

City of Chicago

Office of Hispanic Affairs
Chicago Department of Health
DePaul Center, Second Floor, Room 2144
333 S. State Street
Chicago, Illinois 60604
PHONE: (312) 747-8820
FAX: (312) 747-9694

Title:
Chicago Department of Health Bilingual/
Bicultural Service Demonstration Project

Project Director:
Esther Sciammarèlla

Grant Number:
D56MP95036

Target Population:
Hispanic and Latino

Age Group:
Adults

The Chicago Department of Health (CDOH), Office of Hispanic Affairs, addresses the physical and mental health of Hispanic and Latino residents through the CDOH Health Clinics. The clinics provide effective and accessible health services that emphasize health promotion and disease prevention.

The goal of the *CDOH Bilingual/Bicultural Service Demonstration Project* is to improve the effectiveness of health care delivery to limited-English-proficient Hispanics. This project focuses on five of the seven CDOH clinics used by the target population. Intensive language and cultural sensitivity training is provided to health care professionals, including doctors and nurses, and paraprofessionals from the Sexually Transmitted Disease, Tuberculosis, and Immunization units. This training increases their knowledge of the values, beliefs and culture of the Hispanic community, and improves the level of communication between provider and patient.

KANSAS

Wichita-Sedgwick County

Department of Community Health
1900 East Ninth
Wichita, Kansas 67214
PHONE: (316) 268-8342
FAX: (316) 268-8397

Title:
Bilingual/Bicultural Service Demonstration
Project

Project Director:
Margaret Baker

Grant Number:
D56MP95087

Target Populations:
Hispanic and Asian

Age Group:
All Ages

The Wichita-Sedgwick County Department of Community Health (WSCDCH) is responsible for protecting the citizens of Wichita-Sedgwick County from excessive morbidity by preventing the spread of disease, encouraging a healthy life style, and providing a safe environment. The WSCDCH's Personal Health Division provides clients with both primary and preventive health services.

The Bilingual/Bicultural Service Demonstration Project focuses on a comprehensive approach to improving the ability of health care providers and other professionals to deliver linguistically and culturally competent health service to limited-English-speaking Hispanics and Asians. Two WSCDCH Health Stations have been established within the Asian and Hispanic communities to improve the delivery of all health services, with an emphasis on cancer prevention for Hispanics, and health assessments and referrals for Asians.

The activities of this project also emphasize: early enrollment of patients in the Maternal and Infant Program; routine clinical breast examinations, mammograms and Pap tests; and compliance with direct-observed therapy by Asian clients. Other activities include the translation of health education materials, the purchase of health education materials that are language and reading level appropriate, and promotion of bilingual/bicultural services.

MICHIGAN

Midwest Migrant Health Information Office, Inc.

502 W. Elm Avenue
Monroe, Michigan 48162
PHONE: (313) 243-0711
FAX: (313) 243-0435

Title:
Colonia Health Worker Program

Project Director:
June Grube-Robinson, M.P.H.

Grant Number:
D57MP95041

Target Population:
Hispanic and Latino

Age Group:
All Ages

The Midwest Migrant Health Information Office, Inc. (MMHIO), is a nationwide lay health promotion agency that strives to provide full access to health services and improve health conditions for migrant farm workers and their families. Although headquartered in Michigan, MMHIO maintains a facility in the Rio Grande Valley, Texas, that works closely with health care providers, community service agencies and farm workers.

The *Colonia Health Worker Program* targets poor Hispanic residents of the colonias of the Rio Grande Valley. It has trained twelve migrant farmworkers to be effective peer health educators and serve as a crucial link between colonia residents and the health care system. The training emphasizes culturally sensitive information on HIV/AIDS. The trained peer health educators participate in home visits and distribute HIV/AIDS health information to the residents of the colonias, and provide health-related referrals to Valley agencies. The peer health educators also provide information on the conditions and lifestyles of colonia residents to health professionals enabling them to provide more culturally and linguistically appropriate health care.

NEW YORK

African Services Committee, Inc.

28 East 35th Street
New York, New York 10016
PHONE: (212) 683-5021
FAX: (212) 779-2862

Title:
Bilingual/Bicultural Access to HIV/STD/TB
Medical Services for African Refugees and
Immigrants

Project Director:
Kim Nichols

Grant Number:
D57MP95076

Target Population:
African Immigrants and Refugees

Age Group:
Prenatal, Infants, and Adults

The African Services Committee, Inc., a 13-year old community-based organization, provides services to African immigrants and refugees who require access to medical services within the five boroughs of New York City. These services include multilingual outreach, HIV pre- and post-test counseling, and HIV resource referral. In 1993 and 1994, the organization expanded its services to provide testing, treatment and follow up for Sexually Transmitted Diseases (STD) and Tuberculosis (TB).

The *Bilingual/Bicultural Access to HIV/STD/TB Medical Services for African Refugees and Immigrants* project provides culturally competent interpretations and translations, HIV/STD/TB prevention education, medical counseling, and referral and follow-up services to prevent and reduce the risk of infection for this population. Project services include:

- 1) an escort to pre-test screenings, as well as interpretation and counseling for clients;
- 2) referrals to primary medical care and follow up for positive diagnoses, including prophylaxis for opportunistic infections, direct observed therapy and STD treatment;
- 3) short-notice and emergency interpretations and translations at hospitals; and
- 4) bilingual attitude, belief and behavioral risk assessments.

NEW YORK

Joseph's Hospital

158-40 79th Avenue
Flushing, New York 11366
PHONE: (718) 558-6211
FAX: (718) 558-6209

Title:

**Culturally Sensitive Primary Care Services
to the Korean Community of
Queens, New York**

Project Director:

Andrea Dell Ensley-Williams, M.H.A.

Grant Number:

D56MP95038

Target Population:

Korean

Age Group:

All Ages

St. Joseph's Hospital, a 200-bed community hospital, is located in the Queens Borough of New York City, an area with a diverse mix of ethnic and racial groups. According to the 1990 Census, 64 percent of the 70,598 Koreans living in New York City are concentrated in St. Joseph's primary and secondary service areas.

The project's overall goal is to improve access to primary care services by the limited-English-proficient Korean community. Hindered by language barriers, this population experiences some difficulty in understanding the health care system.

To achieve the goals and objectives of this project, St. Joseph's Hospital has established linkages with a community-based organization, Korean Community Services (KCS) and the American Cancer Society.

Through these partnerships, the project offers community-based health education and screening programs, low-cost/no cost mammography and cervical screenings, age-appropriate health maintenance services and counseling, interpreter support, translation of patient information and education materials, outreach services, and cultural awareness and basic language training for the hospital staff.