MetaAnalysis – Systematic Review
Potential PURL Review Form
PURL Jam Version

PURLs Surveillance System
Family Physicians Inquiries Network

SECTION 1: Identifying Information for Nominated Potential PURL
[to be completed by PURLs Project Manager]

A. Citation: US Preventive Services Task Force, Curry SJ, Krist AH, Owens DK, Barry MJ, Caughey AB, Davidson KW, Doubeni CA, Epling JW Jr, Kemper AR, Kubik M, Landefeld CS, Mangione CM, Phipps MG, Silverstein M, Simon MA, Tseng CW, Wong JB. Screening for Cervical Cancer: US Preventive Services Task Force Recommendation Statement. JAMA. 2018 Aug 21;320(7):674-686. doi: 10.1001/jama.2018.10897. PubMed PMID: 30140884.
B. Link to PubMed Abstract: https://www.ncbi.nlm.nih.gov/pubmed/?term=30140884
C. First date published study available to readers:8/21/2018
D. PubMed ID: 30140884
E. Nominated By: Jim Stevermer
F. Institutional Affiliation of Nominator: University of Missouri
G. Date Nominated: 9/16/2018
H. Identified Through: JAMA
I. PURLs Editor Reviewing Nominated Potential PURL: Dean Seehusen
J. Nomination Decision Date: 9/19/2018
K. Potential PURL Review Form (PPRF) Type: Systematic Review
L. Assigned Potential PURL Reviewer: Sonia Oyola
M. Reviewer Affiliation: University of Chicago
A. Abstract: IMPORTANCE:
The number of deaths from cervical cancer in the United States has decreased substantially since the implementation of widespread cervical cancer screening and has declined from 2.8 to 2.3 deaths per 100 000 women from 2000 to 2015.

OBJECTIVE:
To update the US Preventive Services Task Force (USPSTF) 2012 recommendation on screening for cervical cancer.

EVIDENCE REVIEW:
The USPSTF reviewed the evidence on screening for cervical cancer, with a focus on clinical trials and cohort studies that evaluated screening with high-risk human papillomavirus (hrHPV) testing alone or hrHPV and cytology together (cotesting) compared with cervical cytology alone. The USPSTF also commissioned a decision analysis model to evaluate the age at which to begin and end screening, the optimal interval for screening, the effectiveness of different screening strategies, and related benefits and harms of different screening strategies.

FINDINGS:
Screening with cervical cytology alone, primary hrHPV testing alone, or cotesting can detect high-grade precancerous cervical lesions and cervical cancer. Screening women aged 21 to 65 years substantially reduces cervical cancer incidence and mortality. The harms of screening for

cervical cancer in women aged 30 to 65 years are moderate. The USPSTF concludes with high certainty that the benefits of screening every 3 years with cytology alone in women aged 21 to 29 years substantially outweigh the harms. The USPSTF concludes with high certainty that the benefits of screening every 3 years with cytology alone, every 5 years with hrHPV testing alone, or every 5 years with both tests (cotesting) in women aged 30 to 65 years outweigh the harms. Screening women older than 65 years who have had adequate prior screening and women younger than 21 years does not provide significant benefit. Screening women who have had a hysterectomy with removal of the cervix for indications other than a high-grade precancerous lesion or cervical cancer provides no benefit. The USPSTF concludes with moderate to high certainty that screening women older than 65 years who have had adequate prior screening and are not otherwise at high risk for cervical cancer, screening women younger than 21 years, and screening women who have had a hysterectomy with removal of the cervix for indications other than a high-grade precancerous lesion or cervical cancer does not result in a positive net benefit.

CONCLUSIONS AND RECOMMENDATION:
The USPSTF recommends screening for cervical cancer every 3 years with cervical cytology alone in women aged 21 to 29 years. (A recommendation) The USPSTF recommends screening every 3 years with cervical cytology alone, every 5 years with hrHPV testing alone, or every 5 years with hrHPV testing in combination with cytology (cotesting) in women aged 30 to 65 years. (A recommendation) The USPSTF recommends against screening for cervical cancer in women younger than 21 years. (D recommendation) The USPSTF recommends against screening for cervical cancer in women older than 65 years who have had adequate prior screening and are not otherwise at high risk for cervical cancer. (D recommendation) The USPSTF recommends against screening for cervical cancer in women who have had a hysterectomy with removal of the cervix and do not have a history of a high-grade precancerous lesion or cervical cancer. (D recommendation).

B. Pending PURL Review Date**:** 4/25/2019

SECTION 2: Critical Appraisal of Validity
[to be completed by the Potential PURL Reviewer]

A. What types of studies are included in this review? Observational, modeling and RCTs

B. What is the key question addressed by this review? At what age should we start screening for cervical cancer and what screening methods will be most beneficial and least harmful.

Summarize the main conclusions and any strengths or weaknesses:
USPSTF found that **screening women over age 65 who have been adequately screened (**defined as 3 consecutive negative screenings or 2 negative screenings within the last 10yrs, the most recent being within the last 5yrs) **and under 21, led to more harm than benefit so therefore concluded that these age groups should not be screened routinely (D level recommendation).**

For **patients ages 21 to 29, screening every 3yrs with cytology alone substantially outweighed the harms (A level recommendation).**

For The change in this current set of recommendations by the USPSTF is the inclusion of **patients ages 30 to 65, screening every 3yrs with cytology alone or every 5yrs with either**

hrHPV alone or co-testing (hrHPV with cytology), substantially outweighed the harms (A level recommendation).

Strengths of the review is the additional studies included that provide insight into whether hrHPV testing alone is a viable option

Weakness: the studies' screening methods were technologically very different so making exact recommendation is challenging

C. Study addresses an appropriate and clearly focused question. Well covered
Comments:

D. A description of the methodology used is included. Well covered
Comments:

E. The literature is sufficiently rigorous to identify all the relevant studies. Well covered
Comments:

F. Study quality is assessed and taken into account. Well covered
Comments:

G. There are enough similarities between selected studies to make combining them reasonable. Well covered
Comments:

H. Are patient oriented outcomes included? Somewhat If yes, what are they? Psychological harm of cervical cancer screening

I. Are adverse effects addressed? Rates of colposcopies, biopsies and unnecessary treatment

If so, how would they affect recommendations? When the rates were elevated, the screening method was not recommended, for example, when researchers noted that co-testing increased rates of colpos and false positive tests among 21to 29yrs, this was note and not recommended.

J. Is funding a potential source of bias? It does not appear so If yes, what measures (if any) were taken to ensure scientific integrity?

K. To which patients might the findings apply? All women without a h/o diethylstilbesterol exposure, without immune suppression and without a h/o precancerous cervical lesions. Include patients in the metaanalysis and other patients to whom the findings may be generalized.

L. In what care settings might the findings apply, or not apply? Outpatient primary care settings

M. To which clinicians or policy makers might the findings be relevant? Primary care physicians and public health experts

SECTION 3: Review of Secondary Literature
[to be completed by the Potential PURL Reviewer]
[to be revised by the Pending PURL Reviewer as needed]

Citation Instructions: For up-to-date citations, use style modified from http://www.uptodate.com/home/help/faq/using_UTD/index.html#cite & AMA style. Always use Basow DS on editor & current year as publication year.

"Screening for cervical cancer"

Authors: Sarah Feldman, MD, MPH; Annekathryn Goodman, MD, MPH; Jeffrey F Peipert, MD, PhD

Literature review current through: Mar 2019. | This topic last updated: Apr 02, 2019.

(Same recommendations as USPSTF)

For DynaMed, use the following style:
Depression: treatment {insert search terms or title}. In: DynaMed [database online]. Available at http://www.DynamicMedical.com. Last updated February 4, 2009. {Insert date modified if given.} Accessed June 5, 2009. {search date}

A. DynaMed excerpts

B. DynaMed citation/ Title. Author. In: DynaMed [database online]. Available at: access date www.DynamicMedical.com Last Updated: . Accessed

C. Bottom line recommendation or summary of evidence from DynaMed (1-2 sentences)

D. UpToDate excerpts

E. UpToDate citation/ Always use Basow DS as editor & current year as publication year. Access date Title. Author. In: UpToDate [database online]. Available at: http://www.uptodate.com. Last updated: . Accessed

F. Bottom line recommendation or summary of evidence from UpToDate (1-2 sentences)

G. Other excerpts (USPSTF; other guidelines; etc.)

H. Citations for other excerpts

I. Bottom line recommendation or summary of evidence from Other Sources (1-2 sentences)

SECTION 4: Conclusions
[to be completed by the Potential PURL Reviewer]
[to be revised by the Pending PURL Reviewer as needed]

A. **Validity**: Are the findings scientifically valid? Yes

B. If **A** was coded "Other, explain or No", please describe the potential bias and how it could affect the study results. Specifically, what is the likely direction in which potential sources of internal bias might affect the results?

C. **Relevance**: Is the topic relevant to the practice of family medicine and primary care practice, including outpatient, inpatient, obstetrics, emergency and long-term care? Are the patients being studied sufficiently similar to patients cared for in family medicine and primary care in the US such that results can be generalized?
Yes

D. If **C** was coded "Other, explain or No", please provide an explanation.

E. **Practice changing potential**: If the findings of the study are both valid and relevant, are they not a currently widely accepted recommendation among family physicians and primary care clinicians for whom the recommendation is relevant to their patient care? Or are the findings likely to be a meaningful variation regarding awareness and acceptance of the recommendation?
Yes

F. If **E** was coded as "Yes", please describe the potential new practice recommendation. Please be specific about what should be done, the target patient population and the expected benefit.
Offering hrHPV screening alone (every 5yrs) to patients 30 to 65

G. **Applicability to a Family Medical Care Setting**:
Is the change in practice recommendation something that could be done in a medical care setting by a family physician (office, hospital, nursing home, etc.), such as a prescribing a medication, vitamin or herbal remedy; performing or ordering a diagnostic test; performing or referring for a procedure; advising, education or counseling a patient; or creating a system for implementing an intervention? Yes

H. Please explain your answer to **G**.

I. **Immediacy of Implementation**:
Are there major barriers to immediate implementation? Would the cost or the potential for reimbursement prohibit implementation in most family medicine practices? Are there regulatory issues that prohibit implementation? Is the service, device, drug, or other essentials available on the market? Yes

J. If **I** was coded “Other, explain or No”, please explain why.

K. **Clinically meaningful outcomes or patient oriented outcomes**:
Do the expected benefits outweigh the expected harms? Are the outcomes patient oriented (as opposed to disease oriented)? Are the measured outcomes, if true, clinically meaningful from a patient perspective?
Yes

L. If **K** was coded “Other, explain or No”, please explain why.

M. In your opinion, is this a pending PURL? Yes

1. Valid: Strong internal scientific validity; the findings appear to be true.

2. Relevant: Relevant to the practice of family medicine.

3. Practice Changing: There is a specific identifiable new practice recommendation that is applicable to what family physicians do in medical care settings and seems different than current practice.

4. Applicability in medical setting.

5. Immediacy of implementation

N. Comments on your response for question M.