



# Prevalence of Cervical Cancer Over-screening

Franklin, Mary, DNP, CNM; Weibel, Allison, PhD, RN; Kelley, Carol, PhD, RN, CNP; Kaelber, David, PhD, MD, Evans, Jill, MSN, RN-BC

## Introduction

2012 Consensus Guidelines for Cervical Cancer Screening in Low Risk Women<sup>1</sup>:

- Start at age 21
- Every 3-5 years between ages 21 and 65
- Stop at age 65 or with hysterectomy

Inconsistent adherence to these guidelines

## Background

- Over-screening associated with increased health care costs, unnecessary exams and procedures
- Excess screening 10-60%<sup>2-12</sup>
- Over-screening inconsistently associated with patient characteristics<sup>2,4,8</sup>



## Research Questions

- 1) What was the prevalence of screening for cervical cancer in the age groups 18-20 and over 65 prior to the implementation of the guidelines in 2012?
- 2) What is the current prevalence of cervical cancer over-screening according to the 2012 guidelines?
- 3) Are specific patient characteristics associated with CCS over-screening?
- 4) Can an Electronic Health Record (EHR) query accurately identify screening Pap tests?

## Methods

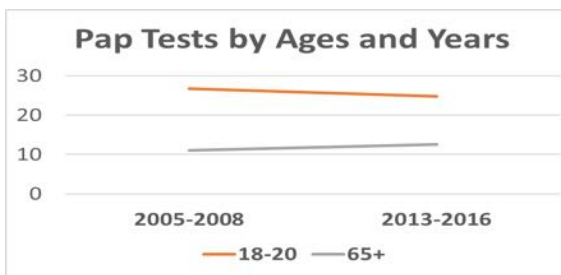
Quantitative retrospective descriptive analysis of EHR data from a wellness registry  
Site: a large public healthcare system

	Total Sample n= 57,820		Ages 18-20 n=28,694		Ages 65+ n=29,126	
Race/Ethnicity	n	%	n	%	n	%
Black	20,338	35.2%	11,829	41.2%	8,509	29.2%
White	31,302	54.1%	13,465	47.0%	17,837	61.2%
=Other	1,595	2.8%	874	3.0%	721	2.5%
Unavailable Race	4,585	7.9%	2,526	8.8%	2,059	7.1%
Hispanic	4821	8.3%	3,427	11.9%	1,394	4.8%
Non-Hispanic	49,679	86.0%	24,293	84.7%	25,386	87.2%
Unavailable	3,380	5.7%	974	3.4%	2,292	8.0%
Ethnicity						

\*Includes Asian, Native American, Hawaiian, Pacific Islander

## Results

Pap Outside of Guidelines n=10,918	Ages 18-20 n=7,412	Ages 65+ n=3,506
2005-2008	3,926 (26.8%)	1,089 (11.1%)
2013-2016	3,486 (24.8%)	2,417 (12.5%)



## Results

Over-screening associated with:

- Black race (48.9% vs 35.2%)
- Hispanic ethnicity (11.5% vs 8.3%)
- Medicaid insurance (9.1% vs 7.1%)
- Activation of a personal health record (63.5% vs 50.6%)

All significant at p < 0.001

Paps identified in the EHR as screening:

- 85% ages 18-20
- 74% ages > age 65

Reason for Pap test in Chart Review Sample	Age 18-20 n=100	Ages 65+ n=100
Screening	85	74
Post-hysterectomy for reproductive tract cancer	0	12
History of Abnormal	11	9
Bleeding/erosion	0	4
+HIV status	3	0
Endometrial mass	0	1
+BRCA gene	1	0

## Conclusion/Discussion

- Over-screening has not decreased with publication of guidelines, and actually increased in the older age group.
- Excess costs for Pap testing alone = approximately \$545,900.
- Quality improvement projects should address patient and provider barriers to compliance.
- Identification of screening Pap in EHR more accurate for younger women

## References

<sup>1</sup>ACOG. Practice Bulletin No. 188 Cervical Cancer Screening and Prevention. Obstet Gynecol. 2016;128(4):e111-e130. doi:doi.org/10.1097/AOG.0000000000001048

<sup>2</sup>Harada CM, Rodrigues MA, Skonoff S, Priefer J, Stearns N, Winger ND. Cervical cancer screening overuse and underuse: Patient and physician factors. Am J Manag Care. 2015;19(6):482-489.

<sup>3</sup>Centers for Disease Control and Prevention. Cervical Cancer Screening Among Women by Hysterectomy Status and Among Women Aged 65 Years - United States, 2000-2010. MMWR Morb Mortal Wkly Rep. 2012;61(21):411-414.

<sup>4</sup>Centers for Disease Control and Prevention. Cervical cancer screening among women aged 18-20 years - United States, 2000-2010. MMWR Morb Mortal Wkly Rep. 2013;62(10):1942-1945.

<sup>5</sup>Quinn V, Swales R. Cervical Cancer Screening Practices of Volunteer Providers in Faith-based Clinics. J Nurse Pract. 2016;12(1):27-34. doi:10.1016/j.npr.2015.09.005

<sup>6</sup>Yuan AM, Zhu Y, Mitchell L, Nkomo S, Etzler M, Griffin MR. Cervical Cancer Screening and Follow-Up Practices in Women Age <21 Years Following New Screening Guidelines. J Midwifery Pract. 2017;23(2):170-175. doi:10.1016/j.midw.2017.08.027

<sup>7</sup>Heath AM, Tan A, Williams CD, Brennan AB. Compliance with cervical cancer screening and human papillomavirus testing guidelines among insured young women. Am J Obstet Gynecol. 2013;209(5):505-e1-200-e7. doi:10.1016/j.ajog.2013.05.028

<sup>8</sup>Kapka D, Brown N, King JR, et al. Demographic factors associated with overuse of pap testing. Am J Prev Med. 2016;47(5):629-631. doi:10.1016/j.amepre.2014.07.014

<sup>9</sup>Mullins J, Gossart D, Baker DM. Use of electronic health record data to evaluate overuse of cervical cancer screening. J Am Med Inform Assoc. 2012;19(1):95-101. doi:10.1136/amia.2011.000205

<sup>10</sup>Fruch, Deanna, Pullman, S, DeKam, M, Jackson, W, Downs, L, Carter, MA, Mallon, S, Kallamang S. Excess Cost of Cervical Cancer Screening Beyond Recommended Screening Ages or After Hysterectomy in a Single Institution. J Gen Intern Med. 2012; 27. doi:10.1093/gim/dks00000000040

<sup>11</sup>Fruch D, Vogel M, Pullman S, et al. Single health system adherence to 2012 cervical cancer screening guidelines at extremes of age and posthysterectomy. Obstet Gynecol. 2017;129(3):448-456. doi:10.1097/AOG.0000000000001895

<sup>12</sup>Guerrero-IB, Petral A, Anderson S, Barton T. Cervical Cancer Screening Rates in a Cohort Review of Adolescent Patients at an Academic Institution before and after the Publication of the 2009 American College of Obstetricians and Gynecologists' Recommendations. J Pediatr Adolesc Gynecol. 2015;28(4):258-262. doi:10.1016/j.jpag.2014.08.011