

# *Evidence-Based Cervical Cancer Screening (ECS)*

*Integrated Healthcare Association*

*July 13, 2009*



# *Agenda*

- ECS Measure Overview
- ECS Guidelines and Evidence
- Live Q&A
- ECS Technical Specifications
- Live Q&A

## *ECS Overview*

- Eligible Population: Women 24 years and older as of December 31 of measurement year
- All women in the eligible population will be included in one of the following three rates:
  - Rate 1: Appropriately Screened
  - Rate 2: Not Screened
  - Rate 3: Screened Too Frequently
- P4P is only reporting and paying on the Appropriately Screened rate



# Cervical Cancer Screening – Guidelines and Evidence

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IHA P4P Broadcast  
July 13, 2009  
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# Cervical Cancer - Epidemiology

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- ACS estimates 11,000 new cases of invasive cervical ca in the US in 2008 with approximately 3,800 deaths. Both these rates continue to decline annually in the US.
- Risk factors include sexual behavior (early onset, multiple partners) associated with infection with high risk HPV subtypes. Smoking and immune function also play a role in risk.
- In US, peak prevalence of infection with HPV is under age 25, but most infections are transient and resolve untreated.
- Median age of diagnosis of invasive cervical ca in the US from SEER data (2002 to 2006) is 48.
- Age rates: 0.2% under 20; 15% age 20-34; 26% 35-44; 24% 45-54; 16% 55-64; 10% 65-74; 9% over age 75.



# Cervical Cancer Screening Guidelines

## USPSTF

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- USPSTF – Strongly recommends screening for women who are sexually active and have a cervix. Indirect evidence suggests most of the benefit obtained by starting within 3 years of onset of sexual activity or by age 21, whichever comes first, and screening at least every 3 years.
- Recommends against screening women over the age of 65 if they have had adequate screening and are not at high risk of disease.
- Recommends against screening women who have had a hysterectomy for benign disease.
- Insufficient evidence to recommend for or against new technologies for cervical cancer screening (liquid based cytology or computerized rescreening).
- Insufficient evidence to recommend for or against the use of HPV testing as a primary screen for cervical cancer.



## Professional Society Guidelines

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- ACP and AAFP – Screen at least every 3 years if have had sex and have a cervix; stop at 65 years old or if a hysterectomy for benign conditions; insufficient evidence on new technologies or HPV testing.
- ACPM – Screen at least every 3 years after 2 normal exams; starting at age 18 or when sexually active; stop at age 65 years old if prior exams normal.
- CTFPHC (Canada) – At least every 3 years if average risk ; stop at age 69.



# ACOG Cervical Cancer Screening Guideline

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- Initiate 3 years after the onset of sex or by age 21 at the latest.
- Screen every year up to age 30 and then every 2 to 3 years if three prior normal screens and no prior CIN, HIV, immunocompromised state, or DES exposure.
- For women over 30, Pap + HPV testing is an option, with screening interval of every 3 years.
- No upper age limit for screening; left to physician discretion.
- May discontinue after total hysterectomy for benign disease, if no prior CIN 2-3.



# ACS Cervical Cancer Screening Guideline

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- Screen within 3 years of onset of intercourse or by age 21 at latest.
- Annual Pap tests, or every 2 years if liquid based cytology, until age 30, when interval can be increased to 2-3 years if three prior normal exams.
- Alternative: screen every 3 years if using liquid based cytology and HPV testing.
- Screening after total hysterectomy for benign disease is not necessary.
- Screening may stop at age 70 if woman had three normal exams in the prior decade.



# Invasive Cervical Cancer - Opportunities

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- NHIS data indicate that only about 80% of US women report a recent Pap smear, leaving **1 woman in 5 unscreened**.
  - Analysis of Conn. state cancer registry data over 5 years for invasive cervical cancer revealed:
    - 28% never screened
    - 33% screened more than 5 years ago
    - 15% did not follow up prior abnormal Pap
    - 10% prior Pap mis-read as normal
    - 34% screened
- \*More than half of the invasive cancer occurs in women not screened within 5 years.**
- NHIS data estimates also reveal that if triennial screening instead of annual Paps were performed in the US, approximately 40,000,000 fewer exams per year would be performed.



# Women with Hysterectomy

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- Screening to detect vaginal cancer – 0.3% of cancer in women
- Stokes (2006) systematic review of 19 studies of vaginal vault smears (n=6543); 1.8% abnormal smear and 0.12% abnormal biopsy
- Farghaly (2006) retrospective review of 1303 patients with 6 year study; 3.4% epithelial abnormalities but no invasive cancer or high grade dysplasia identified
- All major guidelines agree to stop screening after hysterectomy for benign conditions



## Age to Discontinue

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- No direct evidence identified comparing ages to stop screening.
- USPSTF based recommendation to stop at 65 on:
  - Hartman review (2002) of 12 cohort studies showing yield of screening low on older women (65) who were previously screened;
  - Decline in high grade lesions after middle age;
  - Increased risks of potential harms of procedures with false positives in this older population
- Most guidelines choose 65 (ACP, AAFP, ACPM, USPSTF) ; ACS 70; ACOG leaves to physician discretion



## Screening Interval

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- No direct study comparisons of 1,2,3 year intervals have been done.
- Case control and cohort studies are available that compare relative risks of invasive cervical cancer at different screening intervals.
- Meta-analysis of 8 screening programs (IARC) involving 1.8 million women (20-64) showed the cumulative risk of cervical cancer was reduced 64% when the Pap interval was 10 years; 84% at 5 years; 91% at 3 years; 92% at 2 years; 93% at 1 year.
- Sawaya (2000) – prospective cohort study of 128,805 women in the National Breast and Cervical Cancer Early Detection Program; calculated age adjusted incidence rates of cytologic abnormalities for women screened at 1, 2, or 3 year intervals.  
Difference in incidence of HSIL or invasive cancer at various screening intervals were not statistically significant. ( $p=0.42$ )



## Screening Interval

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AGE Adjusted Incidence Rates per 10,000 women, by time since last normal Pap Smear, NBCCEDP – US, 1991-1998

<u>Screening Interval</u>	<u>ASCUS</u>	<u>LSIL</u>	<u>HSIL</u>	<u>SCCA</u>
9-12 mo	377	107	25	1.4
13-24 mo	373	125	29	0.8
25-36 mo	415	141	33	0.8
	p= 0.36	0.01	0.42	



## Screening Interval

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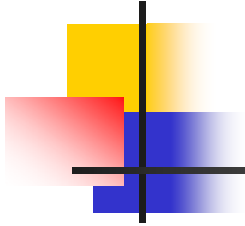
- Given that there are no prospective trials comparing screening intervals, and there will not be considering the effectiveness of screening and the long natural history of disease, many modeling studies have been done to assess the effectiveness of different screening strategies.
- Kulasingam, using US NBCCEDP data, estimated cost effectiveness ratios per life year saved to be:
- \$20,000 for women 30-44 with no prior tests, screened triennially or \$331,837 for screened annually
- With 3 or more normal smears, the results are \$60,029 for triennial screening vs. \$709,067 for annual screening.
- Conclusion that increasing the number of prior Paps increases the cost of life year saved dramatically; the absolute benefit of more frequent screens was very small; resources should be prioritized for those never or infrequently screened.



# Screening Interval

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- Eddy model utilized the IARC data from case control and cohort studies.
- Compared with triennial screening, annual screens (36 additional exams for a woman) would decrease the probability of death from cervical cancer by 4 in 10,000 and increases life expectancy about 9 hours.
- Compared to screening every 4 years, the marginal cost per year of life expectancy was \$184,528 for triennial screens, \$681,336 for triennial screens after 4 normals, and over \$1 million for annual screens or every 2 years after 3 normal exams.
- Conclusions that 96% of the benefit of an annual interval can be achieved by a 3 year interval, with 2/3 less risk, inconvenience, and cost.



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- QUESTIONS ???

# Evidence-Based Cervical Cancer Screening of Average-Risk, Asymptomatic Women (ECS)



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# Measure Description

- **Women 24 years and older who received cervical cancer screening in accordance with evidence-based standards.**
- **Three separate overall rates are calculated for this measure based on the same eligible population:**
  1. Appropriately Screened
  2. Not Screened
  3. Screened Too Frequently

# Rate 1: Appropriately Screened

- To identify the numerator for Rate 1 in the measurement year or two years prior to the measurement year count:
  - Women 24-64 years w/ hysterectomies who received no Pap tests subsequent to their hysterectomy
  - Women 24-64 years as of Dec 31 of the measurement year who have not had a hysterectomy, who had a single Pap test
  - Women 65+ years as of Dec 31 of the measurement year who had no Pap tests

***IMPORTANT NOTE:*** *If two or more claims/encounters with qualifying numerator codes for Pap test occur within 120 days of each other, count only the first one.*

## Rate 2: Not Screened

- To identify the numerator for Rate 2 in the measurement year or two years prior to the measurement year count:
  - Women 24-64 years as of Dec 31 of the measurement year who have not had a hysterectomy and who had no Pap tests

***IMPORTANT NOTE:*** *If two or more claims/encounters with qualifying numerator codes for Pap test occur within 120 days of each other, count only the first one.*

# Rate 3: Screened Too Frequently

- To identify the numerator for Rate 3 in the measurement year or two years prior to the measurement year count:
  - Women 24-64 years as of Dec 31 of the measurement year w/ hysterectomies who had one or more Pap tests subsequent to their hysterectomy
  - Women 24-64 years as of Dec 31 of the measurement year who have not had a hysterectomy, who had two or more Pap tests
  - Women 65+ years as of Dec 31 of the measurement year who had one or more Pap tests in the measurement year

***IMPORTANT NOTE:*** *If two or more claims/encounters with qualifying numerator codes for Pap test occur within 120 days of each other, count only the first one.*

**Table ECS-C: Categories by Age and Number of Pap Tests**

<b>Number of Pap Tests</b>	<b>24-64 Years With No Hysterectomy</b>	<b>24-64 Years With Hysterectomy</b>	<b>65 Years and Older</b>
Zero	Not Screened	Evidence-Based Screening	Evidence-Based Screening
Exactly 1	Evidence-Based Screening		
1 or more		Screened Too Frequently	Screened Too Frequently
2 or more	Screened Too Frequently		

# Exclusions

- **Exclude from the denominator members who have had one of the following:**
  - A diagnosis of dysplasia in the past five years
  - An abnormal Pap test in the past five years
  - Any history of cervical cancer

# FAQs

- **Question 1: For Rates 1 and 3, when identifying women who have had a hysterectomy, are plans/POs limited to a three-year look back period?**
  - No. Plans and POs should look through the women's complete medical history to identify a hysterectomy. A woman who has had a hysterectomy and received a Pap test subsequent to the hysterectomy during the three-year look-back period, falls into the Rate 3 calculation.
- **Question 2: The current measure specifications indicate several measure exclusions, is it appropriate for the exclusions to be optional?**
  - No. Exclusions are required for this measure to ensure that the denominator and numerators are consistent across the three rates.

# FAQs cont'd...

- **Question 3: For MY 2008, should women between 65-67 years old be removed from the eligible population?**
  - The 65-67 age range should not be removed from the eligible population; the current measure specification inadvertently excluded this age group. In an effort to clarify your questions here are the corrections that are needed:
    - The description of rate 3 should be the same as the description of rate 1, which looks at women 21 – 64 years of age and 65 years and older.
    - Specific to the measure specifications, the age ranges need to be corrected to 24 – 67 and then 68 years and older to account for the 3-year look back period.

# QUESTIONS???

