Cancer Screening and Early Detection Guidelines

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ASPPR Clinical Summit
Objectives

• Define Screening
• Review the Implication of Cancer Screening
• Identify the Rational for Cancer Screening
• Review Current Cancer Screening Guidelines
  – Average Risk Populations
  – High Risk Populations
• Discuss the Role of Primary Providers in Cancer Screening
NATURAL HISTORY OF DISEASE WITHOUT SCREENING

- Preclinical Period
- Survival Time
- Asymptomatic
- Symptomatic
- Inception of Preclinical Disease
- Pre-clinical Detectable Phase
- Clinical Diagnosis
- Time of Death from Disease
Systematic examination of asymptomatic individuals to detect and treat subclinical disease
Screening Population

- Healthy Individual
- Disease Asymptomatic Individual
Implication of Screening in the Population

• Small risks of serious complications associated with procedures
  – Immediate (e.g., perforation with colonoscopy)
  – Delayed (e.g., potential carcinogenesis from radiation)

• False-positive test resulting in:
  – Anxiety
  – Unnecessary invasive diagnostic procedures
  – Higher risks of serious complications associated with procedures
Implication of Screening in the Population

- False-negative screening test:
  - Falsely reassure an individual
  - Delay diagnosis
  - Delay effective treatment

- Over-diagnosis- the diagnosis of a condition that would not have become clinically significant had it not been detected by screening
  - Becoming more common as screening tests become more sensitive at detecting tiny tumors
Criteria for Mass Screening Program

1. Disease of interest should represent a public health problem and have a prevalent, asymptomatic non-metastatic phase

   – Breast Cancer
   – Colon Cancer
   – Cervical Cancer
   – Prostate Cancer
   – Lung Cancer
Criteria for Mass Screening Program

2. Disease should have a **recognizable asymptomatic, nonmetastatic phase**

3. Screening test:
   - **Reasonable** sensitivity, specificity, and predictive value
   - **Low** risk and cost
   - **Acceptable** to both screener and person screened
Criteria for Mass Screening Program

4. **Available therapeutic measurements** with higher curative potential in early than advanced stages of disease

5. **Treatment** of screened-detected patients should **improve outcome** (cause-specific mortality)
RATIONAL FOR CANCER SCREENING
World Cancer Burden: GLOBOCAN 2012

- **14.1** million new cancer cases
- **8.2** million cancer deaths
- **32.6** million people living with cancer (within 5 years of diagnosis)
- Estimated to double by **2030**
  - **21** million new cancer cases
  - **13** million Deaths
- Developing world: **56%** of the cases and **64%** of the deaths

GLOBOCAN 2012 (IARC), Section of Cancer Information (11/2/2014)
• Cancer 2nd leading cause of death
• Accounts for approximately 25% of all deaths
• Estimated 1,665,540 new cases
• Estimated 585,720 deaths
• Estimated 13,683,850 cancer survivors
• By 2022, 18 million cancer survivors

Burden of Cancer Puerto Rico, 2008-2012

- Cancer 2\textsuperscript{st} leading cause of death in Puerto Rico
- Accounts for approximately 25\% of all deaths
- 70,751 new cancer cases were diagnosed
- 20,725 died from cancer
- 61,928 Cancer Survivor (1987-2010)

Data Source: Incidence Case File of Puerto Rico from the Puerto Rico Central Cancer Registry (January 9, 2015).
Global Cost of Cancer

COUNTING THE COST OF CANCER
The burden of cancer, calculated as the cost of years lost from ill-health, disability or early death, outweighs all other health concerns.

Cancer: $895.2 bn
Heart diseases: $753.2 bn
Cerebrovascular disease: $298.2 bn
HIV/AIDS: $193.3 bn
Lower respiratory infections (including pneumonia): $125.8 bn
Malaria: $24.8 bn
Cirrhosis of the liver: $92.8 bn
Road accidents: $204.4 bn

SOURCE: THE GLOBAL ECONOMIC COST OF CANCER (ACS, 2010)

O’CALLAGHAN T; Nature 2011
U.S. Cost of Cancer

• Cancer is **costly** disease
  – reduction of quality and years of life
  – monetary costs

• 2008 estimated **overall costs of cancer** in at **$228.1 B**
  – **Direct costs** **$93.2 B** (medical cost)
  – **Indirect cost**
    • Lost productivity due to illness **$18.8 B**
    • Lost productivity due to premature death **$116.1 B**
Table 1. Preliminary estimate of economic costs of cancer for Puerto Rico for the period 2002-2006. Indirect cost is approximately twice the direct medical costs. Puerto Rico Central Cancer Registry, 2008.

<table>
<thead>
<tr>
<th>Expenditures (In millions of dollars)</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Medical Care Expenditures</td>
<td>$6,768.8</td>
<td>$6,960.4</td>
<td>$7,162.5</td>
<td>$7,527.7</td>
<td>$7,935.3</td>
</tr>
<tr>
<td>Direct Medical Costs of Cancer</td>
<td>$338.4</td>
<td>$348.0</td>
<td>$358.1</td>
<td>$376.4</td>
<td>$396.8</td>
</tr>
<tr>
<td>Indirect Costs</td>
<td>$687.1</td>
<td>$706.5</td>
<td>$727.0</td>
<td>$764.1</td>
<td>$805.5</td>
</tr>
<tr>
<td>Morbidity</td>
<td>$102.5</td>
<td>$105.5</td>
<td>$108.5</td>
<td>$114.0</td>
<td>$120.2</td>
</tr>
<tr>
<td>Mortality</td>
<td>$584.5</td>
<td>$601.1</td>
<td>$618.5</td>
<td>$650.1</td>
<td>$685.3</td>
</tr>
<tr>
<td>Total Estimated Costs of Cancer</td>
<td>$1,025.5</td>
<td>$1,054.5</td>
<td>$1,085.1</td>
<td>$1,140.4</td>
<td>$1,202.2</td>
</tr>
</tbody>
</table>

Notes: 1) Data source of Total Medical Care Expenditures: Puerto Rico Planning Board, Program of Economic and Social Planning, Subprogram of Economic Analysis. 2) To calculate the direct cost of services for cancer patients it is assumed that 5.0% of the total spent on health services in Puerto Rico are consumed by this condition. 3) It is assumed that the total cost of cancer for the whole society is divided into 33% for direct costs, 10% in costs related to the morbidity, and 57% related to costs of mortality.
Rational for Cancer Screening

• Early detection \( \uparrow \) 5-year survival rate

• Early detection \( \uparrow \) quality of life

• Screening \( \downarrow \) mortality
Rational for Cancer Screening

- Research has established that early detection of cancer through screening reduces mortality from:
  - Uterine Cervix
  - Breast
  - Cancers of the Colon and Rectum
  - Lung
• In addition to detecting cancer early, screening for colorectal or cervical cancers can prevent cancer by identifying and removing abnormalities that may become precancerous and prevent potential progression to cancer.
### Top Ten Incidence Cancer Sites In Puerto Rico, 2008-2012

<table>
<thead>
<tr>
<th>Males (N=38,054)</th>
<th>%</th>
<th>Females (N=32,725)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prostate</strong></td>
<td>39.6</td>
<td><strong>Breast</strong></td>
<td>29.9</td>
</tr>
<tr>
<td><strong>Colon and Rectum</strong></td>
<td>12.9</td>
<td><strong>Colon and Rectum</strong></td>
<td>12.3</td>
</tr>
<tr>
<td><strong>Lung and Bronchus</strong></td>
<td>6.1</td>
<td><strong>Thyroid</strong></td>
<td>10.0</td>
</tr>
<tr>
<td>Urinary Bladder</td>
<td>4.2</td>
<td><strong>Corpus and Uterus, NOS</strong></td>
<td>7.6</td>
</tr>
<tr>
<td>Oral Cavity and Pharynx</td>
<td>4.0</td>
<td><strong>Lung and Bronchus</strong></td>
<td>4.1</td>
</tr>
<tr>
<td>Non-Hodgkin Lymphoma</td>
<td>3.6</td>
<td><strong>Non-Hodgkin Lymphoma</strong></td>
<td>4.0</td>
</tr>
<tr>
<td>Liver and Intrahepatic Bile</td>
<td>3.1</td>
<td><strong>Cervix Uteri</strong></td>
<td>3.7</td>
</tr>
<tr>
<td>Stomach</td>
<td>2.6</td>
<td>Ovary</td>
<td>2.5</td>
</tr>
<tr>
<td>Kidney and Renal Pelvis</td>
<td>2.5</td>
<td>Stomach</td>
<td>2.2</td>
</tr>
<tr>
<td>Leukemia</td>
<td>2.3</td>
<td>Leukemia</td>
<td>2.2</td>
</tr>
<tr>
<td>Other Locations</td>
<td>19.1</td>
<td>Other Locations</td>
<td>21.6</td>
</tr>
</tbody>
</table>

Data Source: Incidence Case File of Puerto Rico from the Puerto Rico Central Cancer Registry (January 9, 2015).
Screening Guidelines for Breast, Cervical, and Colorectal Cancer in the U.S.
Cancer Screening Guidelines

- U.S. Preventive Services Task Force (USPSTF)
- American Cancer Society
- American College of Obstetricians and Gynecologists
- American Society for Colposcopy and Cervical Pathology
- American College of Gastroenterology
- American Society for Gastrointestinal Endoscopy
- U.S. Multi-Society Task Force on Colorectal Cancer
- American College of Radiology
Cancer Screening Guidelines

• U.S. Multi-Society Task Force on Colorectal Cancer
• (USMSTF, which represents the American College of Gastroenterology, American Gastroenterological Association, and American Society for Gastrointestinal Endoscopy), and the American College of Radiology
<table>
<thead>
<tr>
<th>CANCER SITE</th>
<th>YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast cancer</td>
<td>2003, Complete update&lt;sup&gt;3&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>2007, Guidelines for MRI use in high-risk women&lt;sup&gt;4&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>2013, Update anticipated</td>
</tr>
<tr>
<td>Cervical cancer</td>
<td>2002, Complete update&lt;sup&gt;5&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>2007, Guidelines for HPV vaccine use&lt;sup&gt;6&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>2012, Complete update&lt;sup&gt;7&lt;/sup&gt;</td>
</tr>
<tr>
<td>Colorectal cancer</td>
<td>2001, Complete update&lt;sup&gt;8&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>2003, Technology update&lt;sup&gt;9&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>2006, Update for postpolypectomy and postcolorectal cancer resection surveillance&lt;sup&gt;10,11&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>2008, Complete update&lt;sup&gt;12&lt;/sup&gt;</td>
</tr>
<tr>
<td>Endometrial cancer</td>
<td>2001, Guidance for counseling, shared decision-making, and high-risk women&lt;sup&gt;8&lt;/sup&gt;</td>
</tr>
<tr>
<td>Prostate cancer</td>
<td>2001, Guidance for shared decision-making related to testing for early detection and screening recommendations for higher-risk men&lt;sup&gt;8&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>2010, Complete update&lt;sup&gt;13&lt;/sup&gt;</td>
</tr>
<tr>
<td>Lung cancer</td>
<td>2001, Guidance for shared decision-making&lt;sup&gt;8&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>2011, Interim guidance on lung cancer screening&lt;sup&gt;14&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>2013, Complete update&lt;sup&gt;15&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

ACS indicates American Cancer Society; MRI, magnetic resonance imaging; HPV, human papillomavirus.
ACS Screening Guidelines
ACS Breast Cancer Screening Guidelines
Breast Cancer Screening Guidelines

- Annual mammograms beginning at age 40

**Clinical breast exam:**
- Ages 20-39, as part of a periodic health exam at least every 3 years
- Ages 40+, prior to mammogram as part of a periodic health exam annually.

**Breast self-exam:**
- Optional; beginning in their early 20s, women should be told about the benefits and limitations of breast-self examination. Women should know how their breasts normally feel and report any breast changes promptly to their health care providers.
BREAST CANCER SCREENING IN HIGH-RISK WOMEN

• High Risk women:

  – Known or likely carriers of a BRCA mutation
  – Other rarer high-risk genetic syndromes
  – Treated with radiation to the chest for Hodgkin disease

• Mammography and MRI *annually starting at age 30 years*
ACS Cervical Cancer Screening Guidelines
Cervical Cancer Screening Guidelines

- Cervical cancer screening should begin at age 21.

- Preferred screening test/s and frequency vary by age:

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-29</td>
<td>Every 3 yrs</td>
<td>Pap test*</td>
</tr>
<tr>
<td>30-65+</td>
<td>Every 5 yrs</td>
<td>HPV &amp; Pap tests</td>
</tr>
</tbody>
</table>

*Conventional or liquid-based test.
†Every 3 years with the Pap test alone is acceptable.

- Women should stop screening:
  1. At age 66 with adequate negative prior screening
     - ≥ 3 consecutive negative Pap tests within 10 yrs, most recent within 5 yrs OR
     - ≥ 2 consecutive negative HPV and Pap tests within 10 yrs, most recent within 5 yrs
  2. After hysterectomy
Guidelines for Cervical Cancer Screening among High Risk Women

- History of CIN2+
  - Continue routine screening recommendations for at least 20 years, even beyond age 65 years
- Immune compromised
  - Tested twice during the first year after diagnosis/treatment
  - Annually thereafter
- No age limit
ACS Colorectal Cancer Screening Guidelines
Colorectal Cancer Screening Guidelines*

Beginning at age 50, men and women should follow one of the following examination schedules:

<table>
<thead>
<tr>
<th>Test</th>
<th>Time interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fecal occult blood test: <strong>FOBT/FIT</strong></td>
<td>Annual</td>
</tr>
<tr>
<td>Flexible sigmoidoscopy</td>
<td>5 yrs</td>
</tr>
<tr>
<td>Double contrast barium enema</td>
<td>5 yrs</td>
</tr>
<tr>
<td>Colonoscopy</td>
<td>10 yrs</td>
</tr>
<tr>
<td>CT Colonography</td>
<td>5 yrs</td>
</tr>
</tbody>
</table>

*For people at average risk; individuals at higher risk should talk with a doctor about a different testing schedule.
CRC Cancer Screening Guidelines for High Risk Populations

• **Beginning at early age and more frequent**
  - HX. of adenomatous polyps
  - HX. of curative-intent resection of CRC
  - Family HX. of CRC or colorectal adenomas diagnosed in a first-degree relative
  - HX. of inflammatory bowel disease of significant duration
  - Known or suspected presence of hereditary nonpolyposis colon cancer (HNPCC) or familial adenomatous polyposis
ACS Prostate Cancer Screening Guidelines
Prostate Cancer Screening Guidelines

• Men with at least a 10-year life expectancy should have an opportunity to make an informed decision with their health care provider about:
  — Screening with DRE and PSA after receiving information about the benefits, risks, and uncertainties of screening
<table>
<thead>
<tr>
<th>TABLE 3. Core Elements of the Information to be Provided to Men to Assist With Their Decision Regarding Prostate Cancer Screening&lt;sup&gt;4&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prostate cancer is an important health concern for men:</strong></td>
</tr>
<tr>
<td>• Screening with the PSA blood test alone or with both the PSA and DRE detects cancer at an earlier stage than if no screening is performed.</td>
</tr>
<tr>
<td>• Prostate cancer screening may be associated with a reduction in the risk of dying from prostate cancer. However, evidence is conflicting and experts disagree about the value of screening.</td>
</tr>
<tr>
<td>• For men whose prostate cancer is detected by screening, it is currently not possible to predict which men are likely to benefit from treatment. Some men who are treated may avoid death and disability from prostate cancer. Others who are treated would have died of unrelated causes before their cancer became serious enough to affect their health or shorten their lives.</td>
</tr>
<tr>
<td>• Depending on the treatment selected, treatment of prostate cancer can lead to urinary, bowel, sexual, and other health problems. These problems may be significant or minimal, permanent or temporary.</td>
</tr>
<tr>
<td>• The PSA and DRE may have false-positive or false-negative results, meaning men without cancer may have abnormal results and undergo unnecessary additional testing, and clinically significant cancers may be missed. False-positive results can lead to sustained anxiety about prostate cancer risk.</td>
</tr>
<tr>
<td>• Abnormal results from screening with the PSA or DRE require prostate biopsies to determine whether the abnormal findings are cancer. Biopsies can be painful, may lead to complications such as infection or bleeding, and can miss clinically significant cancer.</td>
</tr>
<tr>
<td>• Not all men whose prostate cancer is detected through screening require immediate treatment, but they may require periodic blood tests and prostate biopsies to determine the need for future treatment.</td>
</tr>
<tr>
<td>• In helping men to reach a screening decision based on their personal values, once they understand the uncertainties, risks, and potential benefits, it can be helpful to provide reasons why some men decide for or against undergoing screening. For example:</td>
</tr>
<tr>
<td>■ A man who chooses to be screened might place a higher value on finding cancer early, might be willing to be treated without definite expectation of benefit, and might be willing to risk injury to urinary, sexual, and/or bowel function.</td>
</tr>
<tr>
<td>■ A man who chooses not to be screened might place a higher value on avoiding the potential harms of screening and treatment, such as anxiety or risk of injury to urinary, sexual, and/or bowel function.</td>
</tr>
</tbody>
</table>

PSA indicates prostate-specific antigen; DRE, digital rectal examination.
Guidelines for Prostate Cancer Screening among High Risk Men

• **Higher Risk**: Information beginning at age 45 years
  – African American men
  – HX. Family member (father or brother) with prostate cancer

• **Appreciably Higher Risk**: before Information age 40 years
  – Multiple family members diagnosed with prostate cancer before age 65 years
ACS Lung Cancer Screening Guidelines
Lung Cancer Screening Guidelines

• Clinicians with access to high-volume, high-quality lung cancer screening and treatment centers should:
  – Ascertain smoking status and smoking history of patients aged 55 years to 74 years
  – Initiate discussion about lung cancer screening with those who have:
    • At least a 30 pack-year smoking history
    • Currently smoke
    • Have quit within the past 15 years
    • Are in relatively good health
Lung Cancer Screening Guidelines

• Core elements of this discussion should include:
  – Benefits
  – Uncertainties
  – Harms of screening with Low-Dose Helical Computed Tomography (LDCT)
Lung Cancer Screening Guidelines

- **Annual** Low-Dose Helical Computed Tomography (LDCT) screening
- Stop screening at age 74 years
- Chest-X Ray should **NOT** be used for cancer screening
- They should enter organized screening programs at institutions with:
  - Expertise in LDCT screening
  - Access to a multidisciplinary team skilled in the evaluation, diagnosis, and treatment of lesions
• CERVICAL Cancer
  – every three years for women ages 21-65
  – Routine cervical cancer screening for women under 21 and over 65 is no longer recommended
  – Five-year screening interval for women ages 30-65 when screened with a combination of Pap testing and human papillomavirus (HPV) testing
## Cervical Cancer Screening Guidelines

<table>
<thead>
<tr>
<th>Age to start</th>
<th>ACS 2012</th>
<th>USPSTF 2012</th>
<th>ACOG 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Women ages 21-29</strong></td>
<td>Age 21</td>
<td>Cytology every 3 years</td>
<td>Cytology every 3 years</td>
</tr>
<tr>
<td><strong>Women ages 30-65</strong></td>
<td>Cotesting every 5 years (preferred) or Every 3 years with Pap alone</td>
<td>Cotesting every 5 years or Every 3 years with Pap alone</td>
<td>Cotesting every 5 years (preferred) or Every 3 years with Pap alone</td>
</tr>
<tr>
<td><strong>Women ages &gt;65</strong></td>
<td>Discontinue after age 65 years (adequate screen)</td>
<td>Discontinue after age 65 years</td>
<td>Discontinue at age 65 years (adequate screen)</td>
</tr>
<tr>
<td><strong>Total Hysterectomy</strong></td>
<td>Discontinue (if no history of CIN2+)</td>
<td>Discontinue (if no history of CIN2+)</td>
<td>Discontinue (if no history of CIN2+)</td>
</tr>
<tr>
<td><strong>Screening among fully vaccinated</strong></td>
<td>Same as for non-vaccinated</td>
<td>Not reviewed</td>
<td>Same as for non-vaccinated</td>
</tr>
</tbody>
</table>
Table 1. Cancer Screening Recommendations from the U.S. Preventive Services Task Force (USPSTF), 2009

<table>
<thead>
<tr>
<th>Cancer</th>
<th>Population</th>
<th>Screening Method</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast Cancer&lt;sup&gt;5&lt;/sup&gt;</td>
<td>Women 50 years of age and over*</td>
<td>Mammography with or without a clinical breast exam</td>
<td>Biennially, beginning at age 50</td>
</tr>
<tr>
<td>Colon Cancer&lt;sup&gt;7&lt;/sup&gt;</td>
<td>Average risk men and women 50 years of age or older</td>
<td>Colonoscopy</td>
<td>Every 10 years, beginning at age 50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flexible sigmoidoscopy or double-contrast barium enema</td>
<td>Every 5 years, beginning at age 50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fecal occult blood test</td>
<td>Every year, beginning at age 50</td>
</tr>
</tbody>
</table>

* The updated breast cancer screening guidelines limit routine screening to women 50 years and older, but suggest that clinicians consider biennial screening mammography before the age of 50 years on an individual basis, taking into consideration patient context, including the patient’s values regarding the specific benefits and harms. The National Cancer Institute and the American Cancer Society continue to suggest routine mammography beginning at the age of 40.
USPSTF
LUNG CANCER SCREENING RECOMMENDATIONS

• LUNG Cancer
  – Annual screening with low-dose computed tomography (LDCT)
  • Adults aged 55 to 80 years
  • 30 pack-year smoking history
  • Currently smoke
  • quit within the past 15 years
  • Discontinued after 15 years of non-smoking, limited life expectancy or ability or willingness to have curative lung surgery

• PROSTATE Cancer
  – Recommends against PSA-based screening
USPSTF
LUNG CANCER SCREENING RECOMMENDATIONS

• LUNG Cancer
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• PROSTATE Cancer
  – Recommends against PSA-based screening
CANCER SCREENING IN PUERTO RICO: How Are we Doing?
## Cancer Screening in U.S. and Puerto Rico, BRFSS 2012

<table>
<thead>
<tr>
<th>Screening Test</th>
<th>U.S. (Md%)</th>
<th>Puerto Rico (Md%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pap Smear</strong> (21-64 yr./≤3 yr.) (18+/≤3 yr.)</td>
<td>85% (78%)</td>
<td>74% (71%)</td>
</tr>
<tr>
<td><strong>Mammography</strong> (≤2 yr.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40+ years</td>
<td>74%</td>
<td>78%</td>
</tr>
<tr>
<td>50+ years</td>
<td>77%</td>
<td>79%</td>
</tr>
<tr>
<td><strong>Colonoscopy/FlexSig</strong></td>
<td>67%</td>
<td>47%</td>
</tr>
<tr>
<td><strong>FOBT</strong> (50+ yr./Last 2 yr.)</td>
<td>14%</td>
<td>26%</td>
</tr>
<tr>
<td><strong>PSA</strong> (40+ yr. /Last 2 yr.)</td>
<td>45%</td>
<td>77%</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Screening Test</th>
<th>1996</th>
<th>2010</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pap Smear</strong> (18+ yr./≤3 yr.)</td>
<td>70%</td>
<td>75%</td>
<td>71%</td>
</tr>
<tr>
<td><strong>Mammography</strong> (≤2 yr.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40+ years</td>
<td>60%</td>
<td>77%</td>
<td>78%</td>
</tr>
<tr>
<td>50+ years</td>
<td>61%</td>
<td>80%</td>
<td>79%</td>
</tr>
<tr>
<td><strong>Colonoscopy/FlexSig</strong></td>
<td>28%¹</td>
<td>43%</td>
<td>47%</td>
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<tr>
<td><strong>FOBT</strong> (50+ yr./Last 2 yr.)</td>
<td>12%¹</td>
<td>10%</td>
<td>26%</td>
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<tr>
<td><strong>PSA</strong> (40+ yr. /Last 2 yr.)</td>
<td>65%²</td>
<td>63%</td>
<td>77%</td>
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</table>

¹ 1999; ² 2002


HP 2020 Goal: 93%

<table>
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<tr>
<th>Characteristic</th>
<th>71.5</th>
<th>79.7</th>
<th>52.9</th>
<th>69.2</th>
<th>69</th>
<th>76.2</th>
<th>74.3</th>
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<th>73.1</th>
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</table>

HP 2020 Goal: 93%
Prevalence of Breast Cancer Screening among PR Women Aged 40+ by SES Characteristics: PRBRFSS 2012

HP 2020 Goal: 81.1%
Prevalence of Breast Cancer Screening among PR Women Aged 40+ by SES Characteristics: PRBRFSS 2012

HP 2020 Goal: 81.1%

Bar graph showing the prevalence of breast cancer screening among PR women aged 40+ by SES characteristics. The HP 2020 goal is 81.1%.
Bienvenidos a nuestro nuevo Portal

Bienvenido a nuestro nuevo portal - El Programa de Prevención y Detección Temprana de Cáncer de Mama y Cuello Uterino de PR es auspiciado por los Centros de Control y Prevención de Enfermedades (CDC en sus siglas en inglés). El Programa...
MAMOGRAFÍA Y PAPANICOLAOU GRATIS
para mujeres elegibles al programa

REQUISITOS:
- Estar entre las edades de 21 a 64 años
- No cualificar para la Reforma de Salud
- No tener plan médico privado
- Cumplir con los requisitos de ingreso económico
- Mujeres de 65 años o más que no cuentan con Medicare, o no tienen Medicare Parte B

Si desea saber si es elegible para el programa o recibir más información, puede comunicarse al
(787) 522-3265

PUERTO RICO BREAST & CERVICAL CANCER PREVENTION AND EARLY DETECTION PROGRAM

Puedes hacer la diferencia... hazte las pruebas hoy.
GUÍAS PARA LA DETECCIÓN TEMPRANA DE CáNCER DE MAMA

SERVICIOS EN LA COMUNIDAD

El Programa de Prevención y Detección Temprana de Cáncer de Mama y Cuello Uterino en Puerto Rico, está afiliado al Centro Americano de Cáncer de la Universidad de Puerto Rico. Este programa provee servicios de cribado y diagnóstico gratuito para aquellas mujeres que califican.

QUIENES PUEDEN ESTAR A RIESGO

Investigadores han demostrado que existen ciertos factores que podrían aumentar las posibilidades de desarrollar cáncer de mama. Algunos factores que aumentan el riesgo son:

- Ser mujer
- Envejecimiento
- Historial familiar de cáncer de mama (madre, hermana, hija)
- Primera menstruación antes de los 12 años
- Menopausia temprana
- Tener hijos tarde en la vida
- Historial clínico de cáncer de mama o de otras enfermedades no cancerígenas en las mamás (p. ej. náufragos)
- Raza o grupo étnico
- Uso de terapia hormonal
- Obesidad
- Inactividad física
- Uso de bebidas alcohólicas

SÍNTOMAS Y SÍNTOMAS

- Masas que pueden o no palparse
- Cambio en tamaño y forma de la mama (sens)
- Frotamiento en el pecho
- Coloración del pezón
- Ropa interior saliendo por la parte interior del pecho
- Nódulos o masas en el pecho
- En Puerto Rico el cáncer de mama es el más común en mujeres

QUE HERRAMIENTAS Y PARA DETECTAR EL CáNCER DE MAMA (SENS) A TIEMPO

MAMOGRAFÍA - Es una radiografía de las mamás. Es el mejor método de detección temprana del cáncer de mama, ya que puede encontrar nódulos (masas) que no son palpables, cuando aun no se presentan síntomas y la probabilidad de curación es mayor.

EXAMEN CLINICO DE MAMA - El médico o enfermera/a, observará y palpaban las mamás (sens) para detectar la posible presencia de una masa o cambios. Este examen es un complemento de la mamografía.

PUNTOS IMPORTANTES

- Es la primera causa de muerte por cáncer en mujeres en Puerto Rico.
- El Sistema de Vigilancia de los Factores de Riesgo en la Conducta conocida por sus siglas en inglés (BRFSS) y administrado por el Departamento de Salud, para el año 2000 indicó que aproximadamente el 22% (1 de cada 5) de las mujeres de 40 años o más NO se habían hecho una mamografía en los últimos 2 años.
- Se ha demostrado que la utilización de la mamografía reduce el número de muertes por cáncer de mama.
- En las mujeres de 40 a 69 años, la mamografía puede reducir las muertes por cáncer de mama.
- En las mujeres de 50 a 69 años, el ser diagnosticada y tratada a tiempo puede reducir el riesgo de morir por cáncer de mama.

Fondo para la Detección Temprana de Cáncer de Mama
GUÍAS PARA LA PREVENCIÓN DE CÁNCER DE CUELLO UTERINO

Cuándo comenzar hacerse el Papanicolaou (papímetro)
21 a 29 años
Cuándo terminar de hacerse la prueba Pap
Alrededor de los 60 años
Mujeres con Histerectomía (removieron el útero)
Anualmente, mujeres de 80 años o más, con tres papeles normales seguidos, pueden dejar de hacerse las pruebas cada dos a tres años.

Si usted quiere saber si es elegible para estos servicios comuníquese al:

PROGRAMA DE PREVENCIÓN Y DETECCIÓN TEMPRANA DE CÁNCER DE IMMÁ Y CUELLO UTERINO DE PUERTO RICO
787-772-8300
Ext. 1122 ó 1119

SOCIEDAD AMERICANA DEL CÁNCER
Unidad Morro
566 Calle Cabo Alverio
Hato Rey
787-764-2295
Unidad del Norte
3 Calle 4, Urb. Río Rico
San Juan
787-879-0656
Unidad Central – Este
Carr. 183, Km. 2.2
V. T. Urb. José Mercado
Caracas
787-743-4040

Unidad del Oeste
11 Calle José Campauche
Urb. Ramon de Ananías
Mayaguez
787-833-3320

Unidad del Sur
716 Calle Ismael Pena
San Juan
787-844-1037

SERVICIO DE INFORMACIÓN SOBRE CANCER
1-800-4-CANCER
(1-800-4-CANCER)

O para más información acceda:
www.cdc.gov/espanol
www.cancer.gov/espanol

El cáncer de cuello uterino es prevenible

PUNTOS IMPORTANTES
- Las vacunas contra el Virus del Papiloma Humano (VPH) han demostrado ser muy efectivas y seguras.
- Todas las mujeres que reciben la vacuna contra el VPH deben continuar haciendo la prueba de Papanicolaou regularmente.
- El 40-60% de las mujeres por cáncer de cuello uterino pueden ser prevenidos aumentando la inmunidad de la prueba Papanicolaou.

La prueba Papanicolaou ayuda a detectar cambios en el cuello uterino

SIGNOS Y SÍNTOMAS
Normalmente esta enfermedad no produce síntomas hasta que la enfermedad ya está avanzada. Estos síntomas incluyen:
- Sangrado vaginal después de una relación sexual
- Sangrado vaginal que no está relacionado con la menstruación
- Sangrado vaginal después de la menopausia
- Sangrado vaginal después del examen pélvico
- Dolor pélvico
- Dolor durante las relaciones sexuales

QUIÉNES PUEDEN ESTAR EN RIESGO
Investigaciones han demostrado que la causa principal del cáncer de cuello uterino es la infección con ciertos tipos del virus del papiloma humano (VPH). Estos virus son transmitidos principalmente a través de contacto sexual. Además del VPH existen otros factores que incrementan el riesgo de desarrollar cáncer de cuello uterino. Estos factores incluyen:
- Inicio de actividad sexual a temprana edad
- Haber tenido una gran cantidad de compañeros sexuales
- No hacerse la prueba de Papanicolaou regularmente
- Fumar cigarrillo
- Tener muchos partos
- Una dieta con bajo consumo de frutas y vegetales
- Sistema inmunológico débil
- Uso de anticonceptivos orales (píldora)
### Guías para la detección temprana de cáncer de mama y cuello uterino para mujeres asintomáticas de riesgo promedio

<table>
<thead>
<tr>
<th>POBLACIÓN</th>
<th>EXAMEN/PROCEDIMIENTO</th>
<th>FRECUENCIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mujeres de 20-39 años</td>
<td>• Autoexamen (BSE)</td>
<td>• Opcional, si la mujer decide realizar esta prueba, el médico debe informarle de los beneficios y limitaciones.</td>
</tr>
<tr>
<td></td>
<td>• Examen Clínico (CBE)</td>
<td>• Se recomienda una vez al mes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• En su prueba rutinaria de salud o cada 3 años.</td>
</tr>
<tr>
<td>Mujeres de 40+ años</td>
<td>Manografía y CBE</td>
<td>• Anual</td>
</tr>
</tbody>
</table>

### Guías para la detección temprana de cáncer de cuello uterino

<table>
<thead>
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<th>POBLACIÓN</th>
<th>EXAMEN/PROCEDIMIENTO</th>
<th>FRECUENCIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mujeres de 21 a 29 años</td>
<td>Prueba Pap</td>
<td>• Iniciar a los 21 años</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Cada 3 años</td>
</tr>
<tr>
<td>Mujeres de 30 a 65 años</td>
<td>Prueba Pap con combinación con la prueba de VPH</td>
<td>• Cada 3 años</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Cada 5 años</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• No prueba de VPH antes de los 30 años de edad</td>
</tr>
<tr>
<td>Mujeres mayores de 65 años</td>
<td>Resultados de Pruebas Pap y VPH normales en los últimos 10 años</td>
<td>No es necesario realizar la prueba Pap</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Continuar realizando la prueba Pap por 20 años más, después del tratamiento o regresión espontánea de la lesión.</td>
</tr>
<tr>
<td>Mujeres con histerectomía</td>
<td>Se descontinúa la prueba Pap</td>
<td>• Histerectomía no relacionada a lesión pre-cancerosa o cáncer de cuello uterino</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Mujeres en quienes no se puede documentar el razon de su histerectomía deben continuar exámenes</td>
</tr>
</tbody>
</table>

### Guías para la detección temprana de cáncer de colorectal y próstata para individuos asintomáticos de riesgo promedio

#### Cáncer de próstata

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<tr>
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<th>FRECUENCIA</th>
</tr>
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<tbody>
<tr>
<td>Hombres de 50 años o más</td>
<td>Examen Digital Rectal (DRE) y Antígeno Prostático Específico (PSA)</td>
<td>• Discutir con el paciente los beneficios y riesgos de realizar estas pruebas</td>
</tr>
</tbody>
</table>

#### Cáncer colorectal

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<thead>
<tr>
<th>POBLACIÓN</th>
<th>EXAMEN/PROCEDIMIENTO</th>
<th>FRECUENCIA</th>
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<tbody>
<tr>
<td>Mujeres y Hombres de 50+ años</td>
<td>Examen de Sangre Oculta en Haces (FOBT) con al menos 50% de sensibilidad para cáncer o Examen de Sangre Oculta en Haces Inmunoequivalente (FIT) con al menos un 50% de sensibilidad para cáncer</td>
<td>• Anualmente</td>
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<td>• Es más cómodo para el paciente y es probable que tiene igual o mayor sensibilidad y especificidad que otras pruebas de screening para este tipo de cáncer</td>
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<tr>
<td></td>
<td></td>
<td>- Prueba de ADN en Haces</td>
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<td>- Sigmoideoscopía Flexible (FSIG)</td>
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<td>- Colonoscopia</td>
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<td>- Colonoscopia por tomografía computarizada</td>
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### Nota

Thank you
Role of Primary Care in Cancer Screening
Care Process Within Layers

- National Health Policy Environment
- State Health Policy Environment
- Local Community Environment
- Organization and/or Practice Setting
- Provider/Team
- Family & Social Supports
- Individual Patient

Improved Quality of Cancer Care

Improved Cancer-Related Health Outcomes
Role of Primary Care in Cancer Prevention

- Primary care providers play critical role in closing gaps to cancer prevention and early detection
- Primary care reduces
  - obstacles to prevention and early detection
  - prevents mortality
  - promotes health
- IOM emphasizes the critical role of primary care in disease prevention and early detection
Role of Primary Care in Cancer Prevention

• Opportunity for Risk Assessment and Intervention

• Receiving primary care has been positively associated with:
  – patients having up-to-date screenings
  – health habit-counseling

• >85% of all mammograms are ordered by primary care providers

• Physician’s advice increases mammograms and CRC screenings
Role of Primary Care in Cancer Prevention

• Adequate cancer screening:
  – Access to primary care providers
  – Large supplies of family physicians in the area
  – Having at least one personal health care provider
Barriers to Cancer Prevention in Primary Care

• **Patient-level factors**
  – Sociodemographic Characteristics
  – Ability to pay for tests
  – Acceptance of prevention intervention
  – Trust in health care provider
  – Usual source of care
  – Transportation
  – Comfort with gender of health care provider
Barriers to Cancer Prevention in Primary Care

- **Provider-level factors**
  - Provider characteristics (age, gender, specialty, licensing status)
  - Provider awareness of prevention guidelines
  - Time constraints
  - Lack of training
  - Inadequate knowledge of how to counsel patients
  - Distraction by patient co-morbidities
  - Inadequate reimbursement
  - Provider attitudes about prevention
Barriers to Cancer Prevention in Primary Care

- **System-level factors**
  - Health insurance coverage for recommended preventive interventions
  - Having one personal health care provider
  - Inadequate space or staffing
  - Time constraints that system-level factors place on provider
  - Clinic schedules
Patient Protection and Affordable Care Act on Cancer Screening

### TABLE 5. Cancer Screening Coverage Requirements for New Private Health Plans

<table>
<thead>
<tr>
<th>CANCER SCREENING</th>
<th>DESCRIPTION</th>
<th>USPSTF GRADE</th>
<th>DATE IN EFFECT</th>
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<tbody>
<tr>
<td>Breast cancer screening</td>
<td>The USPSTF recommends screening mammography for women, with or without CBE, every 1-2 y for women aged $\geq 40$ y. (^{109})</td>
<td>B</td>
<td>September 2002</td>
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<tr>
<td>Cervical cancer screening</td>
<td>The USPSTF strongly recommends screening for cervical cancer in women who have been sexually active and have a cervix. (^{96})</td>
<td>A</td>
<td>January 2003</td>
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<tr>
<td>Colorectal cancer screening</td>
<td>The USPSTF recommends screening for colorectal cancer using FOBT, FSIG, or colonoscopy in adults, beginning at age 50 y and continuing until age 75 y. The risks and benefits of these screening methods vary. (^{112})</td>
<td>A</td>
<td>October 2008</td>
</tr>
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</table>

USPSTF, US Preventive Services Task Force; CBE, clinical breast examination; FOBT, fecal occult blood test.

Thank you