# Making Strides Towards Cervical Cancer Elimination: Updates on Prevention, Screening and Management

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5/15/2025 DIRECTLY PROVIDED CME / CE ACTIVITY BY L.A. CARE HEALTH PLAN
6:30 PM – 8:30 PM, HILTON SAN GABRIEL, CA

# Financial Disclosures

The following CME planners and faculty do not have relevant financial relationships with ineligible companies in the past 24 months:

* Leilanie Mercurio, Provider Continuing Education (PCE) Program Manager, L.A. Care Health Plan, CME Planner.

* Bridget Freeley, Associate Director, State Partnerships, American Cancer Society, CME Planner.

* Susan Park, MD, MPH, UCLA Assistant Clinical Professor practicing Gynecology Oncology at Harbor-UCLA Medical Center, CME Planner and Faculty.

An ineligible company is any entity whose primary business is producing, marketing, selling, re-selling, or distributing healthcare products used by or on patients.

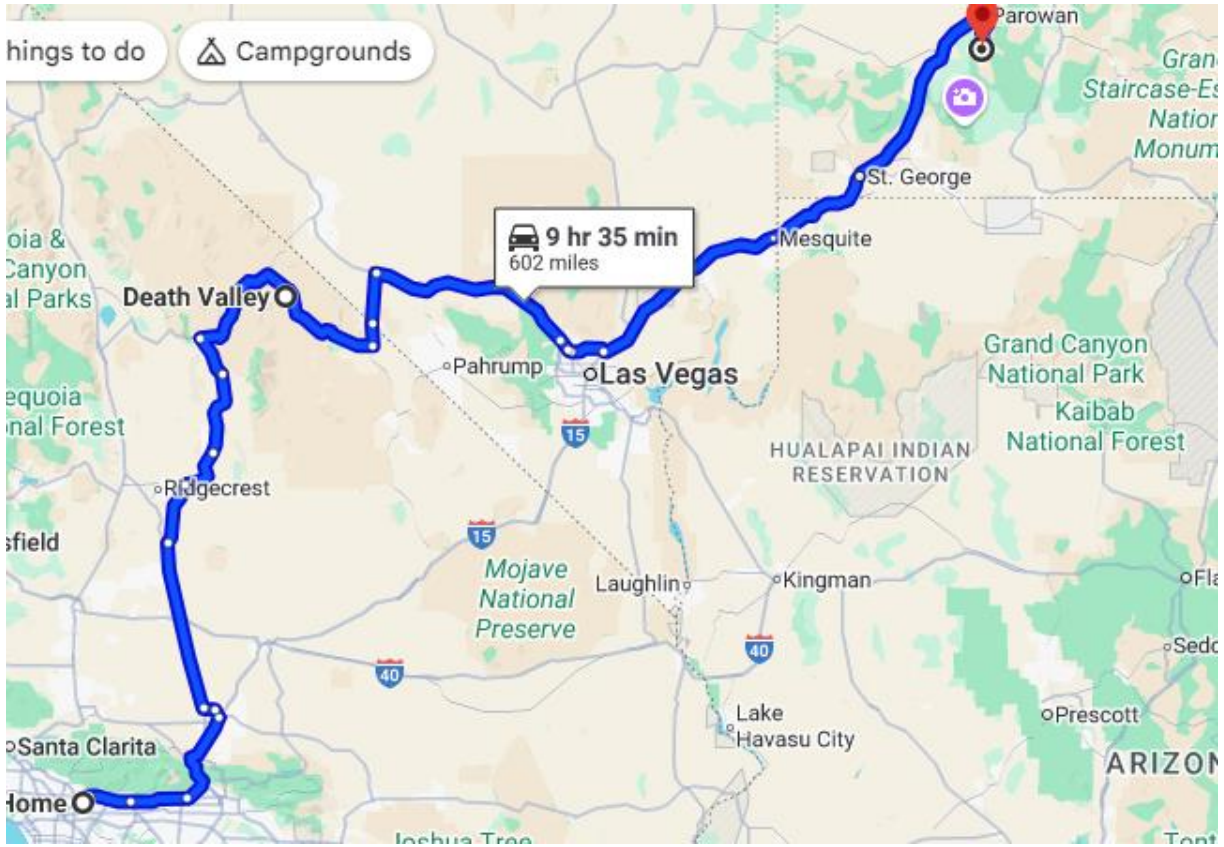
Commercial support was not received for this CME/CE activity.

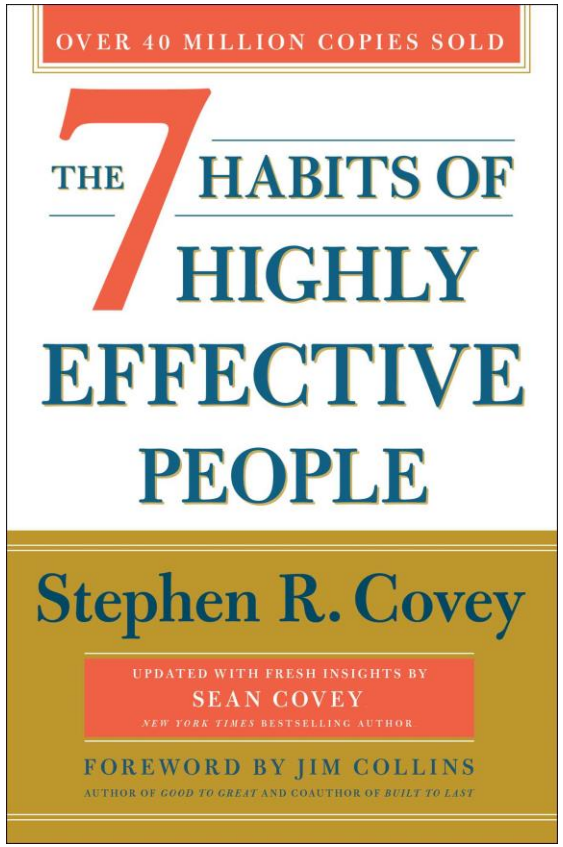
# Learning Objectives

## At the completion of the CME / CE activity, learners can:

- Identify at least three (3) symptoms of cervical cancer.
- Identify patients eligible for HPV vaccination.
- Review current guidelines for cervical cancer screening.
- Distinguish the different HPV tests (primary, cotest, reflex and genotyping).
- List at least three (3) effective interventions to reduce disparities in cervical cancer screening.

# Recent road trip



# Outline

| | | |
|---|---|---|
| Manage Yourself | **Habit 1**<br>Be Proactive©<br>The Habit of choice | • See alternatives, not roadblocks<br>• Focus on what you can influence<br>• I am free to choose and am responsible for my choices |
| | **Habit 2**<br>Begin with the End in Mind©<br>The Habit of Vision | • Mental creation precedes physical creation<br>• Define practical outcomes |
| | **Habit 3**<br>Put First Things First©<br>The Habit of Integrity and Execution | • Focus on the important, not just the urgent<br>• Effectiveness requires the integrity to act on your priorities<br>• Plan weekly, act daily |
| Lead Others | **Habit 4**<br>Think Win/Win©<br>The Habit of Mutual Benefit | • Effective long-term relationships require mutual respect and mutual benefit<br>• Build trust with co-workers |
| | **Habit 5**<br>Seek First to Understand, then to be Understood©<br>The Habit of Mutual Understanding | • To communicate effectively, we must first understand each other<br>• Practice empathic listening<br>• Give honest, accurate feedback |
| | **Habit 6**<br>Synergize©<br>The Habit of Creative Cooperation | • The whole is greater than the sum of its parts<br>• Synergize to arrive at new and better alternatives |
| Unleash Potential | **Habit 7**<br>Sharpen the Saw©<br>The Habit of Renewal | • To maintain and increase effectiveness, we must renew ourselves in body, heart, mind and soul |

Call to action: addressing the other global pandemic

Cervical Cancer 101

HPV 101

Updates on Prevention Strategies

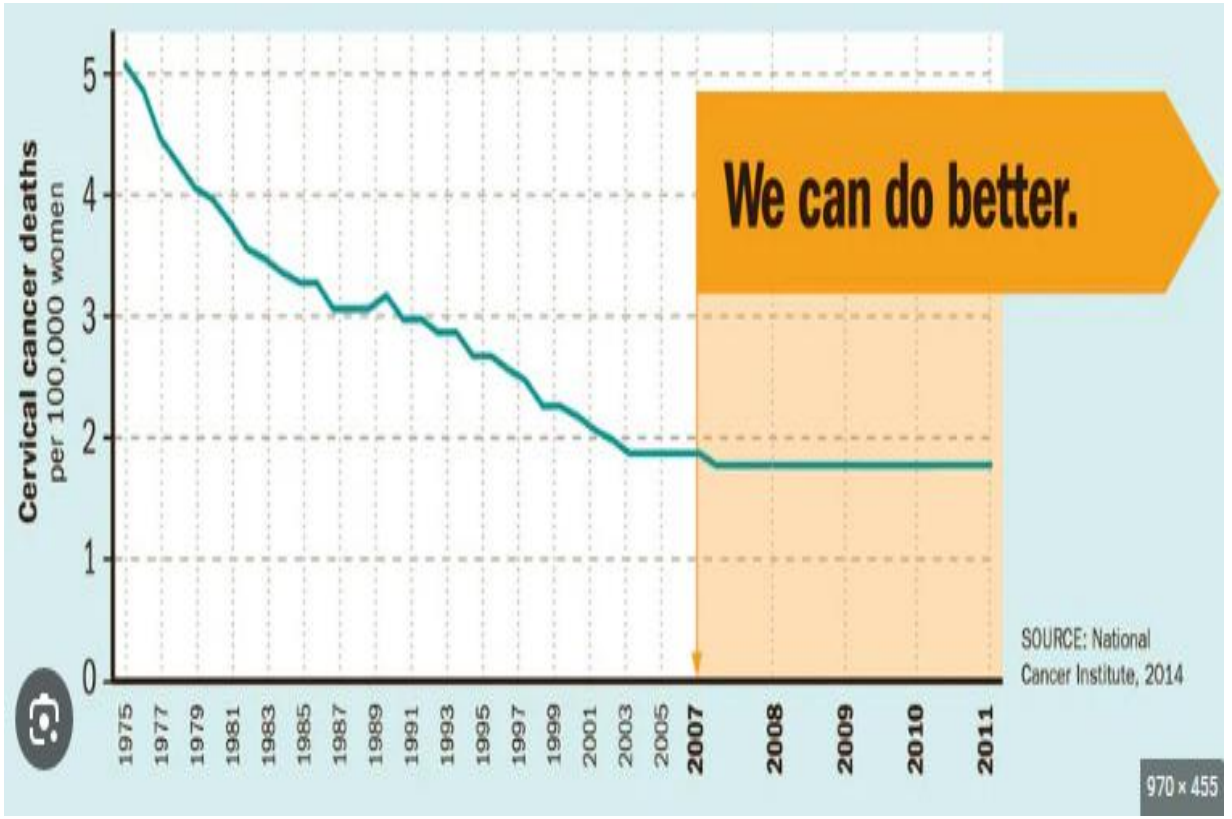
Screening updates and HPV based testing options

Updates on cancer therapeutics

What we can do moving forward

# Habit #1: Be Proactive

- Third most common gyn cancer in U.S.
  - 14,000 new cases/year in the U.S
  - **4,000** death/year
  - Histologic subtypes
    - squamous (70%)
    - adenocarcinoma (25%)
    - Adenosquamous
    - clear cell (<5%)



# Stats on other HPV related cancers

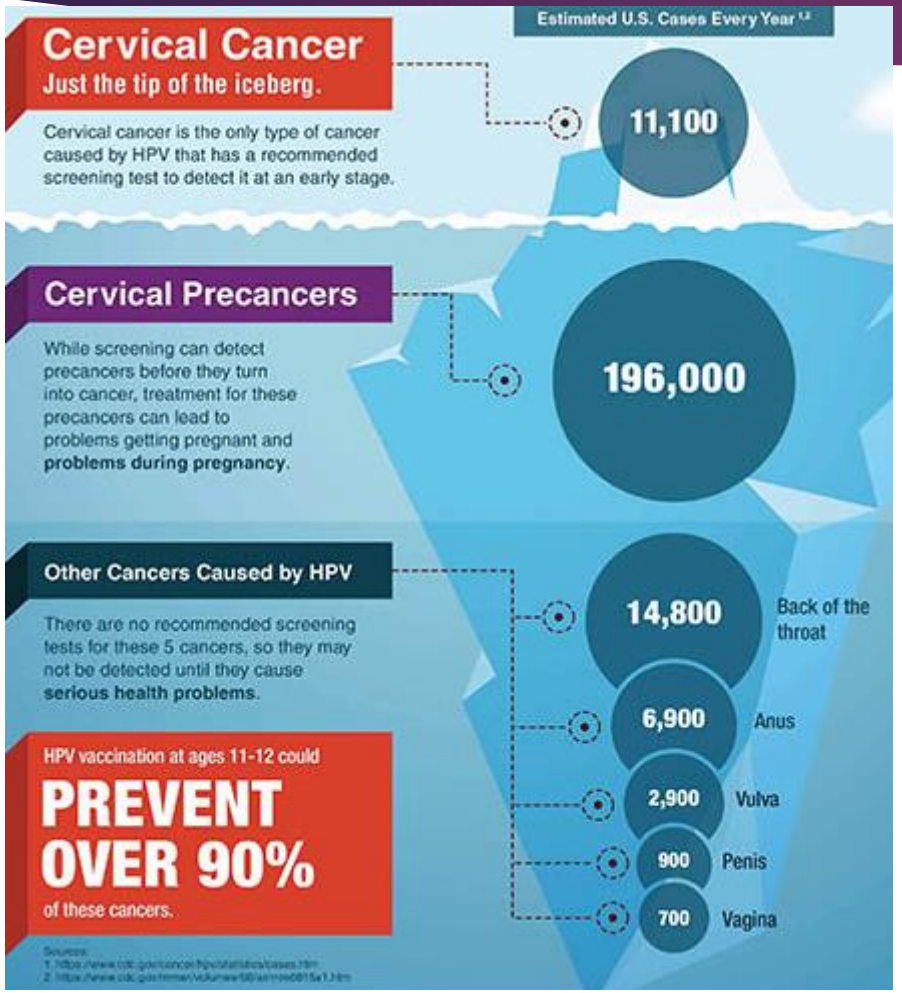
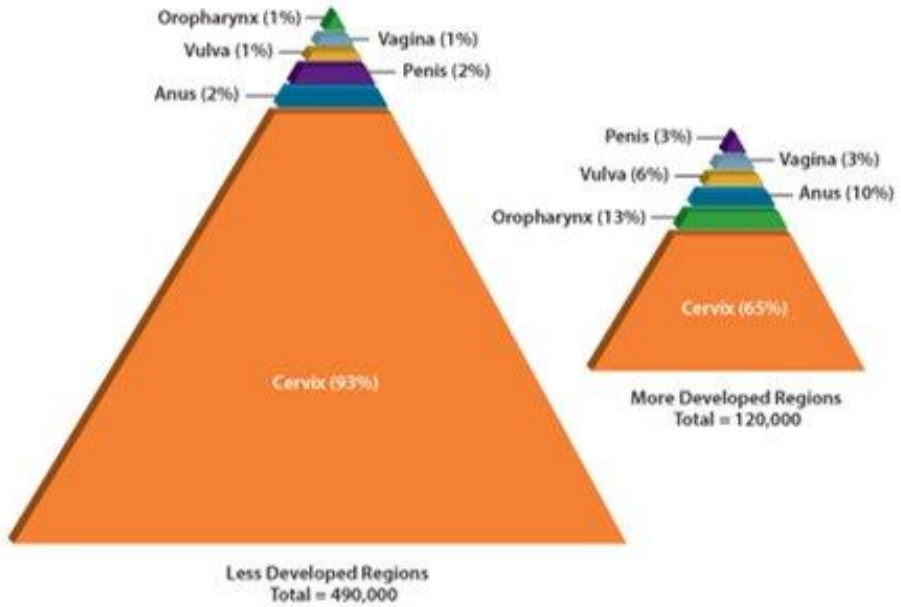



**Figure 8**

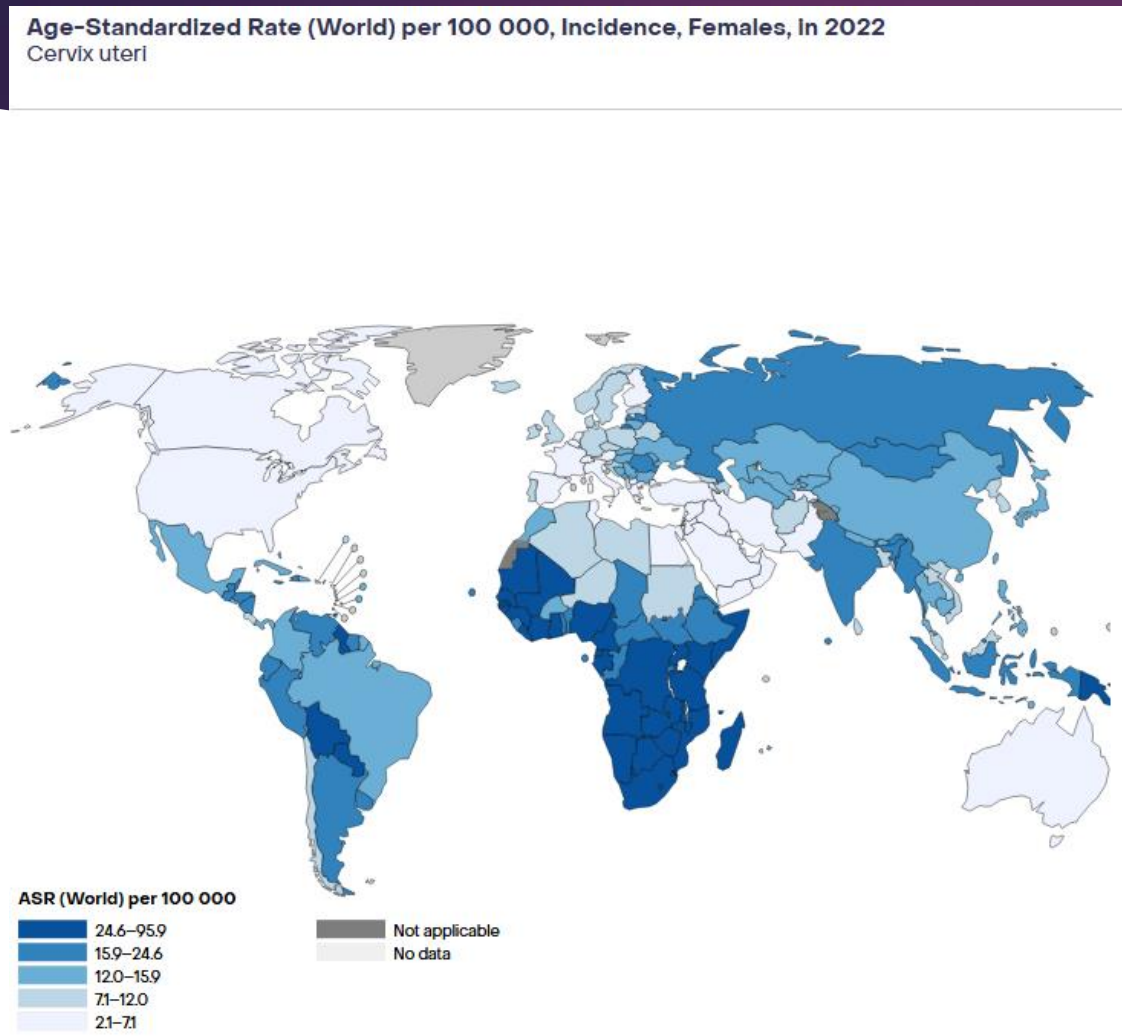
**Numbers of HPV-Associated Cancers in Less Developed and More Developed Regions**




Note: Global estimates of genital warts and RRP incidence are not available.

Source: de Martel C, Ferlay J, Franceschi S, Vignat J, Bray F, Forman D, et al. Global burden of cancers attributable to infections in 2008: a review and synthetic analysis. Lancet Oncol. 2012;13(6):607-15. Available from: http://www.ncbi.nlm.nih.gov/pubmed/22575588

# The Other Global Pandemic




**2022 worldwide**

8th most common cancer

660,000 new cases

350,00 deaths

**United States**

14,000 cases

4000 deaths

GLOBOCAN 2022

# Cervical Cancer is Preventable!

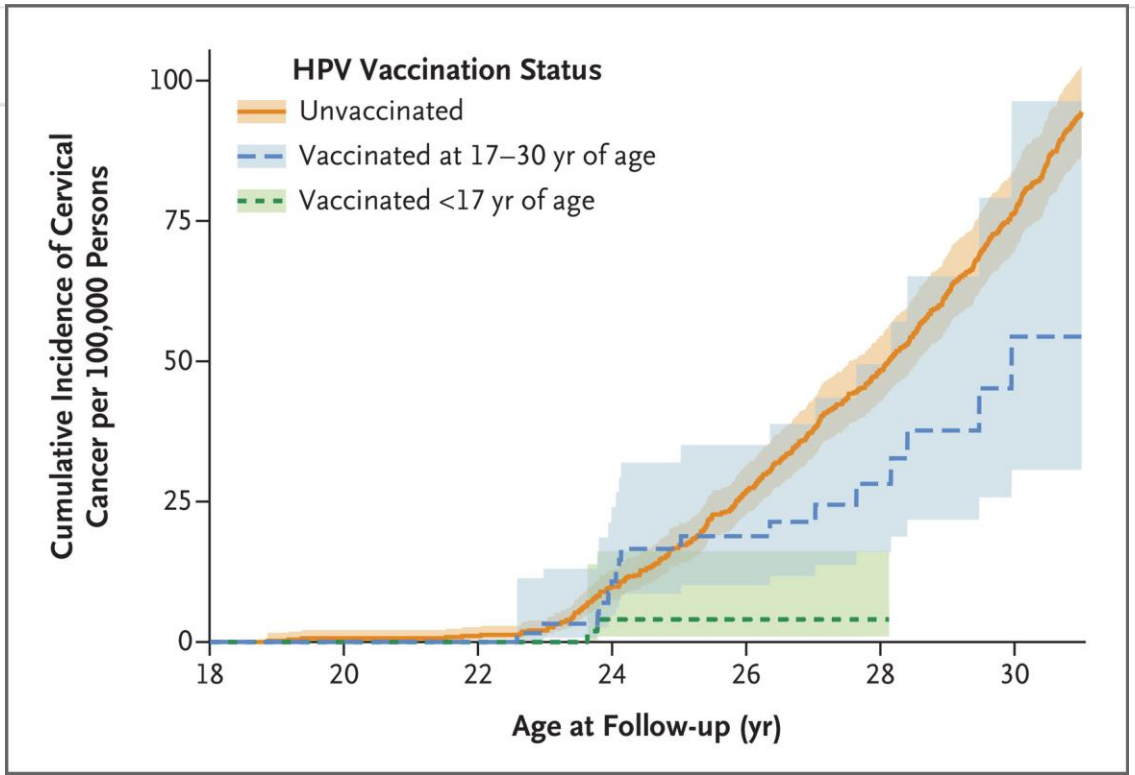
ORIGINAL ARTICLE

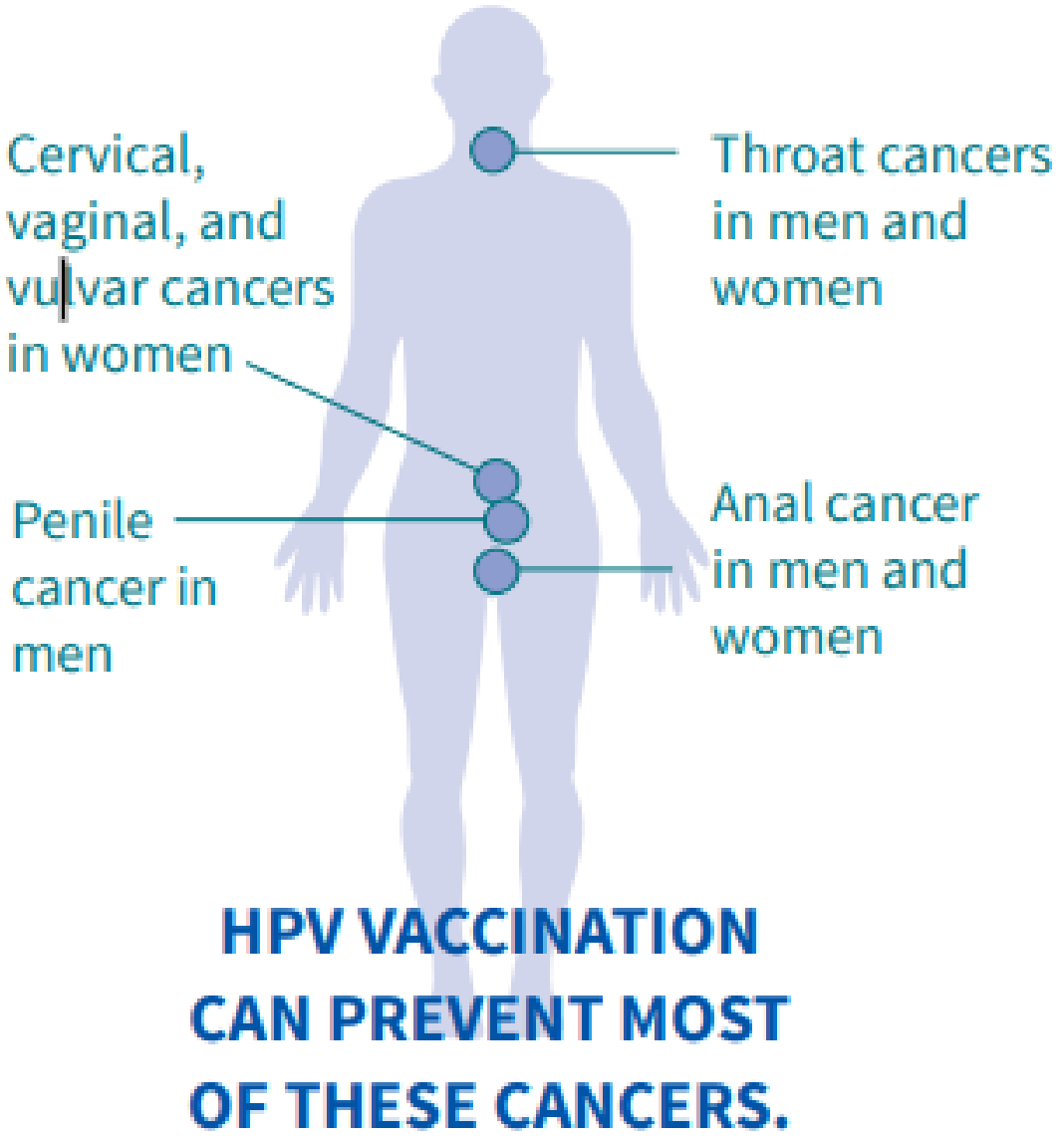
## HPV Vaccination and the Risk of Invasive Cervical Cancer

Jiayao Lei, Ph.D., Alexander Ploner, Ph.D., K. Miriam Elfström, Ph.D., Jiangrong Wang, Ph.D., Adam Roth, M.D., Ph.D., Fang Fang, M.D., Ph.D., Karin Sundström, M.D., Ph.D., Joakim Dillner, M.D., Ph.D., and Pär Sparén, Ph.D.

Article Figures/Media

- Swedish registry of 1.67mil women ages 10-30
  - Incidence rate ratio 0.12 if vaccinated before age 17
  - IRR 0.47 if vaccinated age 17-30



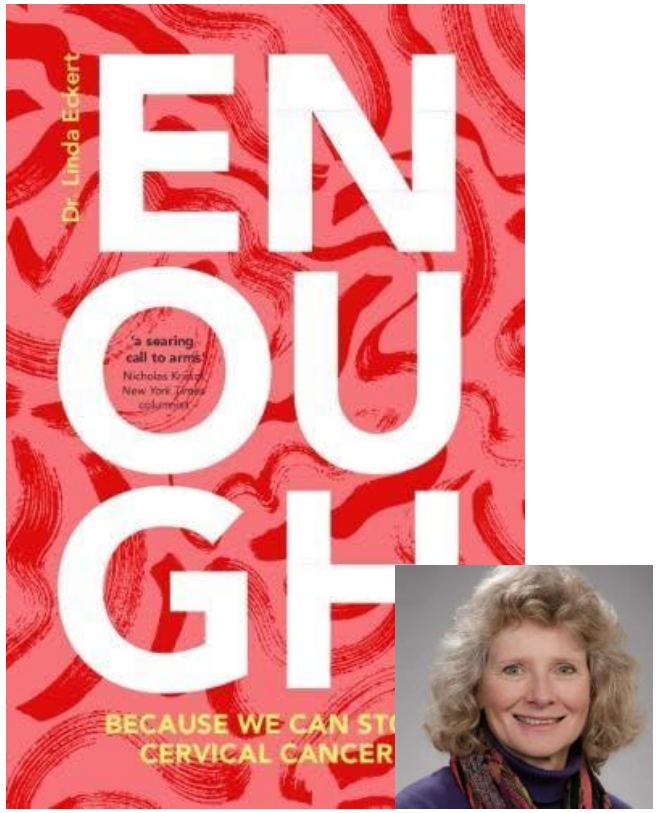



ACS

# And Preventable for other HPV cancers


| Level of Prevention | Strategies |
|---|---|
| Primary | HPV vaccination, safe sex practices |
| Secondary | HPV based screening and Colposcopy |
| Tertiary | Surgery, Chemo-radiation, immunotherapy |

# Habit 2: Begin with the End in Mind




Linda Eckert MD

Stop for a minute. Take that in: "a preventable cancer." Just think how rare it is to have those two words, *preventable* and *cancer*, together in one phrase. What does that mean?

Well, it means that medical providers know what causes cervical cancer, how to treat it and cure it if it's found early enough, and how to prevent it. Cervical cancer is a cancer that could be eliminated, that need not exist at all. Yet, this preventable cancer kills a woman somewhere in the world every two minutes. That translates to 360 women dying a day.

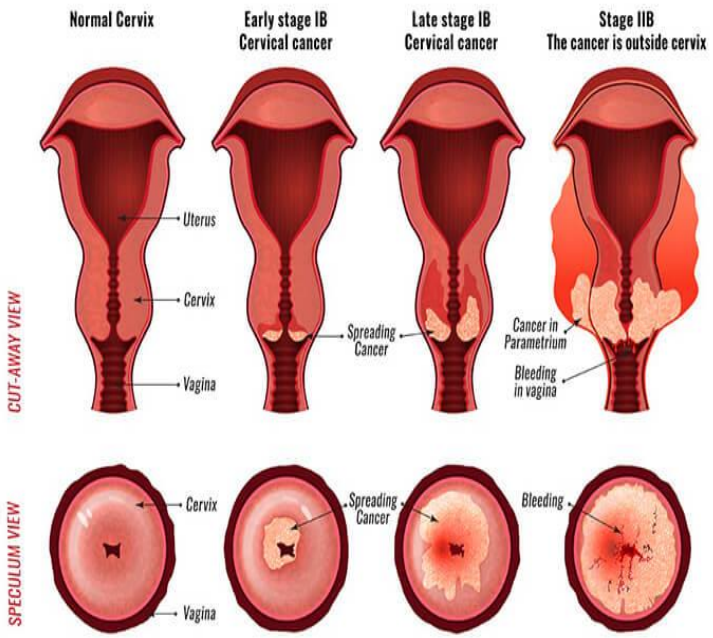
## My Journey toward "Enough"

I've finally reached a place in my personal and professional life where I can no longer stand by and witness so much suffering. I need to shout out to the world from the rooftops: *Enough! Enough Marias. Enough unnecessary death and suffering.*

# Evaluation of a patient with cervical cancer

- Most patients present to the ER or Urgent Care
- H&P, Assessment of medical comorbidities and social needs
  - Smoking cessation
  - Fertility desires
- Exam
  - Pelvic exam for clinical staging
  - Biopsy for tissue diagnosis
  - Labs: CBC, CMP (renal and liver function), HIV
- Imaging: PET CT preferred

# Early Stage Disease

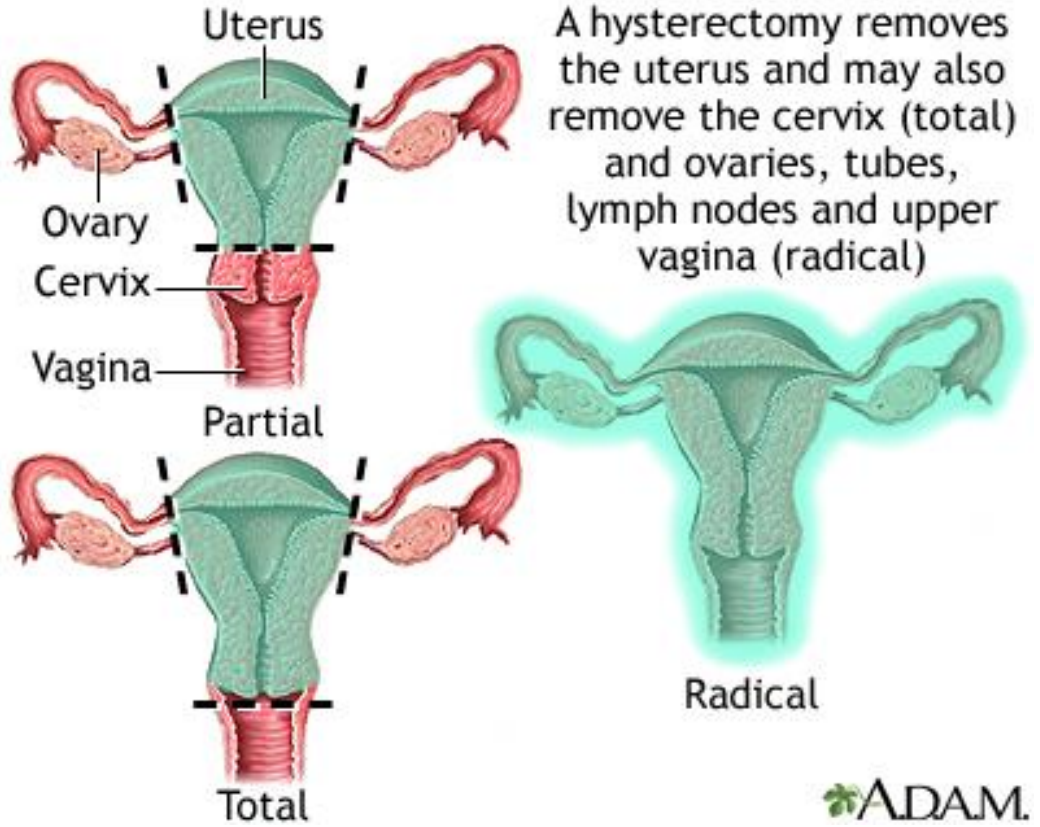



American Pregnancy Association

| Stage | Description | 5 year survival |
|---|---|---|
| Stage I | Confirmed to cervix | 80-93% |
| 1A1<br>1A2 | Measured stromal invasion of <3.0 mm in depth<br>Measured stromal invasion of ≥3.0 mm and <5.0 mm | |
| IB1<br>1B2<br>1B3 | ≥5mm stroma and <2cm greatest dimension<br>≥2cm and <4cm greatest dimension<br>≥4cm greatest dimension | |
| Stage II | Invades beyond uterus, not to pelvic wall to lower third of vagina | 58-63% |
| IIA<br>IIA1<br>IIA2 | Without parametrial invasion<br><4.0 cm in greatest dimension<br>≥4.0 cm in greatest dimension | |

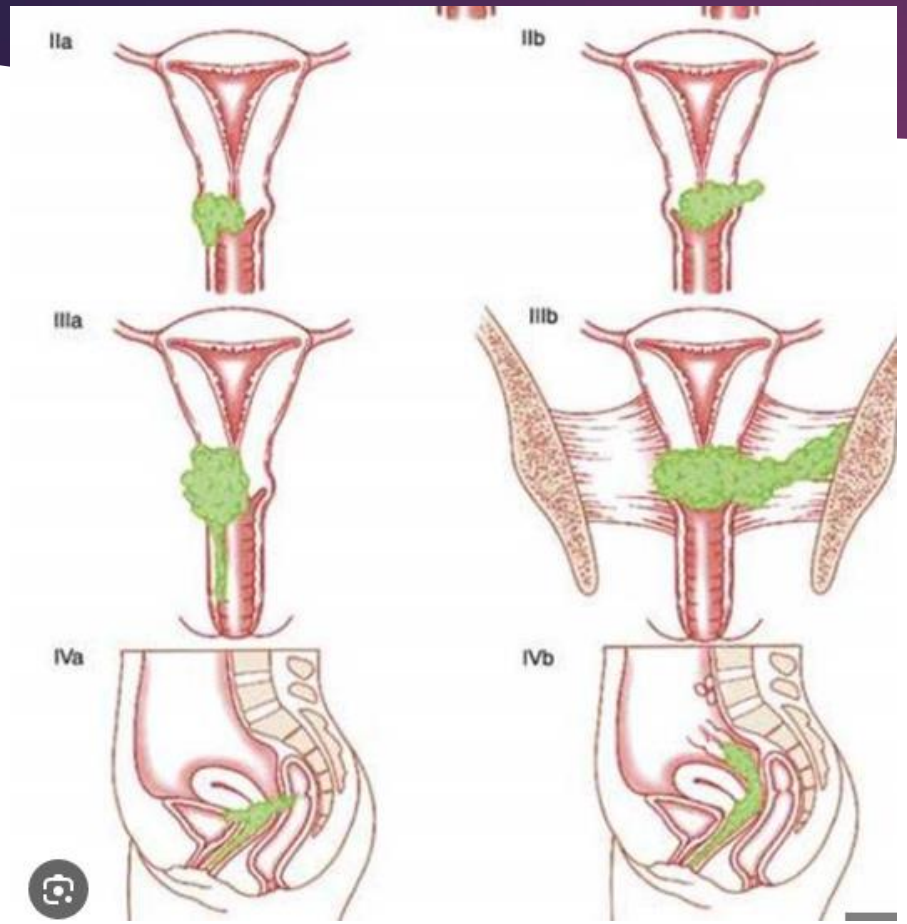
# Surgical Management

- Treatment intent: CURATIVE
- Fertility Sparing
  - IA1: can do CKC or even LEEP vs simple trachelectomy
  - IA2-IB1 (**<2cm** lesion) – radical trachelectomy with staging; Conception rates 50-70%
- Hysterectomy +/- bilateral salpingo-oophorectomy




Medline

# Locally Advanced Disease



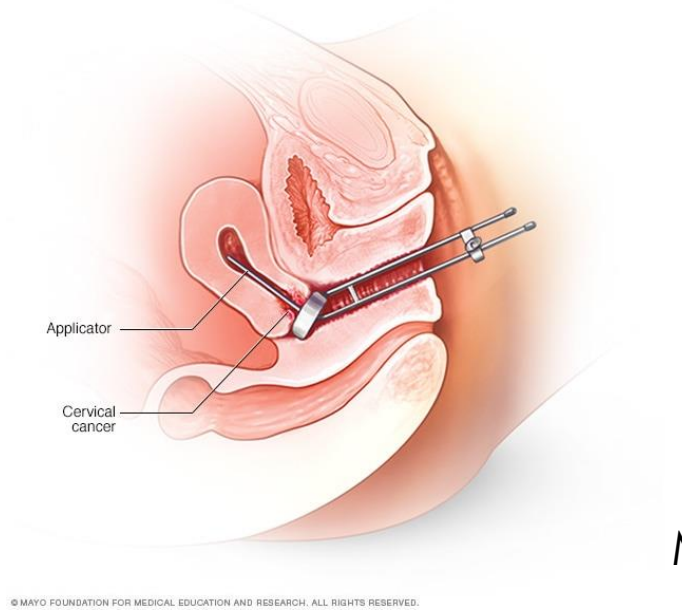

| Stage | Description | 5 year survival |
|---|---|---|
| Stage II | Invades beyond uterus, not to pelvic wall to lower third of vagina | 58-63% |
| IIA<br>IIA1<br>IIA2<br>IIB | Without parametrial invasion<br><4.0 cm in greatest dimension<br>≥4.0 cm in greatest dimension<br>With parametrial invasion | |
| Stage III | Side wall extension, lwoewr 1/3 vagina, hydronephrosis or involvement of pelvic/PA nodes. | 32-35% |
| IIIA<br>IIIB<br>IIIC<br>IIIC1<br>IIIC2 | involves lower 1/3of the vagina,no extension to the pelvic wall<br>Ext to the pelvic wall and/or hydronephrosis or non-functioning kidney<br>Involves pelvic/PA LN (r&p notations)<br>Pelvic LN<br>PA LN | |
| Stage IV | Extends beyond true pelvis | 15-19% |
| IVA | Spread to adjacent organs (Ex. Bladder, rectum) | |

Berek and Novak, Gynecology 15h Ed.

# Chemo-radiation

- Treatment intent: Curative
- Primary chemo-radiation
  - External Beam Radiation
  - Brachytherapy
  - Cisplatin chemosensitization

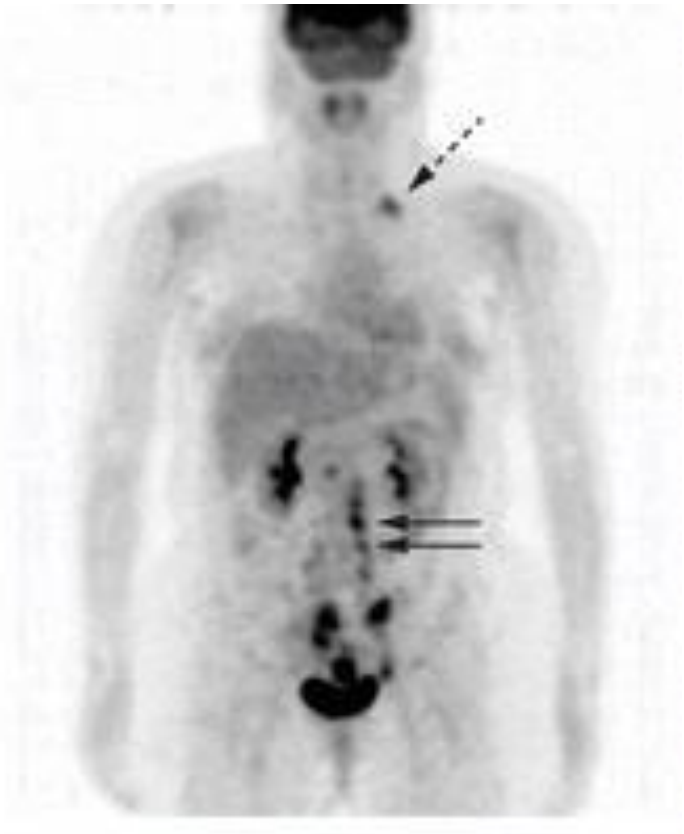
Wikipedia






Mayo clinic

# Metastatic Disease

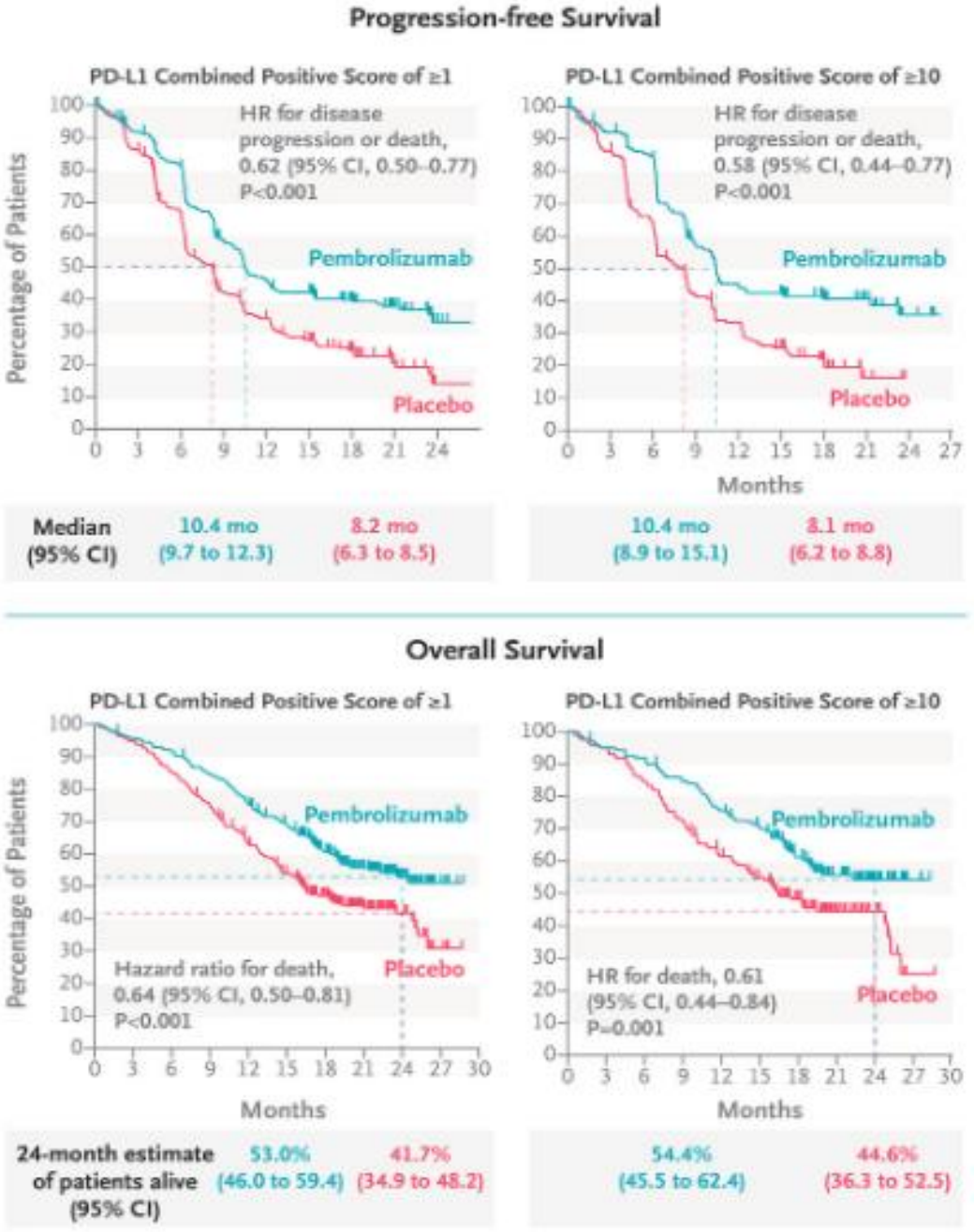


Chao et al , Future Medicine 2014

| Stage | Description | 5 year survival |
|---|---|---|
| Stage IVB | Spread to distant organs | <15-19% |

# Systemic Treatment

- Goal: **Palliative**
- Chemotherapy: cis/carboplatin + paclitaxel
- GOG 240 (Tewari, NEJM 2014)
  - Adding bevacizumab increased ORR from 36 →48%
  - OS **16.8 vs 13.3 months** (HR 0.77 (CI 0.62-0.95) (update Tewari, Lancet 2017)
- Keynote 826 (Colombo et al, NEJM 2021)
  - Adding pembrolizumab to PDL1 positive tumor improves PFS
  - PFS 10.4 vs 8.2 months (HR 0.65)
  - OS at **24 months** (53 % vs 41.7% (HR 0.64))



# WHO 2030: Enough is enough – global mission to ERADICATE cervical cancer

**Few diseases reflect global inequities as much as cervical cancer. Cervical cancer is the fourth most common form of cancer among women worldwide.**

More than **85%** OF THOSE AFFECTED ARE YOUNG undereducated women who live in the world's poorest communities.

Furthermore, **90%** OF THE DEATHS occur in low- and middle-income countries (LMICs)

OF THE 20 HARDEST HIT COUNTRIES, 19 ARE IN AFRICA

Even in high-income countries, the inequity of cervical cancer disproportionately afflicts women of color, minorities, and other marginalized communities.

The disease KILLS MORE THAN **300 000** WOMEN EVERY YEAR,

Annually, it is DIAGNOSED IN OVER **600 000** MORE,

Unless we take action, this preventable tragedy will only worsen. If we accept the status quo,

BY 2030

annual DEATHS WILL RISE TO **400 000**

the annual number of new cases is projected to INCREASE TO **700 000**

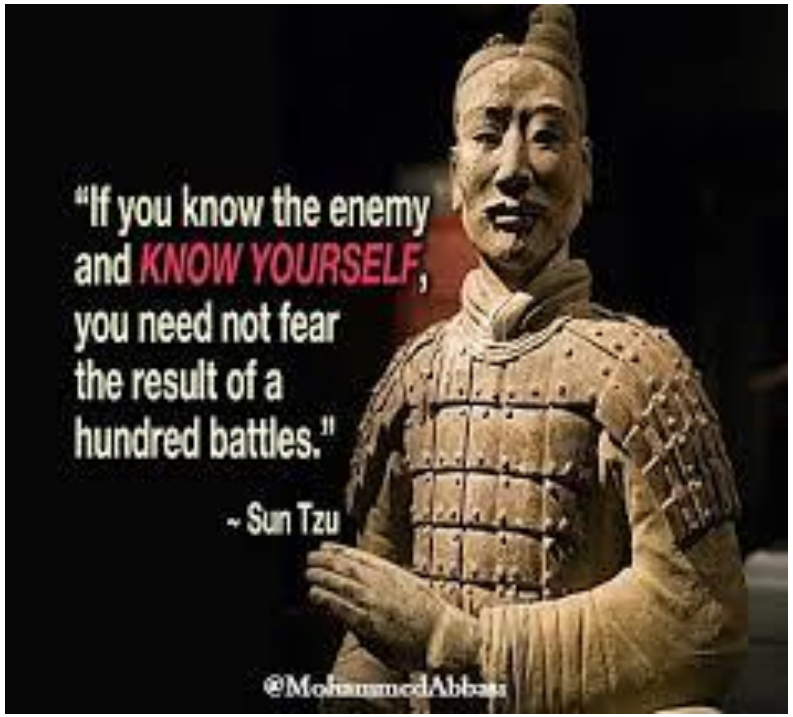
- **90% of girls fully vaccinated with the HPV vaccine by the age of 15;**
- **70% of women screened using a high-performance test by the age of 35, and again by the age of 45;**
- **90% of women with pre-cancer treated and 90% of women with invasive cancer managed.**




Meeting and maintaining the 90-70-90 targets would yield significant returns in the coming century:

- **the median cervical cancer incidence rate will fall by 42% by 2045, and by 97% by 2120, averting more than 74 million new cases of cervical cancer; and**
- **the median cumulative number of cervical cancer deaths averted will be 300 000 by 2030, over 14 million by 2070, and over 62 million by 2120.**

# Habit 3: First Things First

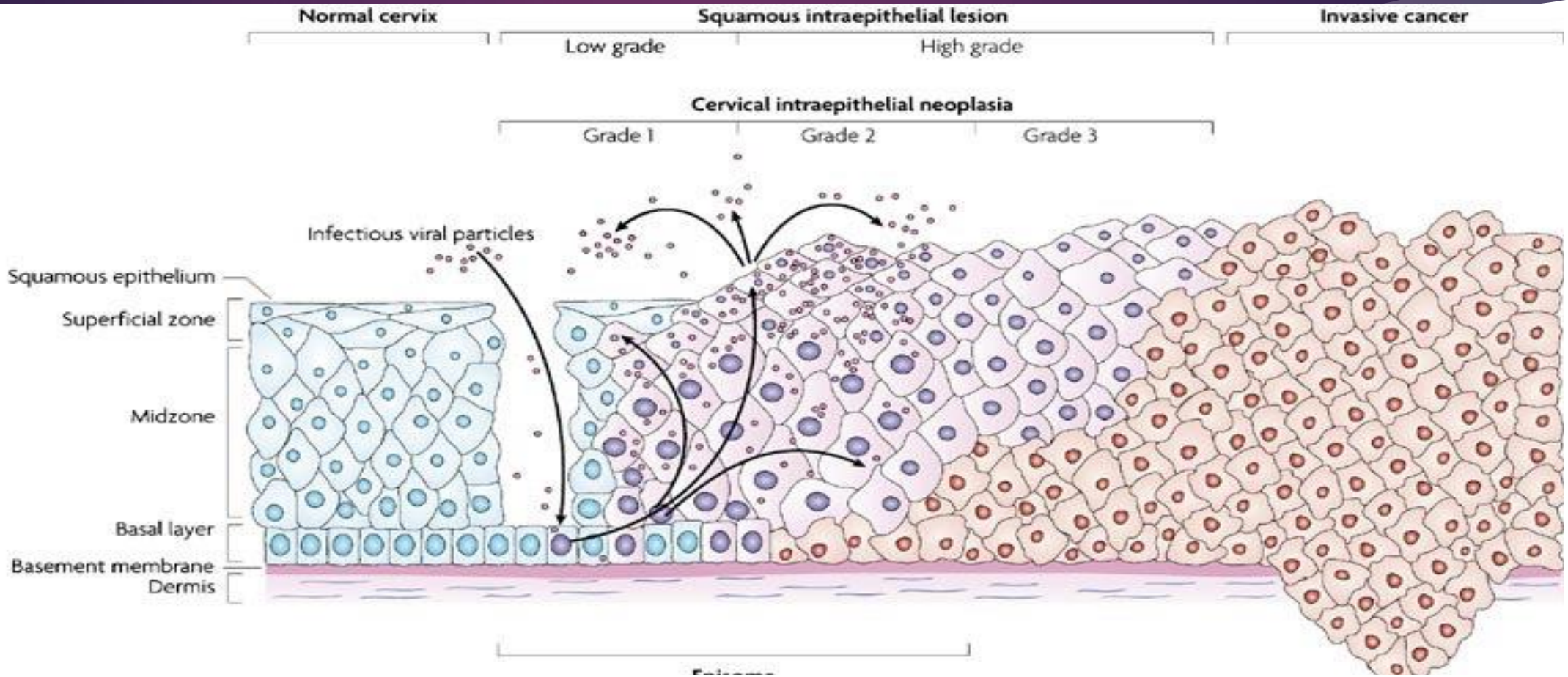



# Human Papilloma Virus (HPV)

Stranger Things, Netflix

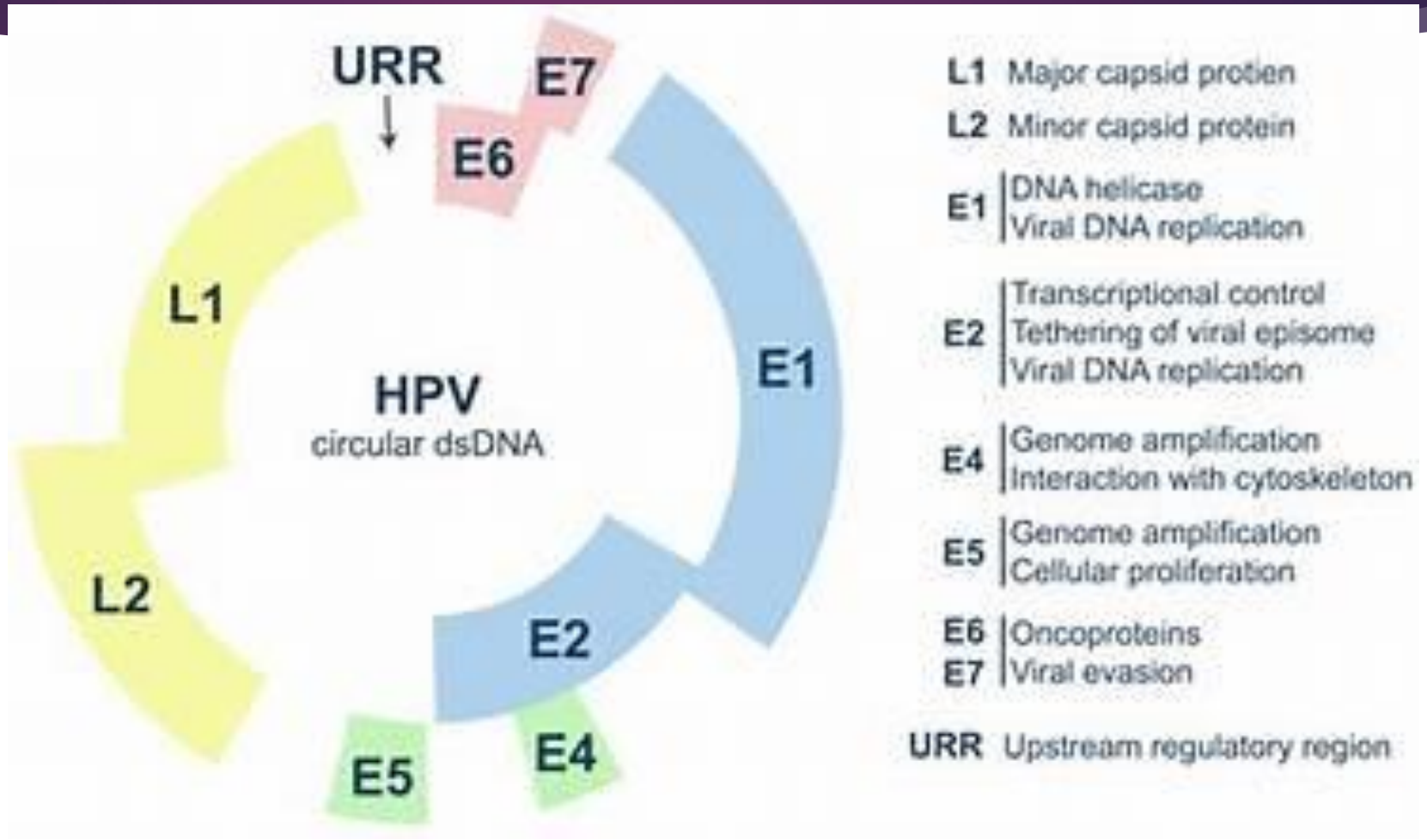
- Genital HPV is the most common STI in US
  - Incidence: 8-14 million persons infected each year
  - Prevalence: 80 million
  - Most are asymptomatic
- Over 150 HPV types identified, over 40 affect genital area
  - **Low risk:** 6/11 - cause genital warts, respiratory papillomatosis
  - **High risk:** oncogenic - **16,18**, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 68, 69, 73, and 82.

# HPV Infection and Carcinogenesis

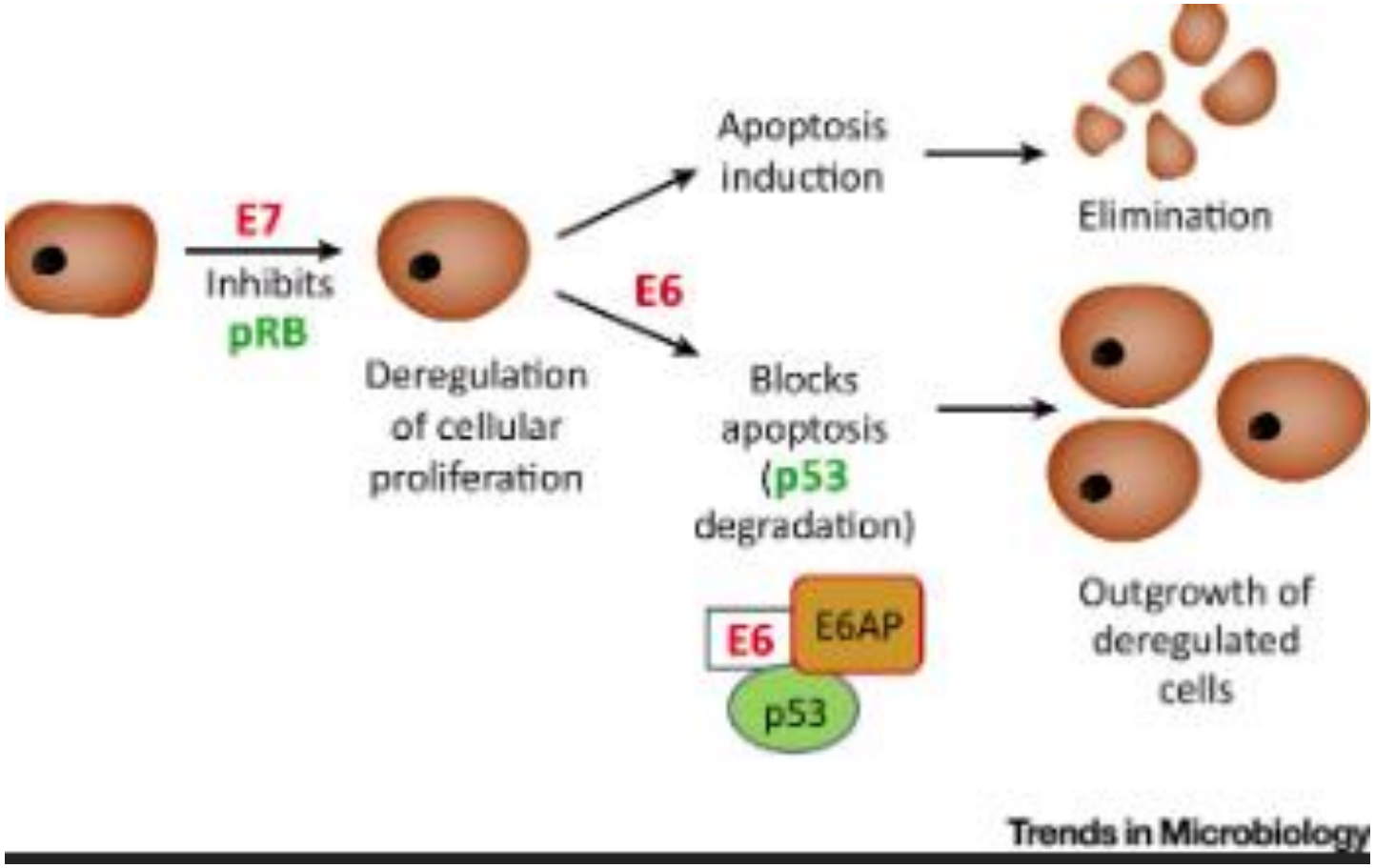


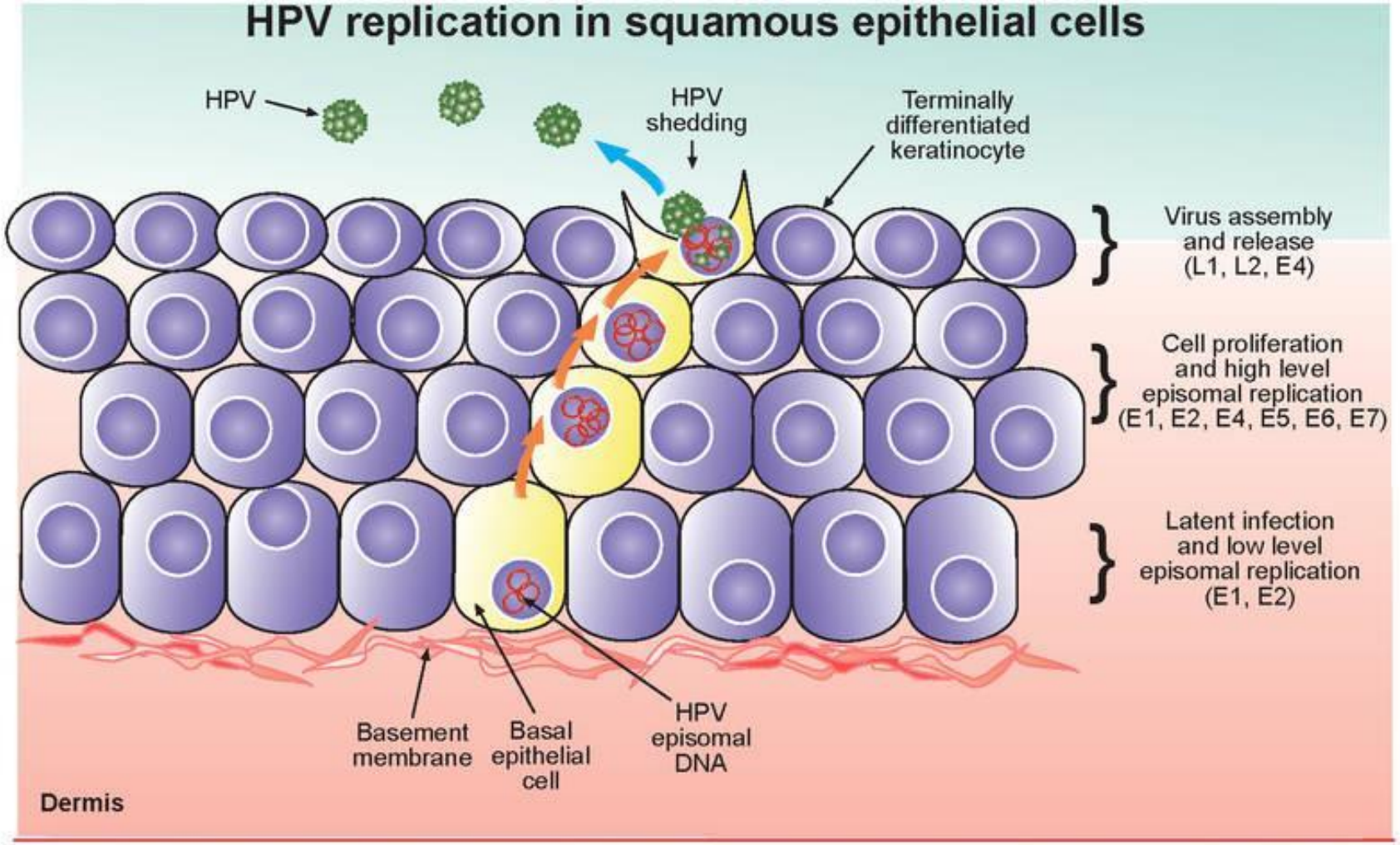

Woodman *et al*. *Nature Reviews Cancer* 2007

# HPV Virology



# E6/E7 expression allows for unregulated cell growth






HPV takes advantage of the differentiation pathway of keratinocytes that are destined to die naturally (anoikis). Since HPV is not cytolytic and does not cause viraemia, there is no inflammation and subsequent activation of the immune system. Infection of basal epithelial cells establishes a latent infection with low level replication of the viral episome and minimal viral protein expression. Following differentiation of the keratinocyte, early HPV genes are expressed and the viral episome is further amplified to higher copy numbers. Viral late protein expression and virus assembly occurs during terminal differentiation of the keratinocyte and viruses are shed from the outermost layer of epithelial cells.

immunopaedia.org

# Effect of HPV in the United States

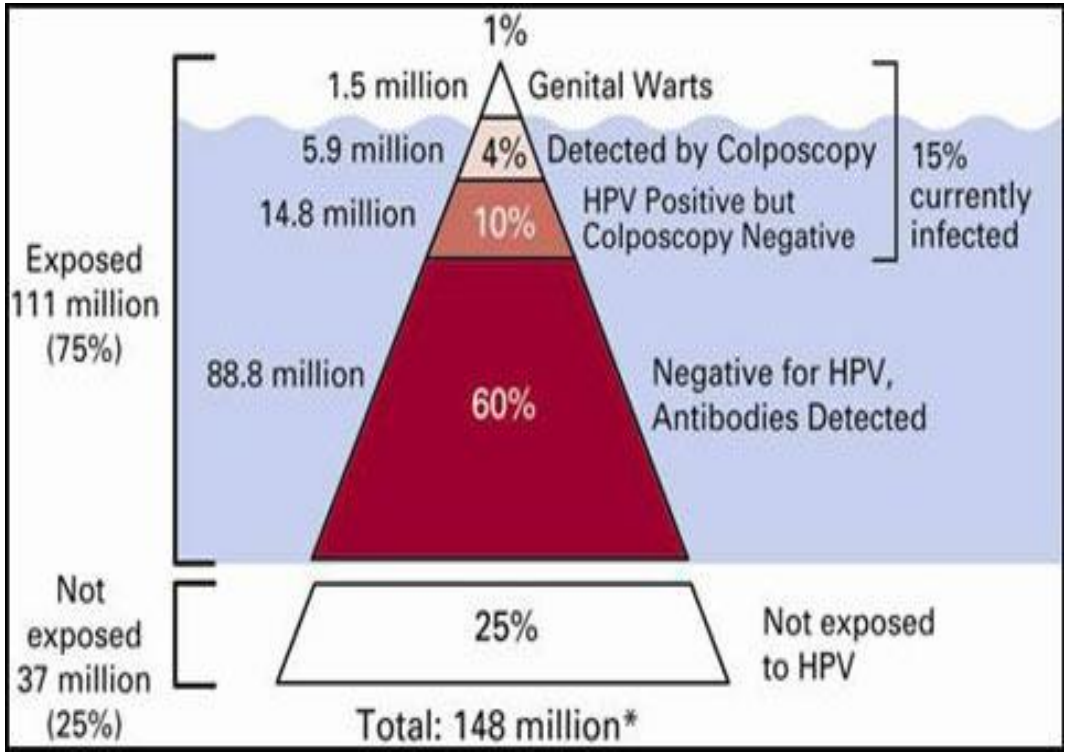
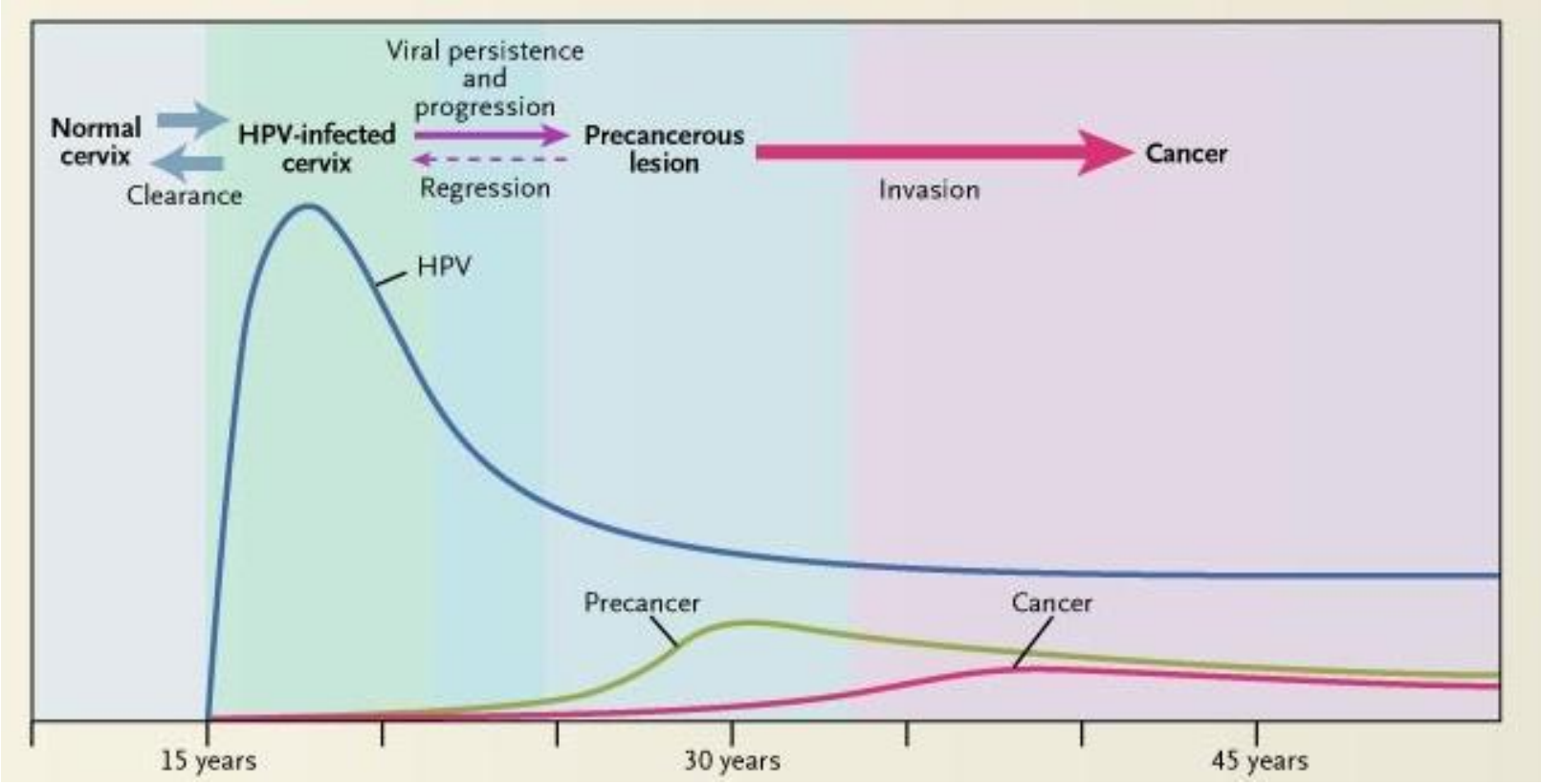



Image: Merck

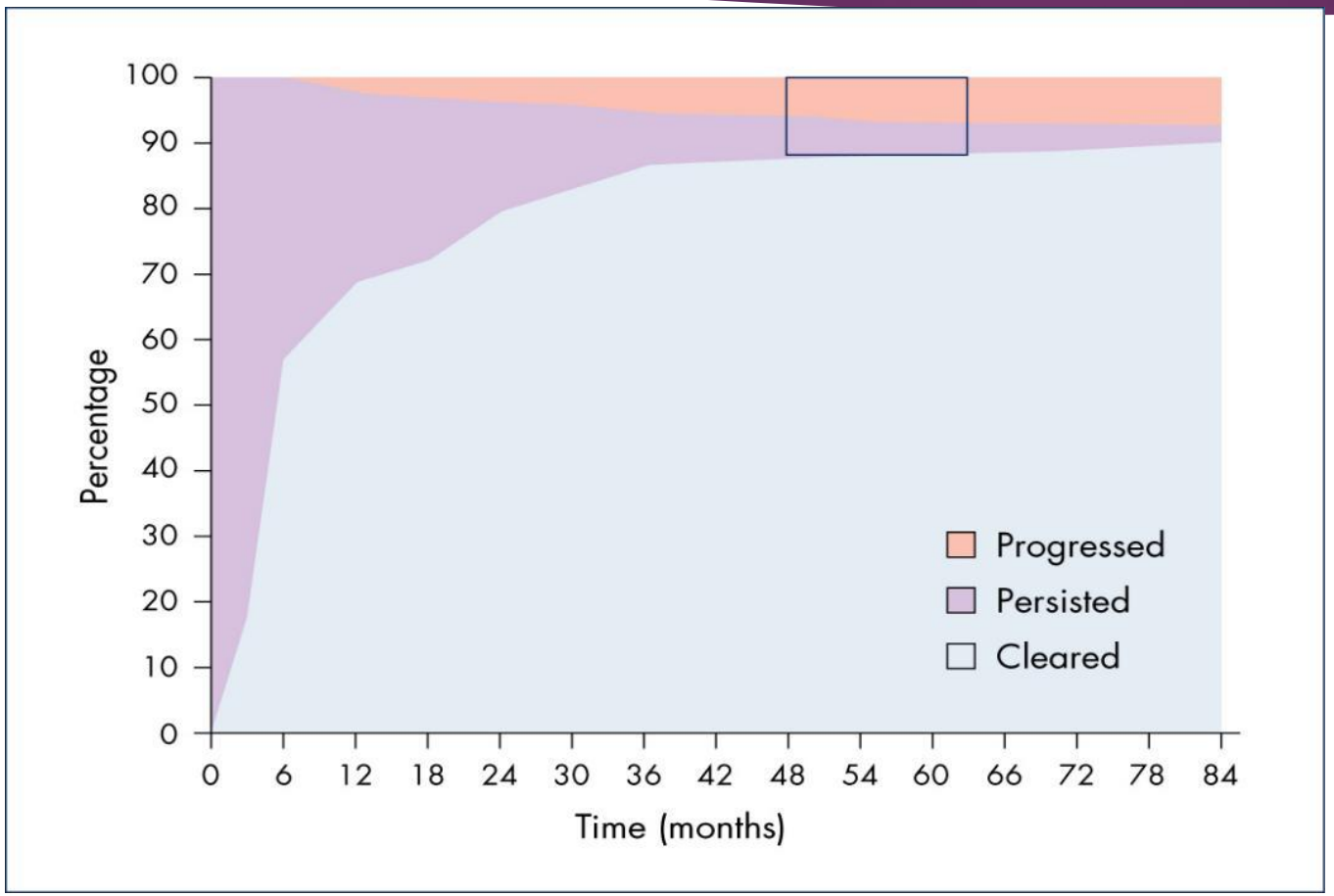
- 74% of infections occur among those aged 15-24
  - Usually occurs shortly after sexual debut – 38.9% by 24 months of first intercourse (Revzina 2005)
- Majority of HPV infections are transient and cause no clinical problems
  - Median time to seroconversion is 8months
  - 70% of new HPV infections clear within 1 year
  - 90% clear within 2 years
  - ***Persistent*** infection is most important risk factor for cervical ca (HPV 16 is most virulent) – progression to cancer is usually decades

# Natural History of HPV and Cervical Cancer




Schiffman and Castle, NEJM 2005

# Most HPV infections are transient




NIH cohort study in Guanacaste region of Costa Rica of 777 infections

85% of infections cleared over 3 years

By 6 years, **8%** progressed to HSIL

**PERSISTENT HPV infection** associated with risk for high grade dysplasia

Schiffman, Castle et al. *Lancet.* 2007.

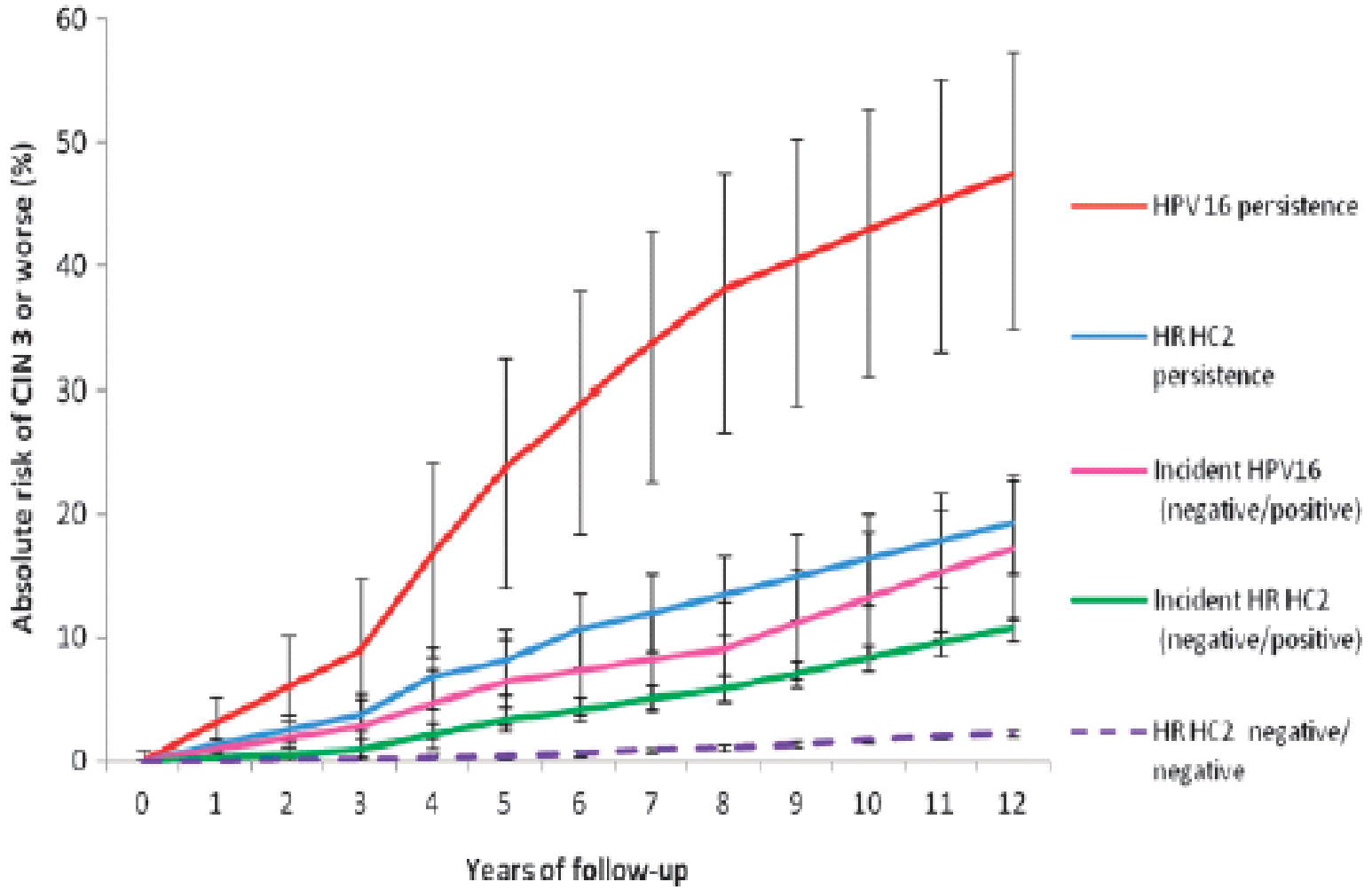
# HPV

Human papillomavirus is the ***necessary (but not sufficient)*** agent in the pathogenesis of cervical cancer

***Time matters –*** takes years to progress to dysplasia
***Type matters –*** *HPV 16*

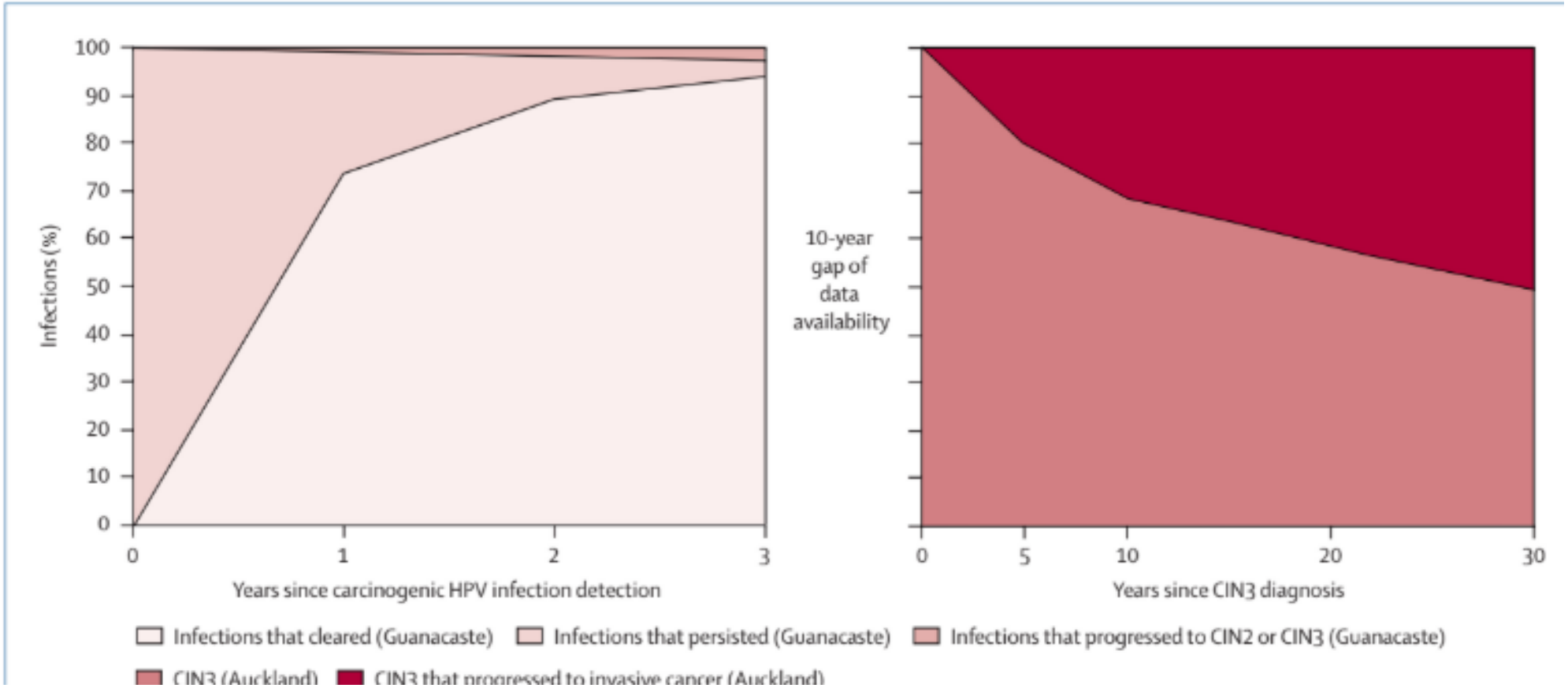
***HPV 16 positive carries 434x high relative risk for cervical cancer compared to HPV negative***

# Persistence of HPV is a risk factor for CIN 3+




Kjaer JNCI 2010

# “Unfortunate Experiment” – Cartwright Inquiry




Schiffman M , Rodríguez AC Lancet Oncol 2008; 9(5): 404 - 406

# Additional Risk Factors for HPV Disease

**Physiologic Risk Factors**

- Persistent high risk HPV infection
- Increasing Age
- DES exposure
- Nutritional factors
- Immunosuppression/HIV infection
- Other STIs
- **SMOKING (50% increase!)**

**Psycho-Social Risk Factors**

- Low income
- Lack of insurance
- Poor health literacy
- Cultural beliefs
- Access
- Language barriers
- Discomfort with exam
- Pandemic driven closures

# Pandemic effect

FIGURE 3

**Cervical Cancer Screening Volumes**

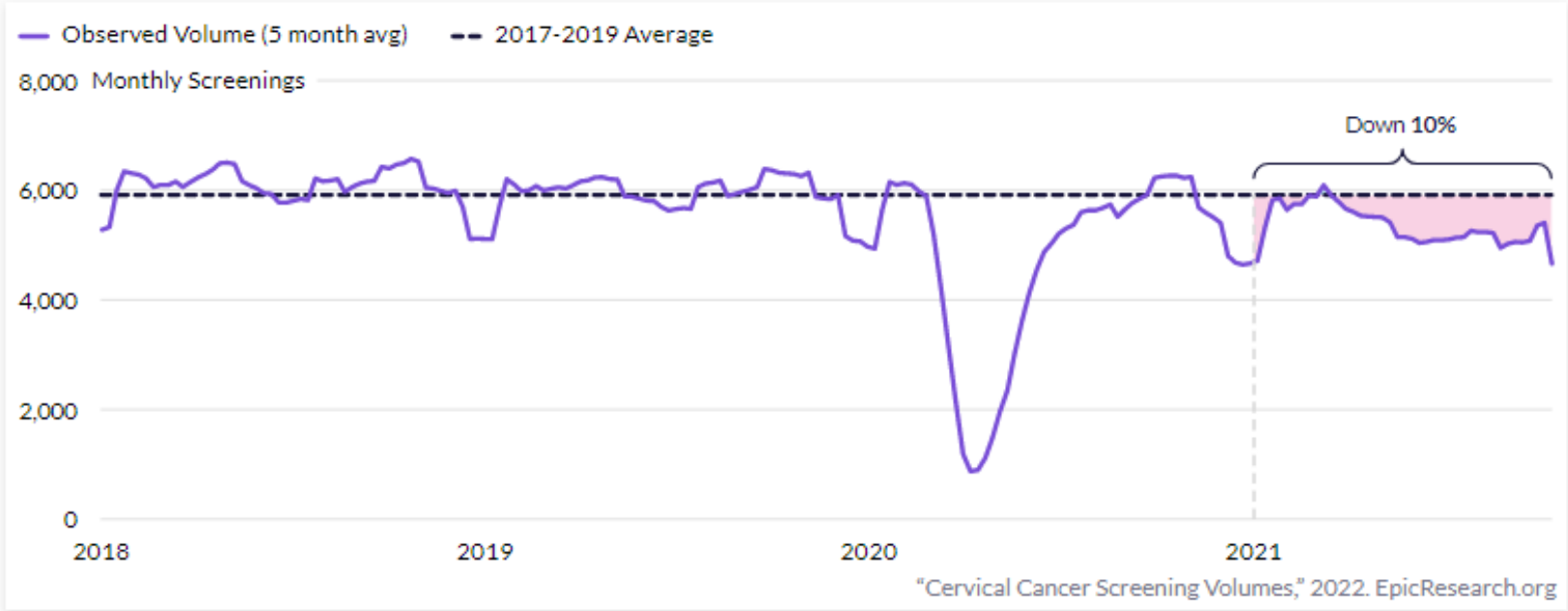
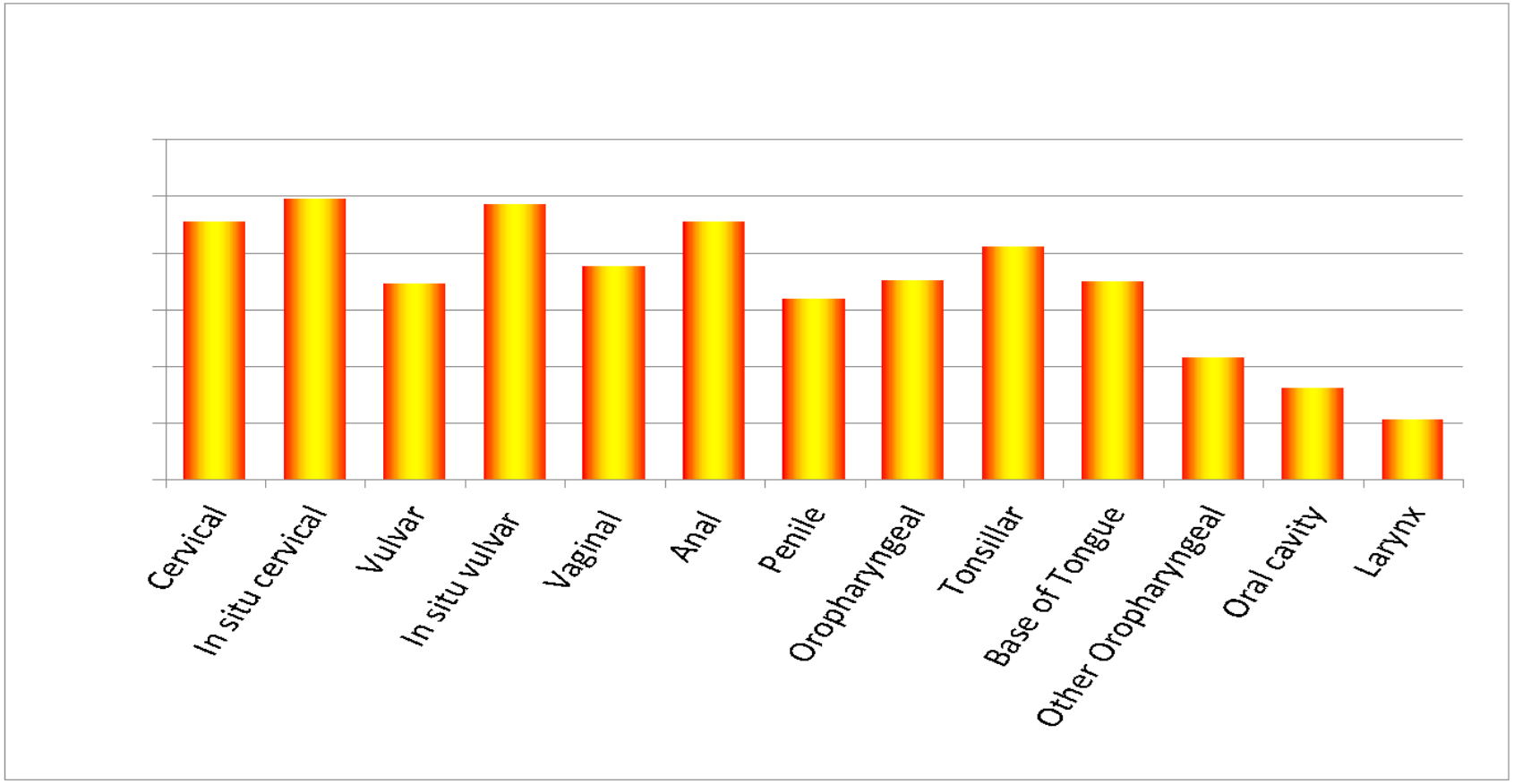



*Figure 3. Cervical cancer screenings from January 2018 through October 2021, compared to the historical weekly average.*

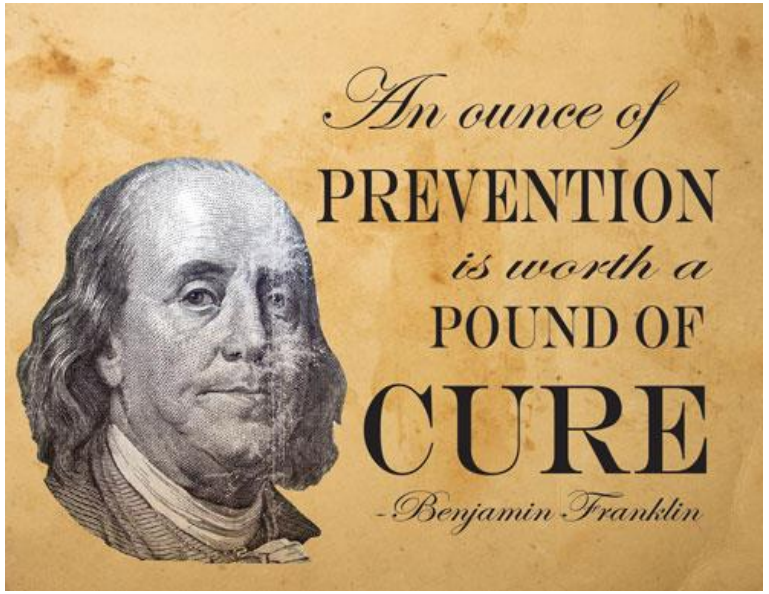
Troubling Cancer Screening Rates Still Seen Nearly Two Years Into the Pandemic (epicresearch.org)

# HPV association with other cancers

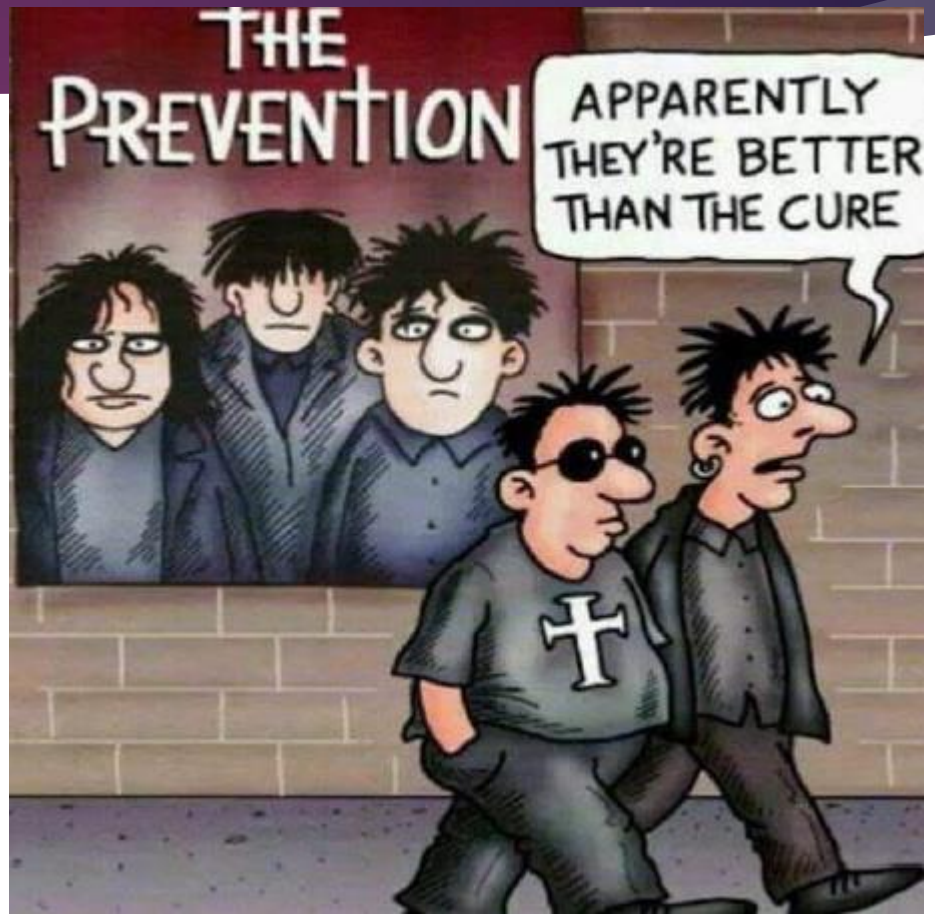



Modified from: Saraiya M, et al. *J Natl Cancer Inst*. 2015;Apr 29:107(6). Criteri

# Habit 4: Think Win/Win = Prevention

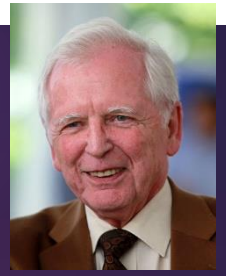



Google images




Google images

# Evolution of Cervical Cancer Screening and Prevention


1943 – *Diagnosis of Uterine Cancer by the Vaginal Smear by* ***Georgios Papanikolaou***

*1983 –* ***Harald zur Hausen (German Virologist)*** *– makes first association between HPV16 virus and cervical cancer (awarded the 2008 Nobel Prize in Medicine)*

*1991 –* ***Ian Frazer*** *and* ***Jian Zhou*** *discovered VLPs*

*2003 – HPV test included in screening guidelines*

*2006 – HPV4 Gardasil introduced by Merck and Co*

*12/2014 – HPV9 Gardasil-9 introduced by Merck and Co*

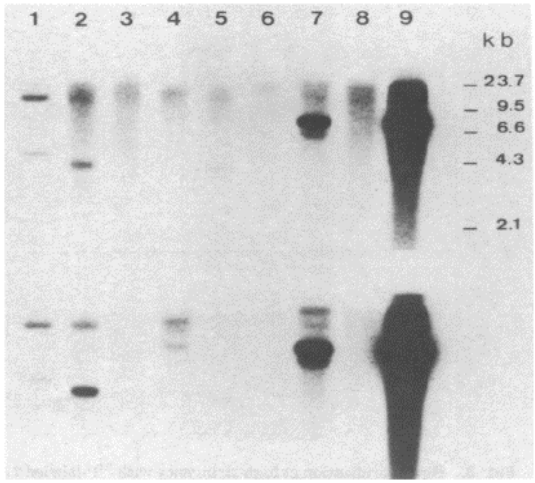
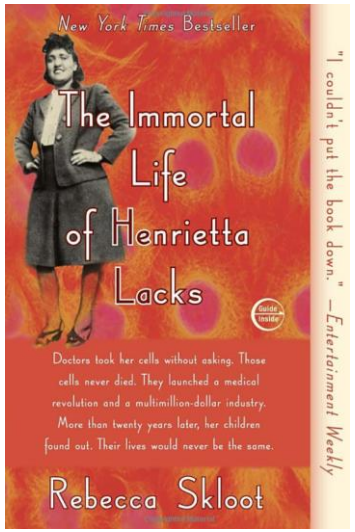


Image: PNAS 1983



# Primary Prevention: HPV Vaccine

| Eligible persons | # Doses | Dosing Intervals |
|---|---|---|
| Persons 9-14 years<br>Except immunocompromised | 2 | 0, 6-12 months |
| Persons 15-26 years<br>And immunocompromised 9-26 years<br><br>*FDA expansion to age 45 10/2018 | 3 | 0, 1-2, 6 months<br>• Minimum interval between 1st and 2nd dose is **4 weeks**<br>• Minimum interval between 2nd and 3rd dose is **12 weeks**<br>•Minimum interval between 1st and 3rd dose is **24 weeks** |

- Females with abnormal pap tests, positive HPV tests or genital warts can still receive the vaccine.
- Do not restart series if recipient is late for follow-up doses and resume vaccine series at regular dosing interval for remaining vaccines.
- If subsequent dose given too early, should be re-administered.
- Any available HPV vaccine product may be used to continue or complete series (interchangeable).

# Who do we offer HPV vaccines to?

- Routine recommendation: ages 9-12
- "Shared decision making" for 27-45
  - Consider if at risk for new HPV strains = this is a PREVENTION vaccine
  - Consider costs to system and vaccine supply
- Immunocompromised
  - Will need 3 doses regardless of age
- Healthcare workers
  - ASCCP recommends vaccination with high exposure to HPV (gyn, FP, derm, OR)

# How well are we vaccinating?

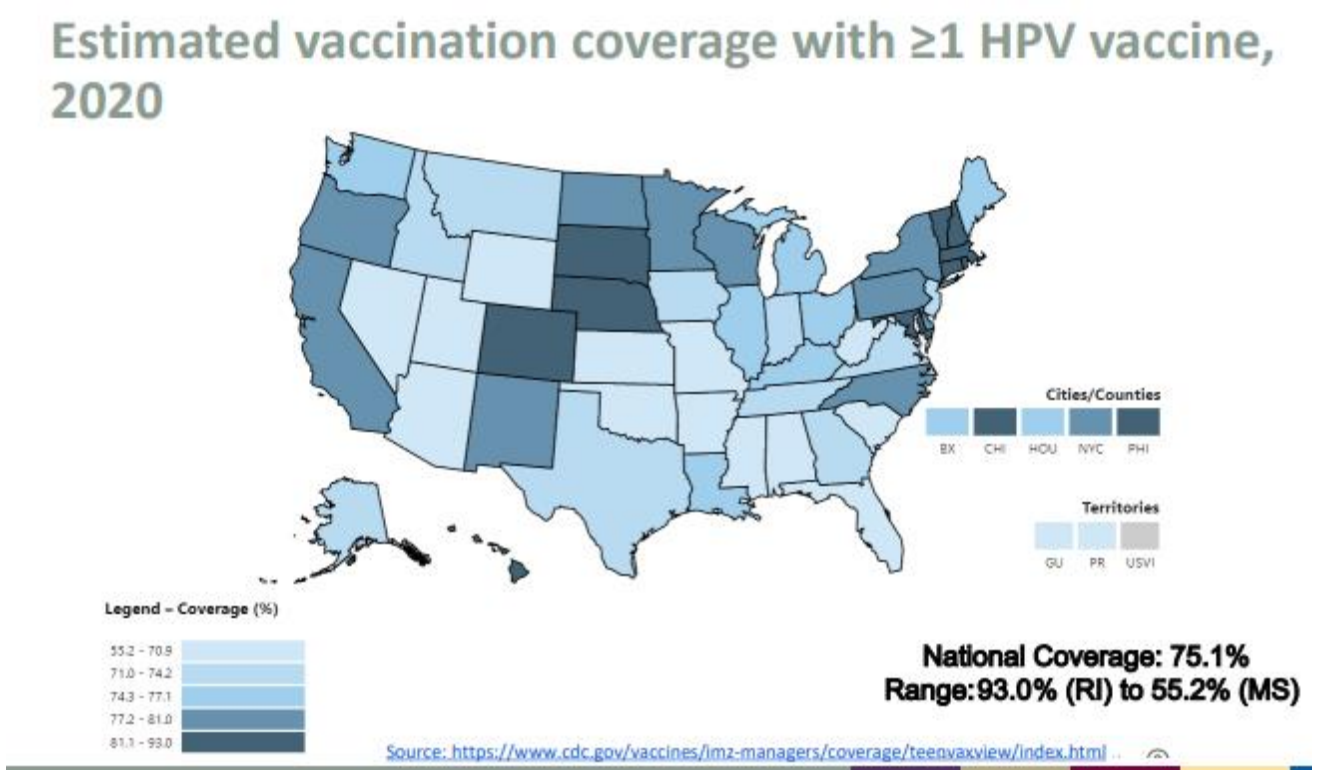
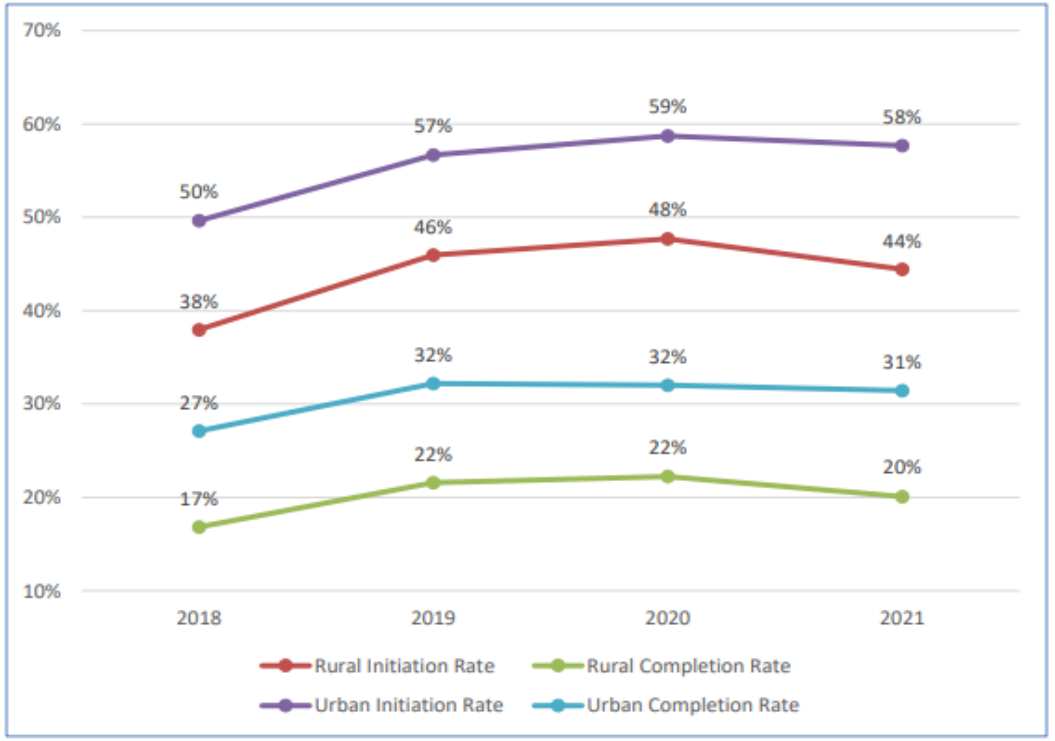


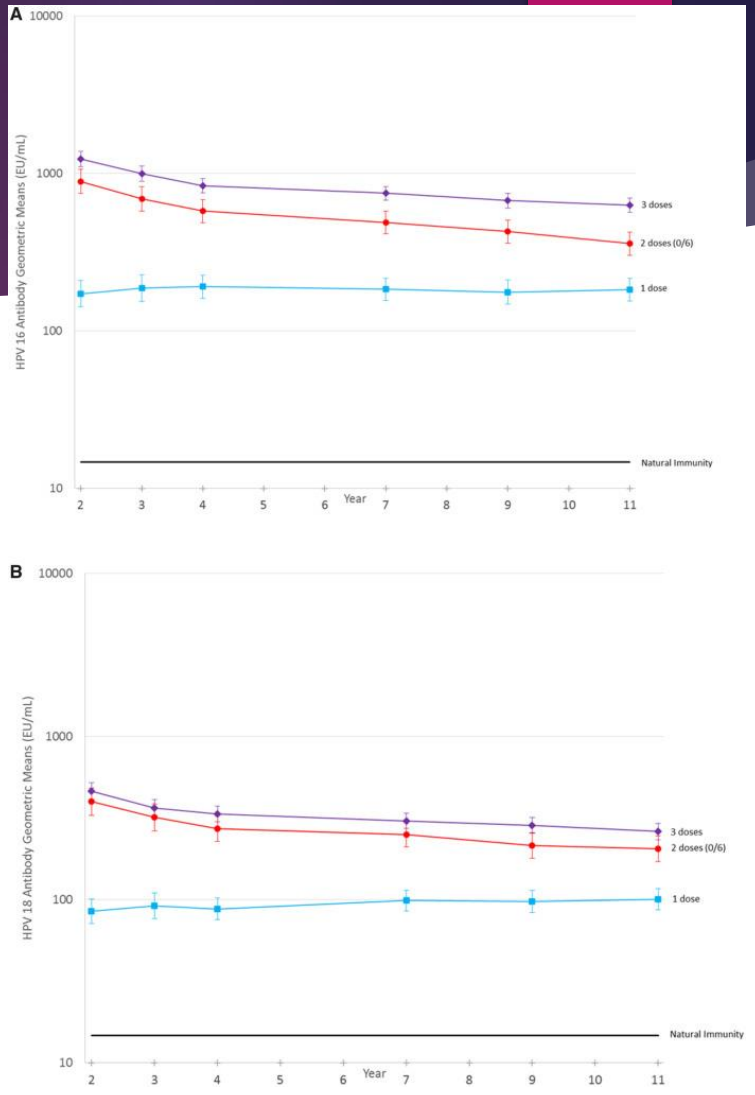

**Figure 6. HPV vaccine initiation and completion rates among 13-year-olds by urbanicity classification, 2018-2021 (Source: CAIR)**




*California HPV Vaccination Roundtable: "Using and Improving HPV Vaccination Data" Workgroup*, 2023 Update

# **UPDATES** on HPV vaccination

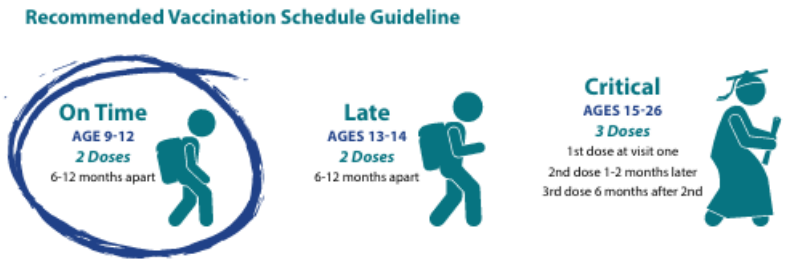
- Single dose recommendation
  - WHO Strategic Advisory Group of Experts on Immunization (SAGE) 2022.
  - **one or two-dose schedule** for the primary target of girls aged **9-14.**
  - **one or two-dose schedule** for young women aged **15-20**
  - immunocompromised individuals, including those with HIV, receive three doses if feasible, and if not at least two doses.
- Costa Rica HPV Vaccine trial (CVT) – durability of single dose after year median followup shows vaccine efficacy at 80.2%




(Kreimer et al 2020)

# Improving vaccination in US: Our Win-Win Strategies

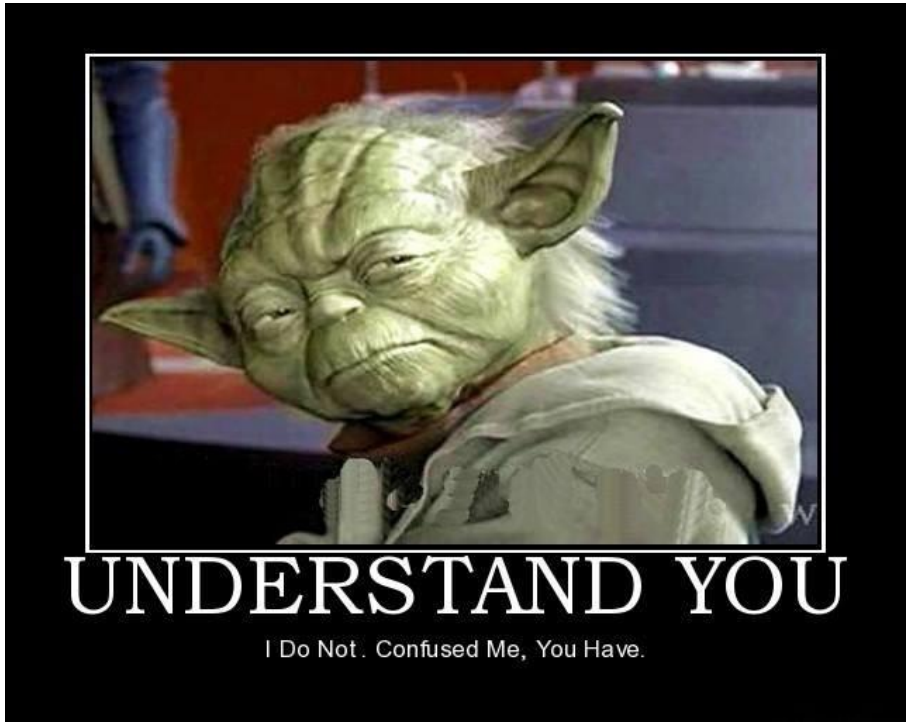
- Starting age 9: Earlier vaccination may improve compliance and meet goal for vaccination
  - CDC/ACIP says acceptable
  - ACS, APA, National HPV vaccination roundtable recor




- AB 659: Cancer Prevention Act (Aguilar Curry)
  - Passed 10/13/2023
  - Recommend full HPV vaccination before admission to 8th grade at any private/public school

- SGO: Cervical cancer elimination taskforce

# Habit 5: Seek First to Understand, then to be Understood




Screening guidelines?

Which HPV based test?

# Goals of cervical cancer screening

- Evaluation of normal looking cervix for identifying high risk and persistent HPV infections (HPV test) or high grade dysplasia (cytology)
  - Transient infections do not lead to cervical cancer
  - Patients treated for high grade dysplasia will enter SURVEILLANCE, not screening

# Cervical Cancer Workup

Asymptomatic

Screening Pap→ colposcopy and biopsies

Symptomatic

- Abnormal or postcoital vaginal bleeding
- Foul smelling discharge
- Pelvic pain/sciatic pain
- Trouble urinating
- Anemia

Pelvic exam and biopsies

# Cervical Cancer Screening Guidelines

| | Age to screen | Recommendation |
|---|---|---|
| USPTF 2018/ACOG/ASCCP | 21-29 | Cytology q3 years |
| | 30-65 | -Cytology q3 years OR<br>-Cotesting q5 years OR<br>-Primary HPV q5years<br>(*FDA approved tests: Roche cobas and BD clarity*) |
| ACS 2020 | 25-65 | -**Primary HPV q5years (preferred)**<br>-Cotesting q5 years (alternate)<br>- Cytology q3 years (alternate) |

# Why the change by ACS?

**TABLE 4. Model-Estimated Benefits and Burdens of Cervical Cancer Screening Starting at Age 21 Versus 25 Years, per 1000 Screened Over a Lifetime**

| | PER 1000 WOMEN | | | | | |
|---|---|---|---|---|---|---|
| SCREENING STRATEGY[a] | TOTAL NO. OF TESTS[b] | NO. OF COLPOS | CIN2,CIN3 DETECTED | CANCER CASES | CANCER DEATHS | LYG |
| 1. No screening | 0 | 0 | 0 | 18.86 | 8.34 | 63,921.34 |
| 2. Cyto every 3 y from age 21 y/cotest every 5 y ages 30-65 y | 19,806 | 1630 | 201 | 1.08 | 0.30 | 64,192.97 |
| 3. Cyto every 4 y from age 21 y/HPV every 3 y ages 25-65 y | 17,067 | 2209 | 217 | 0.75 | 0.23 | 64,195.53 |
| 4. Cyto every 4 y from age 21 y/HPV every 5 y ages 25-65 y | 12,042 | 1826 | 209 | 0.81 | 0.25 | 64,195.35 |
| 5. Cyto every 4 y from age 21 y/cotest every 5 y ages 25-65 y | 20,859 | 2029 | 213 | 0.82 | 0.26 | 64,195.26 |
| 6. Cyto every 3 y from age 25 y/HPV every 5 y ages 30-65 y | 10,671 | 1303 | 175 | 1.46 | 0.40 | 64,188.10 |
| 7. Cyto every 3 y ages 25-65 y | 13,313 | 564 | 142 | 2.60 | 0.86 | 64,176.12 |
| 8. HPV every 5 y ages 25-65 y | 10,954 | 1775 | 195 | 0.94 | 0.28 | 64,193.52 |

Abbreviations CIN, cervical intraepithelial neoplasia; COLPOS, colposcopies; Cotest, cytology and human papillomavirus test; Cyto, cytology; HPV, human papillomavirus test; LYG, life-years gained.

[a]Scenarios 1 through 5 were reported previously (see Kim 2018[44,45]), whereas scenarios 6 through 8 were estimated as part of the supplementary modeling analysis.

[b]Values indicate the total number of tests, irrespective of primary, triage, or surveillance context.

# When to stop cervix cancer screening

- **<u>At age 65</u>**

- Provider determines "adequate screening"
- ACS/ASCCP/ASCP guidelines define adequate prior screening as
  - **3 consecutive negative cytology results**
  - **or 2 consecutive negative HPV results**
  - within **10 years** before cessation of screening
  - most recent test occurring within **5 years**"

- **<u>Continue beyond age 65 if:</u>**

- Adequacy cannot be assessed
- Assessment of lifetime risk

# Special Circumstances

- **Heightened surveillance:**

- Prior history of CIN 2/3, VAIN, VIN, PAIN, or cervical/vulvar/vaginal cancer – screen for at least 25 years after diagnosis
  - No colpo on LSIL lesion or less
- ***High risk patients:*** history of in utero DES exposure or immunosuppression (HIV, transplant patients, steroid use)
- Uterine didelphys – pap both cervices!


- **No need to continue screening:**

- Hysterectomy for benign indication (unless meets criteria above)
- Women with history of endometrial cancer

# Screening in Immunocompromised Populations

**TABLE 1.** Summary of Cervical Cancer Screening and Vaccination Recommendations

| | General-population cervical cancer screening | Increased screening[a] with immunosuppressant use | Increased screening[a] regardless of immunosuppressant use | HPV vaccination[b] |
|---|---|---|---|---|
| Solid organ transplant | | | X | X |
| End-stage renal disease | | | X | X |
| Hematopoietic stem cell transplant[c] | | | X | X |
| Systemic lupus erythematosus | | | X | X |
| Rheumatoid arthritis | X[d] | X | | X |
| Inflammatory bowel disease | X[d] | X | | X |
| Multiple sclerosis | X[d] | X | | X |
| Disease-modifying therapies or monoclonal antibodies | X[e] | X[e] | | X |

Moscicki, JLGTD 2025

# Traditional Cytology

- Conventional Pap
- Majority of cells not captured – use wood or plastic spatula
- Non-representative transfer of cells
- Clumping and overlapping of cells
- Obscuring material
- HPV testing requires separate swab

- Liquid based cytology (LBC)
- Virtually all of sample collected – use plastic spatula
- Even distribution of cells
- Decrease in unsatisfactory results – less likely to be affected by gel, blood, other contaminants
- Increased sensitivity for SIL
- Specimen available for HPV and other STD tests

# A Map to Success with the ThinPrep® Pap Test

## 1 Prepare Speculum

- Warm water is preferred
- Only use carbomer-free lubricants
- Dime-sized amount


If lubricant is required, the following lubricants are validated for use with the ThinPrep® Pap Test.

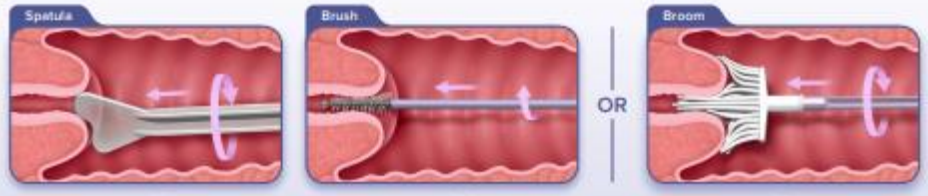
| Lubricant | Manufacturer |
|---|---|
| ✓ Pap Test Lubricating Jelly | *Aseptic Control Products* |
| ✓ SurgiLube Surgical Lubricant | *HR Pharmaceuticals* |
| ✓ CerviLube | *Slon Bionext* |

*Contact your medical supplies distributor for purchasing details.*

## 2 Obtain Sample

Sample collection for the ThinPrep® Pap Test may be performed with a spatula/brush combo OR a broom-like collection device.[1]

- Rotate per manufacturer's guidance
- Do not over rotate




Rotate the contoured end **360° 1x**

Rotate in one direction **¼ to ½**

Rotate clockwise **360° 5x**

## 3 Rinse Device Immediately

The ThinPrep collection process preserves and fixes the cells in the solution, not on the device head.

- Sanitary collection — fingers remain on the handle, not the brush


Swirl **vigorously** **10 times**

Rotate while pushing against the vial wall **10 times** and swirl **vigorously**

Push into bottom of vial forcefully **10 times** and swirl **vigorously**

⊘ **DO NOT** leave device in vial

# Sensitivity of Pap Smear


| | Sensitivity | Specificity |
|---|---|---|
| Pap smear | 55 -80% | 96.8% |
| HPV test | 94.6% | 94.1% |

| | CIN 2+ | CIN3+ | Cervical cancer |
|---|---|---|---|
| Neg cytology along | 0.68% | 0.26% | 0.025% |
| Pap neg, HPV neg | 0.27% | 0.08% | 0.011% |
| Pap neg, HPV pos | 10% | 4.5% | 0.34% |

Katki et al, JLGTD 2013

# HPV Testing – how to order it

- **Reflexive (RNA/DNA)** - done with ASCUS result
- **Cotesting (RNA/DNA)**– done along with cytology every 5 years for age ≥30
- **HPV genotyping (DNA)–** specifically looking for 16/18 strains triage to colposcopy
- **Primary HPV testing (DNA) –** preferred by ACS

- All HPV tests are FDA approved for co-testing
- Primary HPV testing limited to 3 vendors

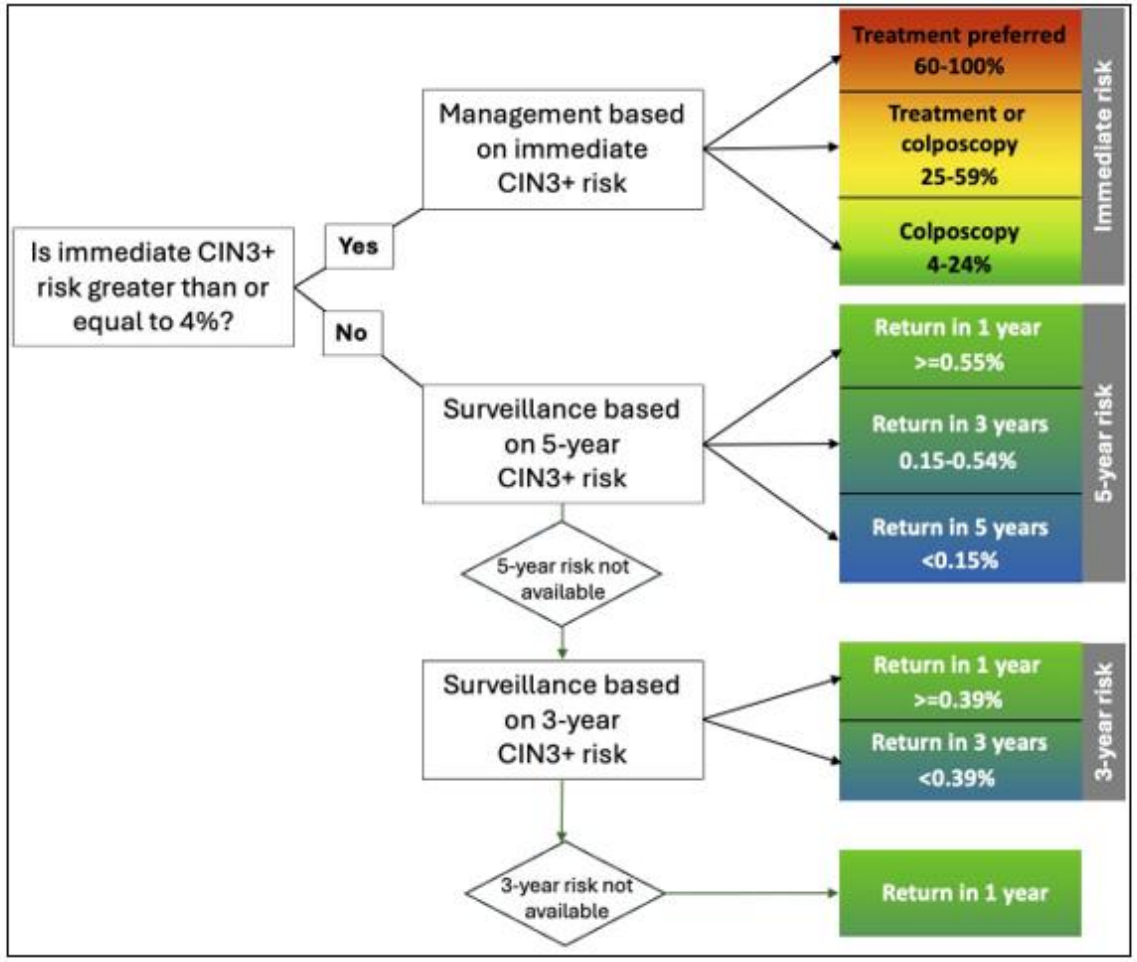
An overview of FDA-approved HPV assays[1-7]

| Test | BD Onclarity™ HPV Assay | QIAGEN digene® HC2 High-Risk HPV DNA Test | HOLOGIC Aptima™ HPV Assay | HOLOGIC Cervista™ HPV HR | ROCHE cobas® HPV for 4800 System | ROCHE cobas® HPV for 6800/8800 Systems |
|---|---|---|---|---|---|---|
| Approved for HPV primary screening | ✓ | ✗ | ✗ | ✗ | ✓ | ✓ |
| Separate results for HPV 16 and 18 | ✓ | ✗ | ✓ Separate assay run[a] | ✓ Separate assay run[b] | ✓ | ✓ |
| Genotyping beyond HPV 16 and 18 | ✓ 16, 18, 31, 45, 51, 52 | ✗ | ✓ 18/45 combined[a] | ✗ | ✗ | ✗ |
| Internal control for human genes | ✓ | ✗ | ✗ | ✓ | ✓ | ✓ |
| PCR-based DNA assay | ✓ | ✗ DNA, non-PCR | ✗ RNA, non-PCR | ✗ DNA, non-PCR | ✓ | ✓ |
| No cross-reactivity with low-risk HPV genotypes | ✓ | ✗ | ✗ | ✗ | ✓ | ✓ |
| E6/E7 target region | ✓ | ✗ | ✓ | ✓ | ✗ | ✗ |
| Manufacturer offers full cervical screening solution | ✓ Cytology and HPV | HPV only | ✓ Cytology and HPV | HPV only | ✓ Cytology and HPV | ✓ Cytology and HPV |
| Clinical trial | Onclarity trial | ASC-US/LSIL Triage Study (ALTS) | CLEAR trial | Cervista HPV HR trial | ATHENA trial | IMPACT trial |

[a] A separate test can be used to identify HPV 16 and 18/45 in women with positive results.
[b] A separate test can be used to identify HPV 16 and 18 in women with positive results.

BD Onclarify

# 2019 Clinical Action Thresholds



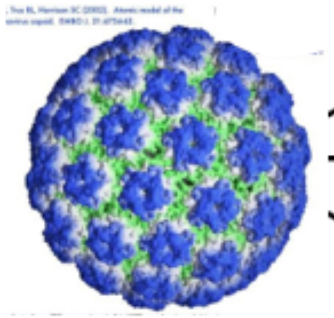

Perkins, Guido et al., JLGTD 2020, **Egemen et al, JLGTD, 2022**

- **Immediate risk** – chance of having CIN3+ today
- **5-year risk** – chance of CIN3+ within 5 years from today
- **3-year risk** – chance of CIN3+ within 3 years from today

# Highlights from 2024 ASCCP

- Enduring Guidelines
- Novel strategies
  - Primary HPV testing
  - Extended genotyping
  - Dual staining
  - Self collection

# Primary HPV Testing



HPV Testing

HPV−

Routine screening

− 12 other hrHPV+ →

Cytology

NILM

Follow up in 12 months

≥ ASC-US

COLPOSCOPY

HPV16/18+

COLPOSCOPY

Cytology

For expediated treatment if HSIL

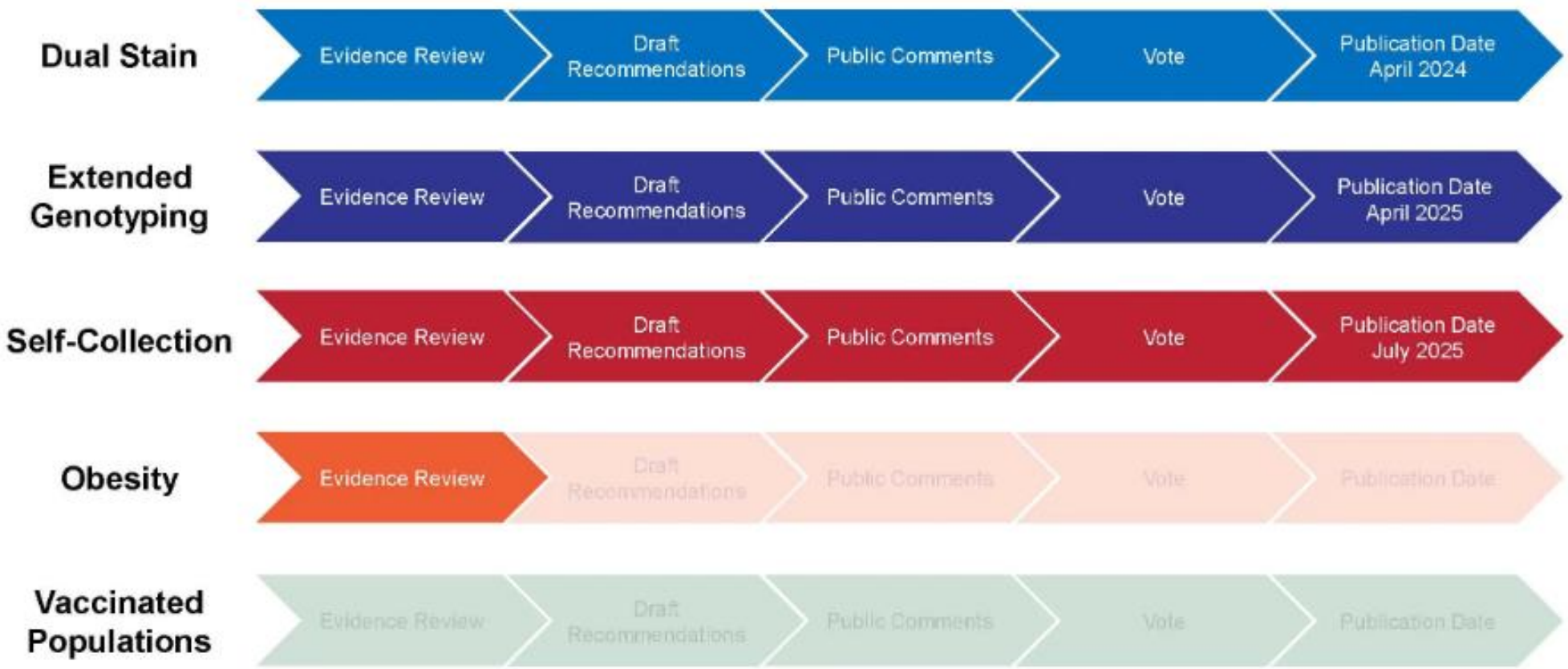
*Modified from Wright et al. (2015) Gynecol Oncol*

# FDA-approved high-risk HPV tests

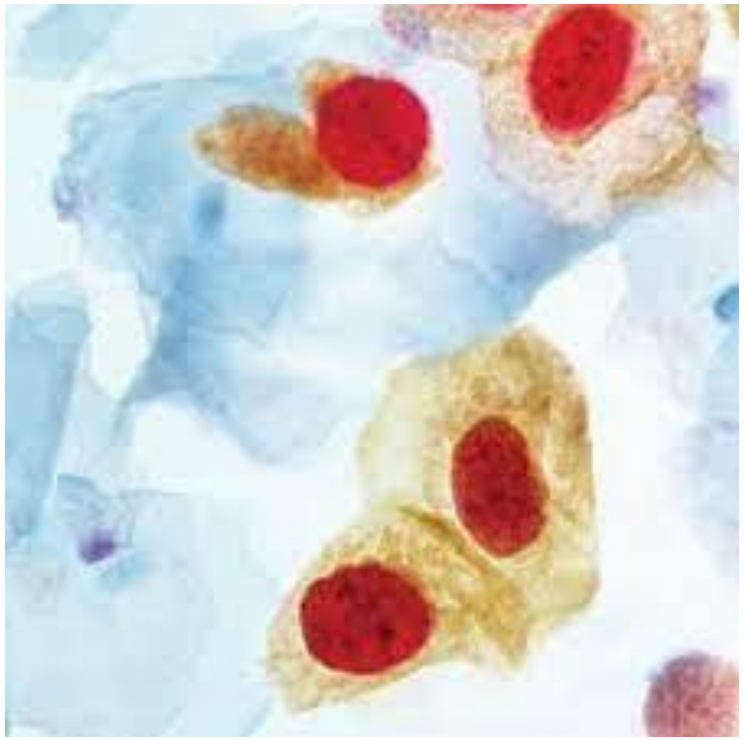
| Assay | hc2 | Cervista | cobas | Aptima | Onclarity | Alinity |
|---|---|---|---|---|---|---|
| Detection of… | HPV DNA | HPV DNA | HPV DNA | HPV E6/E7 mRNA | HPV DNA | HPV DNA |
| # of HPV types | 13 | 14 | 14 | 14 | 14 | |
| Assay type | RNA-DNA hybrids | Invader technology | PCR | RNA amplification/ hybridization | PCR | PCR |
| Internal control for specimen adequacy | No | Yes | Yes | No | Yes | Yes |
| HPV 16/18 genotyping available | No | Yes | Yes Included | Yes + type 45 | Extended genotyping | Extended genotyping |

Approved for primary screening

# Enduring Guidelines Timeline



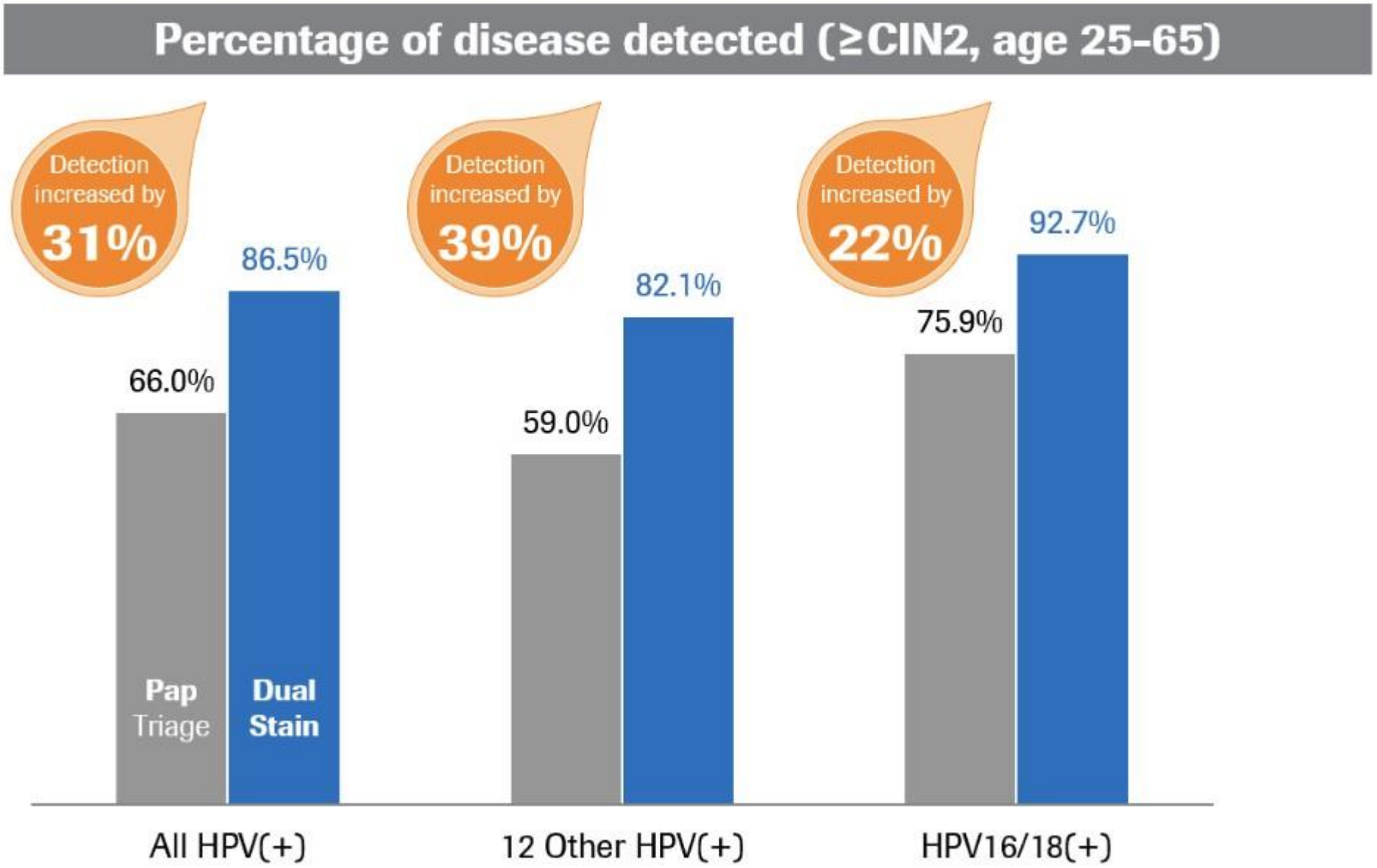
# Dual Stain Recommendations



Dual stain (CINtec Plus) = cytology stain for 2 markers for "molecular triaging"

- p16 (tumor suppressor targeted by E7 gene product of HPV; brown)
- Ki-67 (proliferation marker; red)
- Positive result: at least one cell with both stains indicates presence of high grade dysplasia

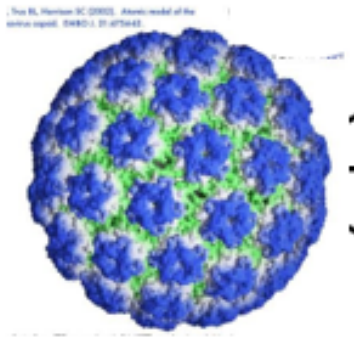
- Proprietary: Roche Diagnostic, FDA approved 3/2020


Percentage of disease detected (≥CIN2, age 25-65)
Detection increased by 31%
Detection increased by 39%
Detection increased by 22%
66.0%
86.5%
59.0%
82.1%
75.9%
92.7%
Pap Triage
Dual Stain
All HPV(+)
12 Other HPV(+)
HPV16/18(+)

# Primary HPV Screening: ≥25 years

## *Triage with 16/18 Genotyping and Dual Staining*

Clarke et al. Recommendations for integrating results of p16ink4a/Ki67 Dual Stain testing into management of individuals with positive cervicovaginal tests for carcinogenic human papillomavirus.**J Low Genit Tract Dis. 2024 Mar 6. Epub ahead of print.**



HPV Testing

HPV−

Routine screening

− 12 other hrHPV+ →

Dual-stain

DS-

Follow up in 12 months

DS+

COLPOSCOPY

HPV16/18+

COLPOSCOPY

Dual-stain

Colposcopy even if DS-negative

# Value based considerations

- PRO: When compared to cytology, DS requires fewer colposcopies and detects CIN 3 earlier.
- CON: However, DS is expensive and may be confusing to many providers

| Test | Base Case | Low | High | Reference |
|---|---|---|---|---|
| HPV Test | 35.09 | 26.32 | 43.86 | CMMS Fee Schedule 2021 |
| Cervical Cytology | 26.61 | 19.96 | 33.26 | CMMS Fee Schedule 2021 |
| Dual Stain Test | 178.30 | 133.73 | 222.88 | CMMS Fee Schedule 2021 |
| Colposcopy with Biopsies | 387.31 | 201.07 | 502.02 | CMMS Fee Schedule 2021 |

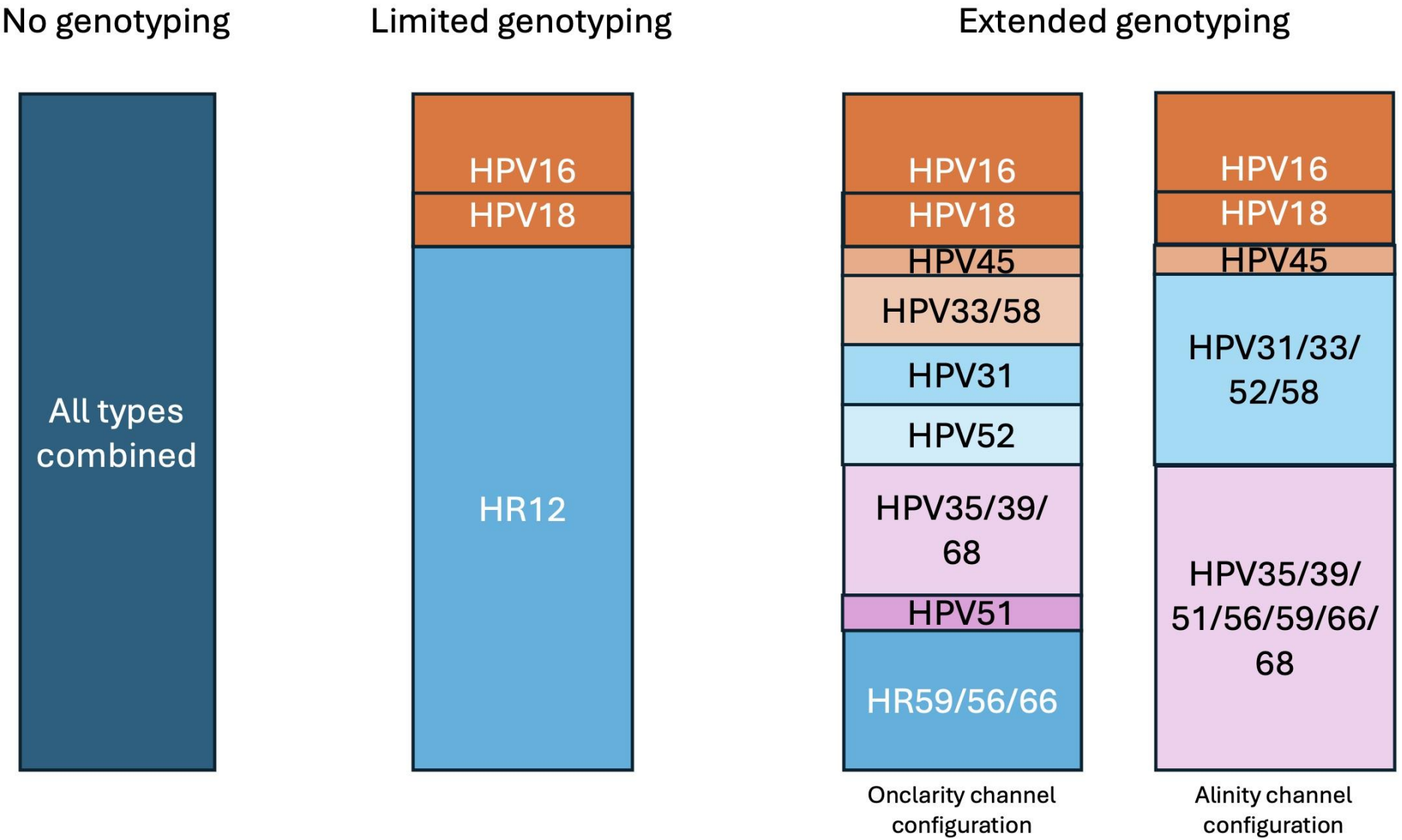
- **DS MUCH MORE EXPENSIVE THAN CYTOLOGY** ***Harper D Cancer Prev Res 2023***

# Extended Genotyping

| Carcinogenic HPV type | % of Cervical Cancers | 9-year risk of progression to CIN3+ of incident HPV infection | Risk Group |
|---|---|---|---|
| **16** | 60.3 | 6.3 | 16 |
| **18** | 10.5 | 3.0 | 18/45 |
| **45** | 6.1 | 2.2 | 18/45 |
| **33** | 3.7 | 4.5 | 16-related |
| **31** | 3.6 | 2.2 | 16-related |
| **52** | 2.7 | 2.2 | 16-related |
| **58** | 2.2 | 1.9 | 16-related |
| **35** | 2.0 | 2.8 | 16-related |
| **39** | 1.6 | 1.1 | Lower risk |
| **51** | 1.2 | 1.1 | Lower risk |
| **59** | 1.1 | 0.9 | Lower risk |
| **56** | 0.9 | 0.8 | Lower risk |
| **68** | 0.6 | 1.0 | Lower risk |

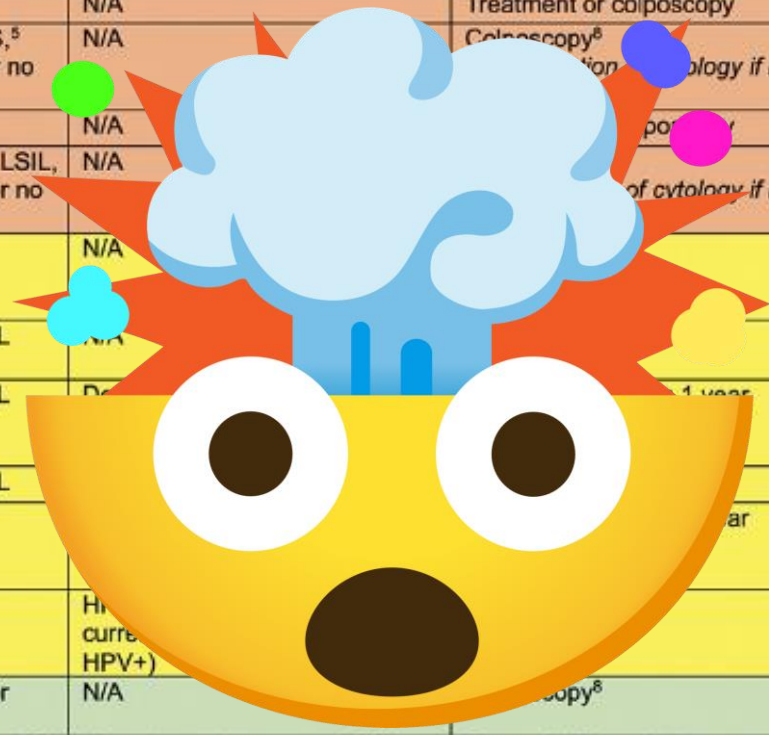
Different risks for different HPV subtypes.

But, is it enough to change management?


No genotyping
Limited genotyping
Extended genotyping
All types combined
HPV16
HPV18
HR12
HPV16
HPV18
HPV45
HPV33/58
HPV31
HPV52
HPV35/39/68
HPV51
HR59/56/66
Onclarity channel configuration
HPV16
HPV18
HPV45
HPV31/33/52/58
HPV35/39/51/56/59/66/68
Alinity channel configuration

# Triaging based on extended genotyping

| | Current HPV | Current cytology | Past results | Management |
|---|---|---|---|---|
| **HPV 16/18** | 16 | HSIL[1] | N/A[2] | Treatment preferred; colposcopy acceptable |
| | 16 | ASC-H[3] | N/A | Treatment or colposcopy |
| | 16 | NILM,[4] ASC-US,[5] LSIL,[6] AGC[7], or no cytology | N/A | Colposcopy[8] *...ology if not already done* |
| | 18 | HSIL | N/A | ...py |
| | 18 | NILM, ASCUS, LSIL, ASC-H, AGC, or no cytology | N/A | *...of cytology if not already done* |
| **HPV 45,33/58, 31, 52/35/39/68, 51** **Untyped or "other" types when 16 and 18 are not present** | 45,33/58, 31, 52/35/39/68, 51 or untyped/other | HSIL, ASC-H, AGC | N/A | |
| | 45,33/58, 31, 52/35/39/68, 51 | ASC-US or LSIL | ...A | |
| | Untyped/other | ASC-US or LSIL | D... | ...1 year |
| | Untyped/other | ASC-US or LSIL | | |
| | 45,33/58, 31, 52/35/39/68, 51 or untyped/other | NILM | | ...ar |
| | 45,33/58, 31, 52/35/39/68, 51 or untyped/other | N/A | H... curre... HPV+) | |
| **HPV 59/56/66** | 59/56/66 | ASC-H, AGC, or HSIL[12] | N/A | ...opy[8] |
| | 59/56/66 | NILM, ASC-US, LSIL or no cytology[12] | Normal or colposcopy <CIN2 within past 1 year | Repeat HPV test in 1 year |
| | 59/56/66 | N/A | HPV+ without colposcopy (i.e. current test is 2nd consecutive HPV+) | Colposcopy |



Massad et JLGTD 2025

# Self collection

- Rationale for HPV self collection (also provider collected vaginal sample)
  - >50% of cervical cancers occur in unscreened/underscreened populations
  - Pandemic driven closures further reduced screening
  - Patient discomfort with pelvic exams (mobility, trauma, pain, gender identity)

- Data from other countries show improved screening  (Netherlands, Australia)

# Self collection testing is accurate

TABLE 2 - Diagnostic Accuracy for Detection of Cervical Precancer (CIN2+) of Clinician-Collected Cervical Cytology, HPV Testing Based on Clinician-Collected Cervical Specimens (Clinician HPV), and HPV Testing Using Self-Collected Vaginal Specimens (Self-HPV)

| | Pooled sensitivity | Pooled specificity |
|---|---|---|
| **Cytology** | 80.4 (95% CI = 73.2–86.1) | 78.5 (95% CI = 69.8–85.2) |
| **Self-HPV (PCR)** | 89.7 (95% CI = 84.2–93.5) | 64.7 (95% CI = 44.6–80.7) |
| **Clinician-HPV (PCR)** | 92.9 (95% CI = 88.6–95.5) | 61.2 (95% CI = 41.2–78.1) |

Pooled absolute sensitivity and specificity estimates based on 6 studies identified from the systematic literature search with available data on HPV vaginal self-collection and provider-collected HPV and cytology data.[21–26]

# FDA Approves HPV Self Collection Test

## FDA Approves HPV Tests That Allow for Self-Collection in a Health Care Setting

Subscribe

July 24, 2024, by Sharon Reynolds

On May 14, the Food and Drug Administration (FDA) expanded the approvals of two tests that detect cancer-causing types of human papillomavirus (HPV) in the cervix. Both tests are used as part of screening for cervical cancer.

For now, the option to self-collect a vaginal sample for HPV testing must be done in a health care setting.
Credit: iStock/SDI Productions

Under these expanded approvals, people can now be offered the option to collect a vaginal sample themselves for HPV testing if they cannot have or do not want a pelvic exam. However, the collection, which involves a swab or brush, must be done in a health care setting, such as primary care offices, urgent care, pharmacies, and mobile clinics.

The tests included in the approvals are Onclarity HPV, made by Becton, Dickinson and Company (BD), and cobas HPV, made by Roche Molecular Systems.

# ASCCP self collection recommendations

CLINICAL PRACTICE

OPEN

## Self-Collected Vaginal Specimens for HPV Testing: Recommendations From the Enduring Consensus Cervical Cancer Screening and Management Guidelines Committee

*Nicolas Wentzensen, MD, PhD,[1] L. Stewart Massad, MD,[2] Megan A. Clarke, PhD,[1] Francisco Garcia, MD, MPH,[3] Robert Smith, PhD,[4] Jeanne Murphy, PhD, CNM,[5] Richard Guido, MD,[6] Ana Reyes, MS,[7] Sarah Phillips, MS,[1] Nancy Berman, MSN, ANP-BC, NCMP, FAANP,[8] Jeffrey Quinlan, MD,[9] Eileen Lind, NP,[10] Rebecca B. Perkins, MD,[11] and Enduring Consensus Cervical Cancer Screening and Management Guidelines Committee*

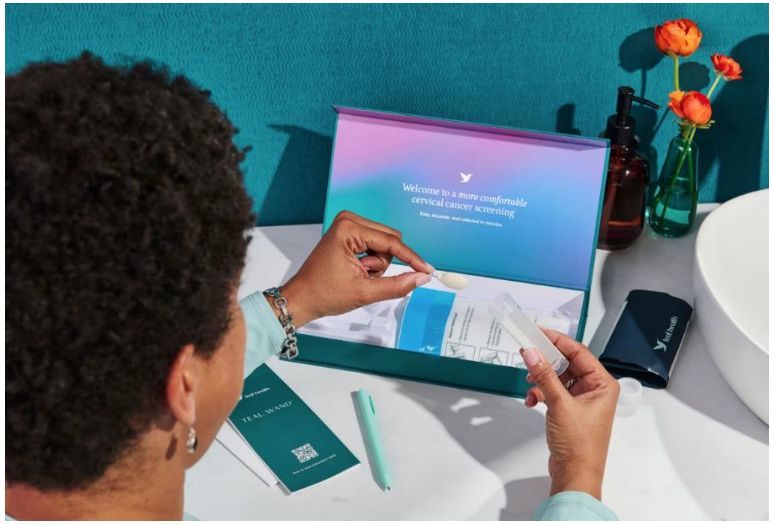
| HPV test result | Management of clinician- vs. self-collected collected specimens | Current HPV test result | Current cytology result | Past history | Management |
|---|---|---|---|---|---|
| HPV 16/18 | Clinician-collected: Laboratory performs cotest or reflex cytology.<br><br>Self-collected: Colposcopy recommended. Collect cytology at colposcopy. | 16 | HSIL | Noncontributory | Treatment preferred; colposcopy acceptable |
| | | 16 | ASC-H | Noncontributory | Treatment or colposcopy |
| | | 16 | NILM, ASC-US, LSIL, AGC, or no cytology | Noncontributory | Colposcopy[1] |
| | | 18 | HSIL | Noncontributory | Treatment or colposcopy |
| | | 18 | NILM, ASC-US, LSIL, ASC-H, AGC, or no cytology | Noncontributory | Colposcopy[1,2] |
| HPV 45, 33/58, 31, 52, 35/39/68, 51<br><br>Untyped or "other" types when 16 and 18 are not present | Clinician-collected: Laboratory performs cotest or reflex cytology.<br><br>Self-collected: Patient returns for collection of cytology unless current test is 2nd consecutive HPV+ in which case colposcopy recommended. | 45, 33/58, 31, 52, 35/39/68, 51 or untyped/other | HSIL, ASC-H, AGC | Noncontributory | Colposcopy[1,2] |
| | | 45, 33/58, 31, 52, 35/39/68, 51 | ASC-US, LSIL | Noncontributory | Colposcopy |
| | | Other/untyped | ASC-US, LSIL | Documented HPV negative screen in past 5 years or colposcopy <CIN2 within past 1 year | Repeat HPV test in 1 year |
| | | Other/untyped | ASC-US, LSIL | Any history other than above | Colposcopy |
| | | 45, 33/58, 31, 52, 35/39/68, 51 or untyped/other | NILM | Normal[3] or colposcopy <CIN2 within past 1 year | Repeat HPV test in 1 year |
| | | 45, 33/58, 31, 52, 35/39/68, 51 or untyped/other | Not available | HPV+ without colposcopy (i.e. current test is 2nd consecutive HPV+) | Colposcopy |
| HPV 59/56/66 | Clinician- collected: No additional immediate testing needed. Laboratory may run cytology if cotesting is performed.[4]<br><br>Self-collected: No additional immediate testing needed | 59/56/66 | ASC-H, AGC, or HSIL | Noncontributory | Colposcopy[1,2] |
| | | 59/56/66 | No cytology or NILM, ASC-US, LSIL | Normal or colposcopy <CIN2 within past 1 year | Repeat HPV test in 1 year |
| | | 59/56/66 | Not available | HPV+ without colposcopy (i.e., current test is 2nd consecutive HPV+) | Colposcopy |

# Newest update on screening

Announcements

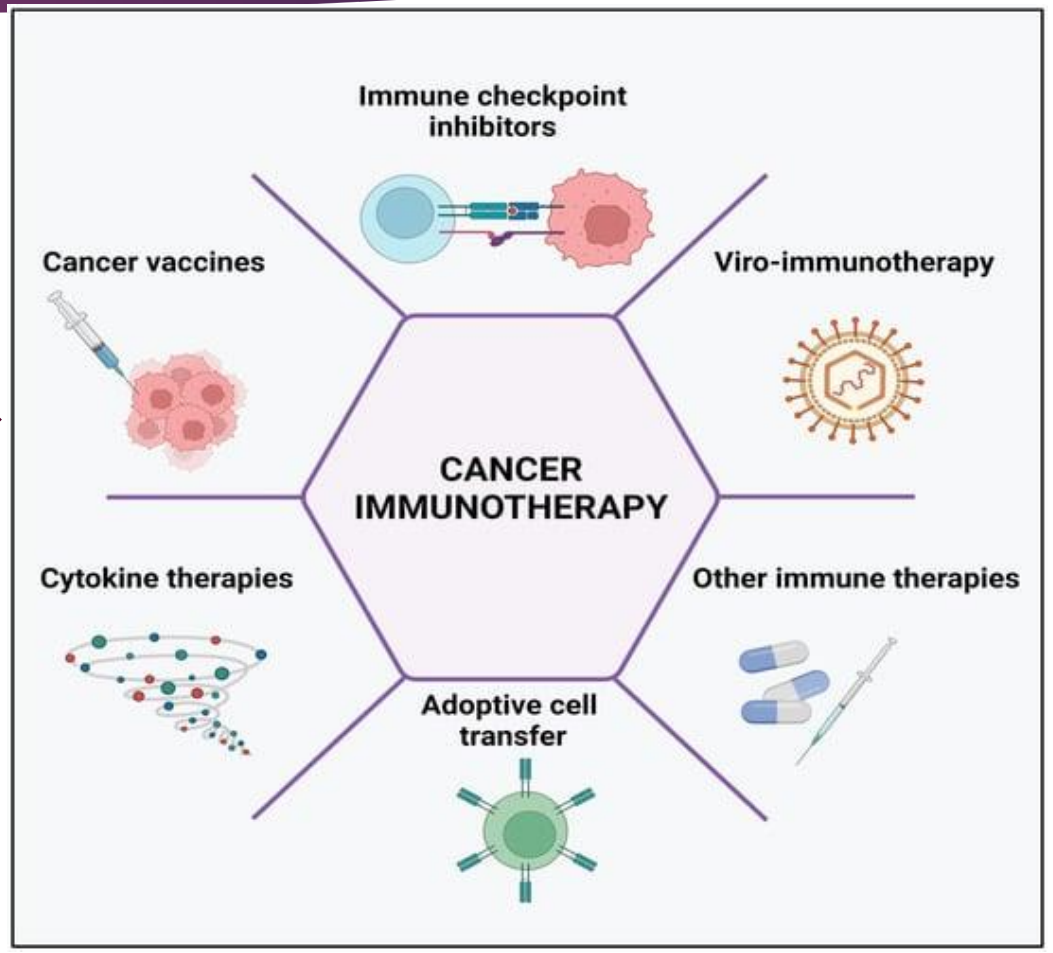
## FDA Approves Teal Health's Teal Wand™—The First and Only At-Home Self-Collection Device for Cervical Cancer Screening, Introducing a Comfortable Alternative to In-Person Screening

Women can now collect their own sample from the privacy of home, no speculum required, and mail it to a certified lab to be tested on the same test as the doctor's office, with the same accuracy.



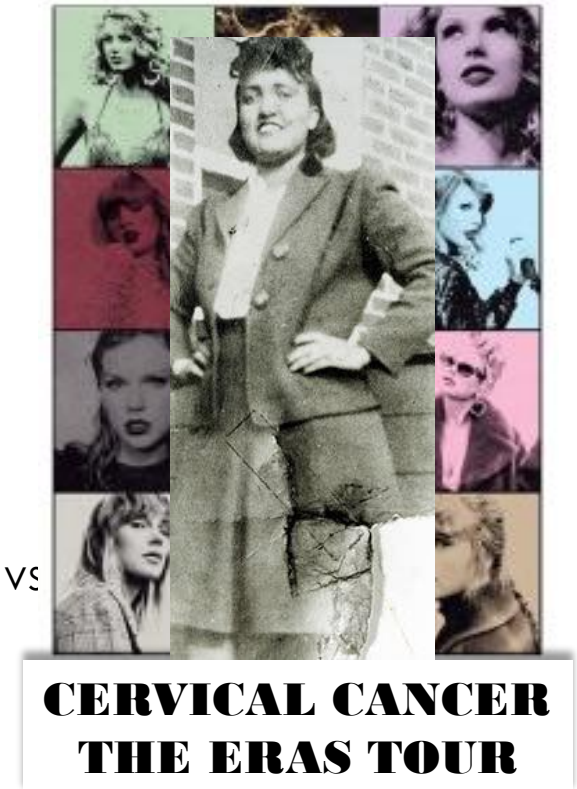
# Habit #6: Synergize


Surgery,
Chemotherapy,
Radiation

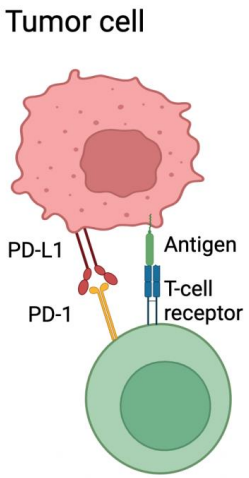


# Eras Tour of cervical cancer treatment

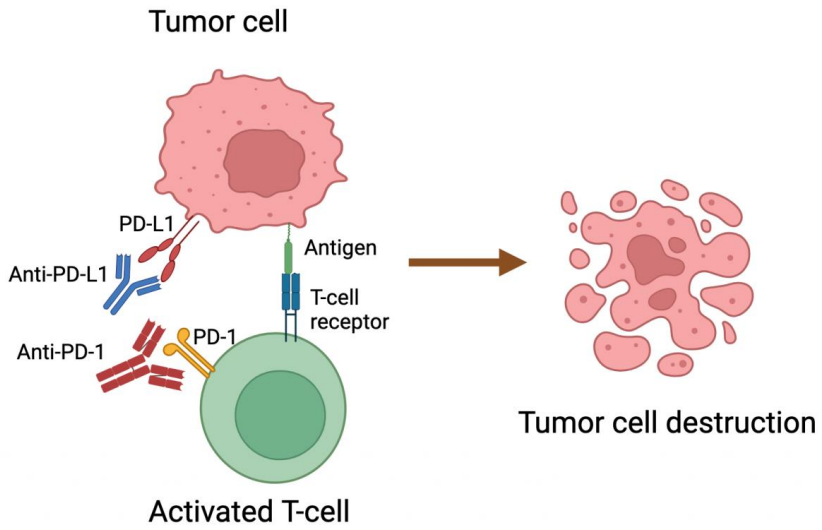
- **1999 Sis Platin**
  - Adding cisplatin to RT improves PFS/OS
- **2014 Best Bev-lieve**
  - **GOG 240:** Improved  OS if add bev (17mo vs 13.3mo)
- **2018 MIS-direction**
  - **LACC trial-** final analysis OS at 4/5 years shows 90.6% vs 96.2%
- **2023 Synergize with Key**:
  - **Keynote 826:** pembro to systemic chemo+/- bev improved OS (28.6 vs
  - **Keynote A18** pembro to chemoRT improves PFS
- **2024 Interlace**
  - **GCIG Interlace** – induction chemo before chemoRT improves PFS and OS



# Immunotherapy



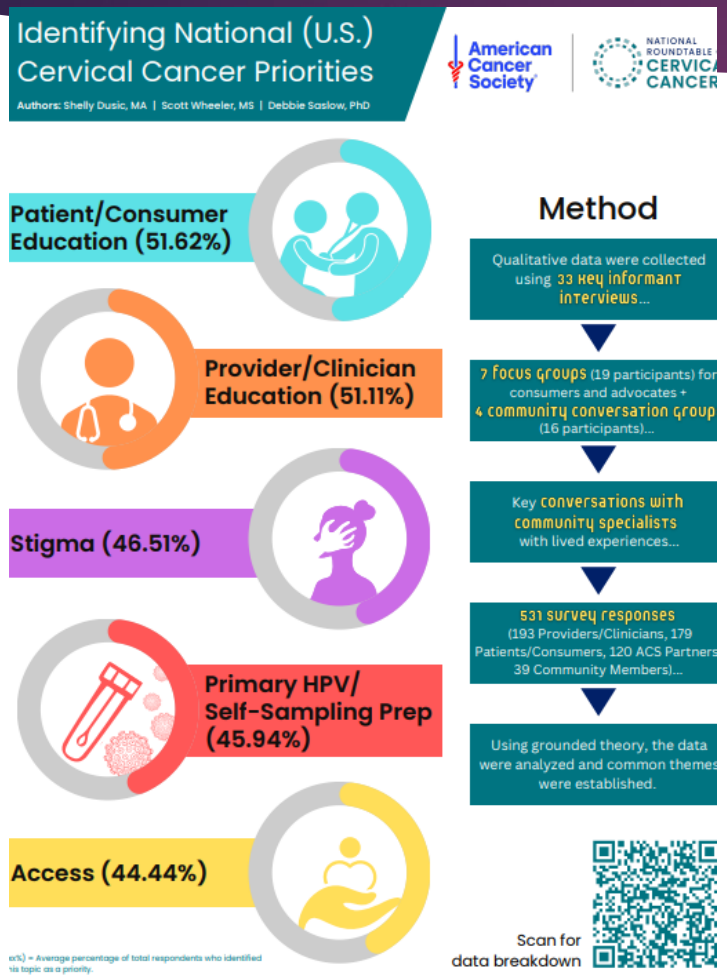

PD-L1 on the tumor cells binds to PD-1 on the T-cell leading to inactivation of T-cells and inhibits killing of tumor cells




Blocking PD-1 or PD-L1 with immune checkpoint inhibitors (anti-PD-1 or anti-PD-L1) enables T-cells to recognize and kill tumor cells.

'Cause, baby, now we got bad blood
You know it used to be mad love
So take a look what you've done
'Cause baby, now we got bad blood
(hey!)

# Habit 7: Sharpen the Saw




**Patients:** Increase knowledge and awareness

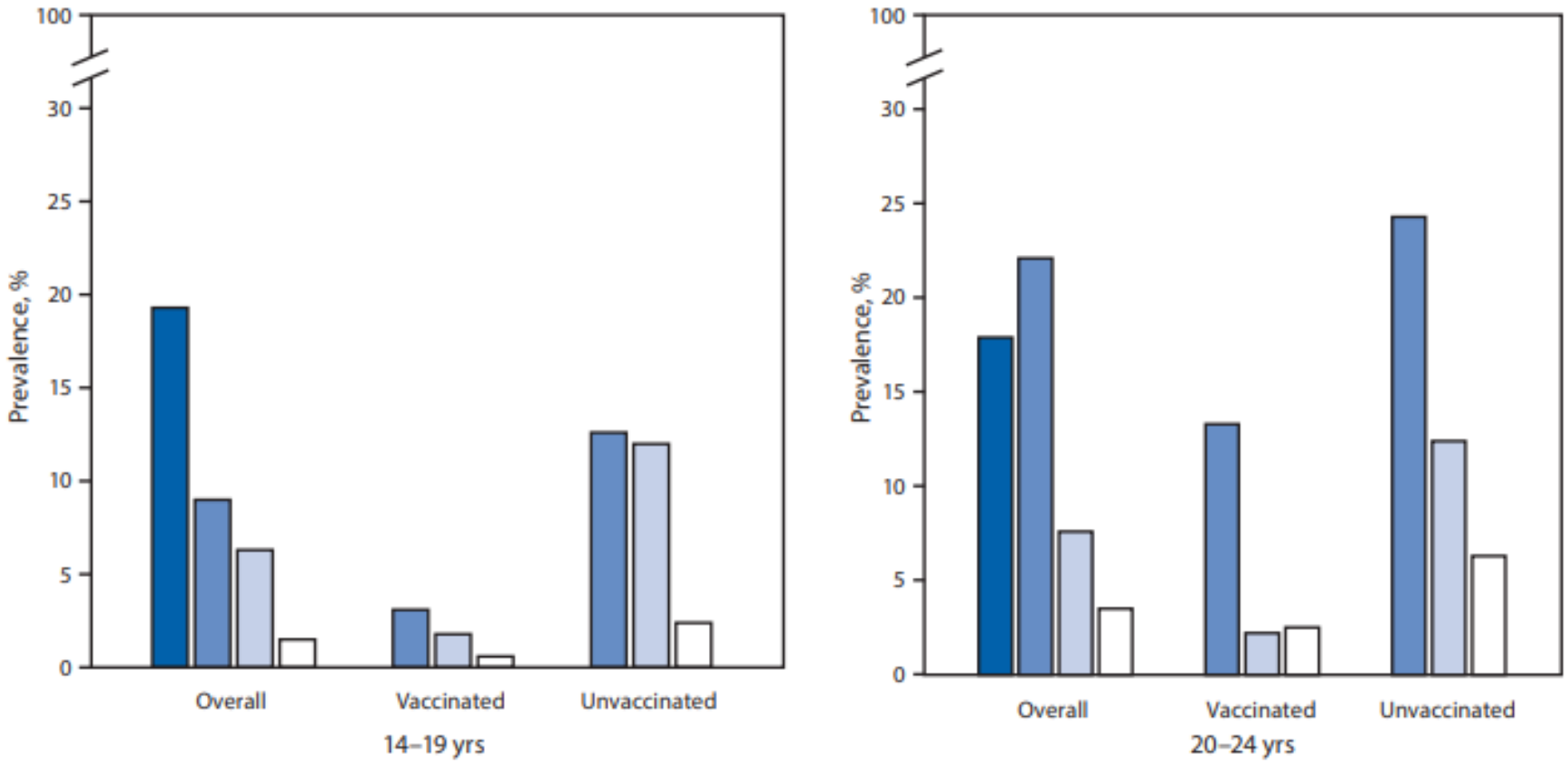
**Providers:** Strong recommendations, decrease missed opportunities

**Social Media**: Reduce Stigma

**Systems:** Improve access, standardized workflows

# How well are we preventing HPV cancers

**FIGURE. Quadrivalent vaccine-type (4vHPV-type) prevalence among sexually experienced females aged 14–34 years, by age group, vaccination history,* and survey years — National Health and Nutrition Examination Survey, United States, 2003–2018†,§**




**88%** reduction!

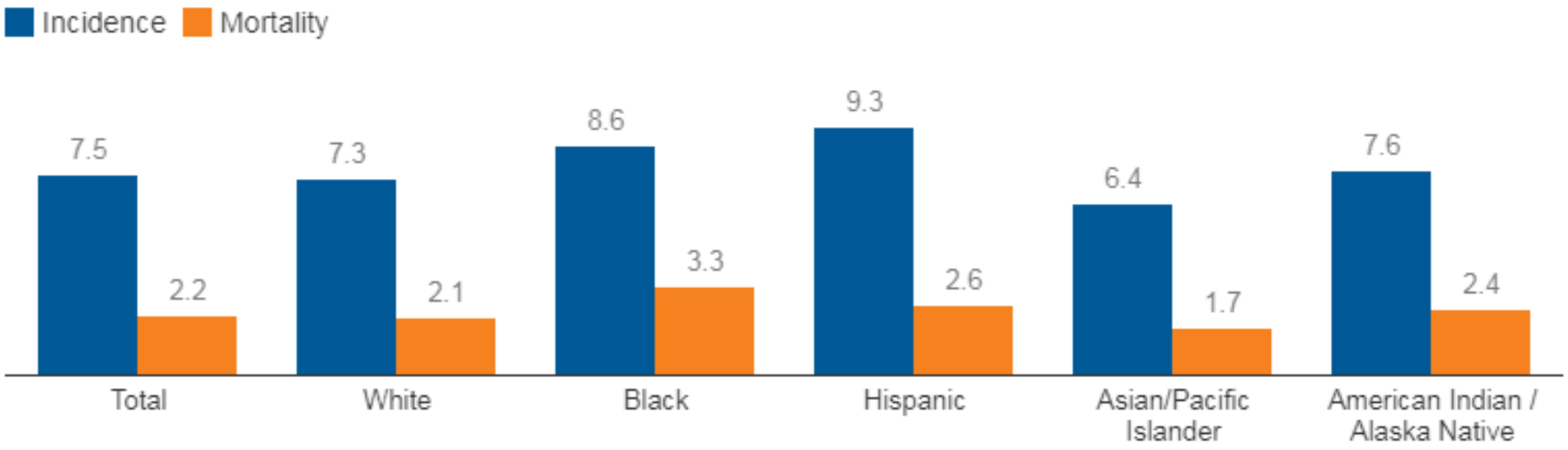
**1%** Prevalence of HPV in age 14-19

# Racial disparities in cervical cancer

Figure 1

## Racial and Ethnic Disparities in Cervical Cancer

Cervical Cancer Incidence and Mortality Rates by Race/Ethnicity, 2014-2018




NOTE: Data are age-adjusted rates per 100,000 women.
SOURCE: National Cancer Institute. SEER Stat Fact Sheets: Cervix Uteri Cancer. Accessed May 2021. • PNG

KFF

# Emerging evidence for extending screening for certain populations

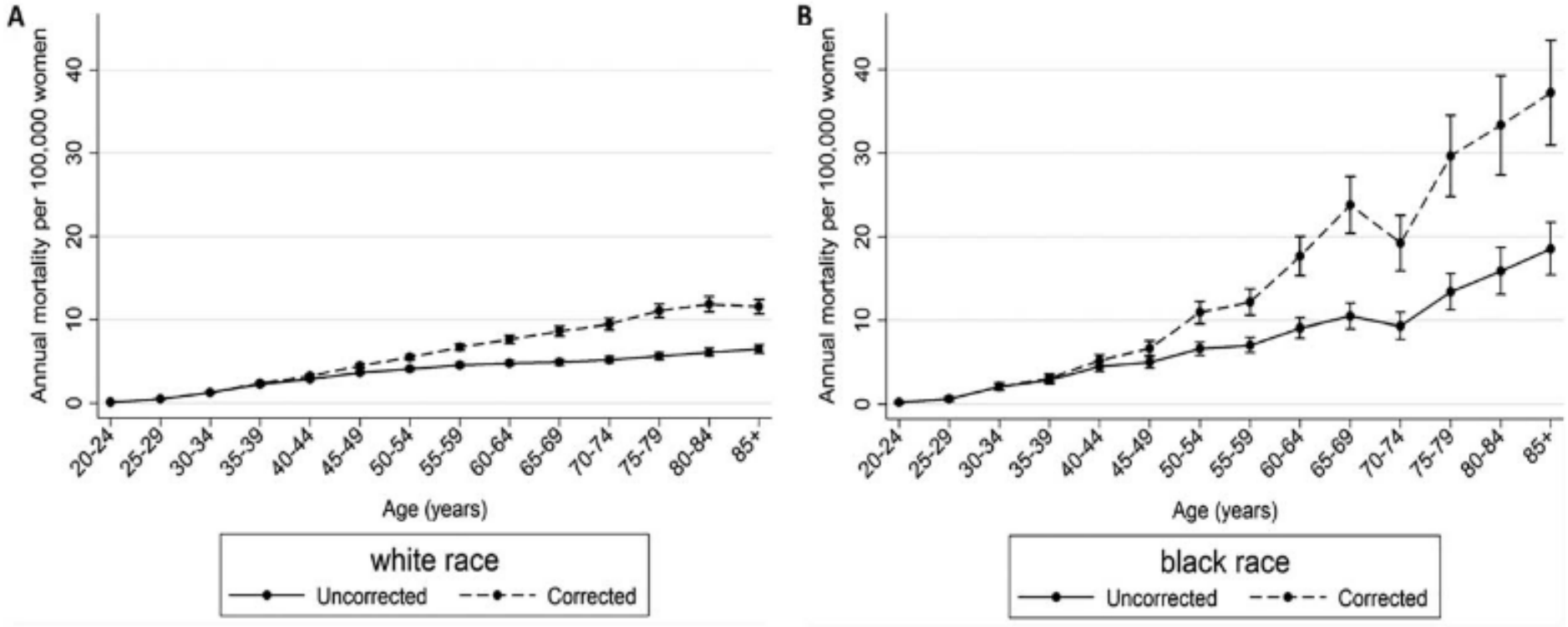
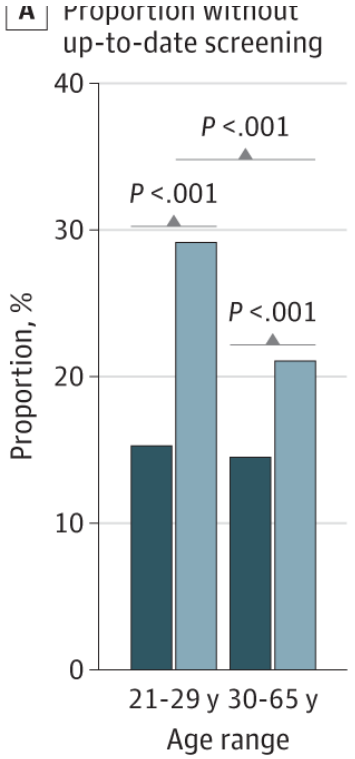



**Figure 3.** Age-specific cervical cancer mortality rates, uncorrected and corrected for the prevalence of hysterectomy, in (A) white and (B) black women.

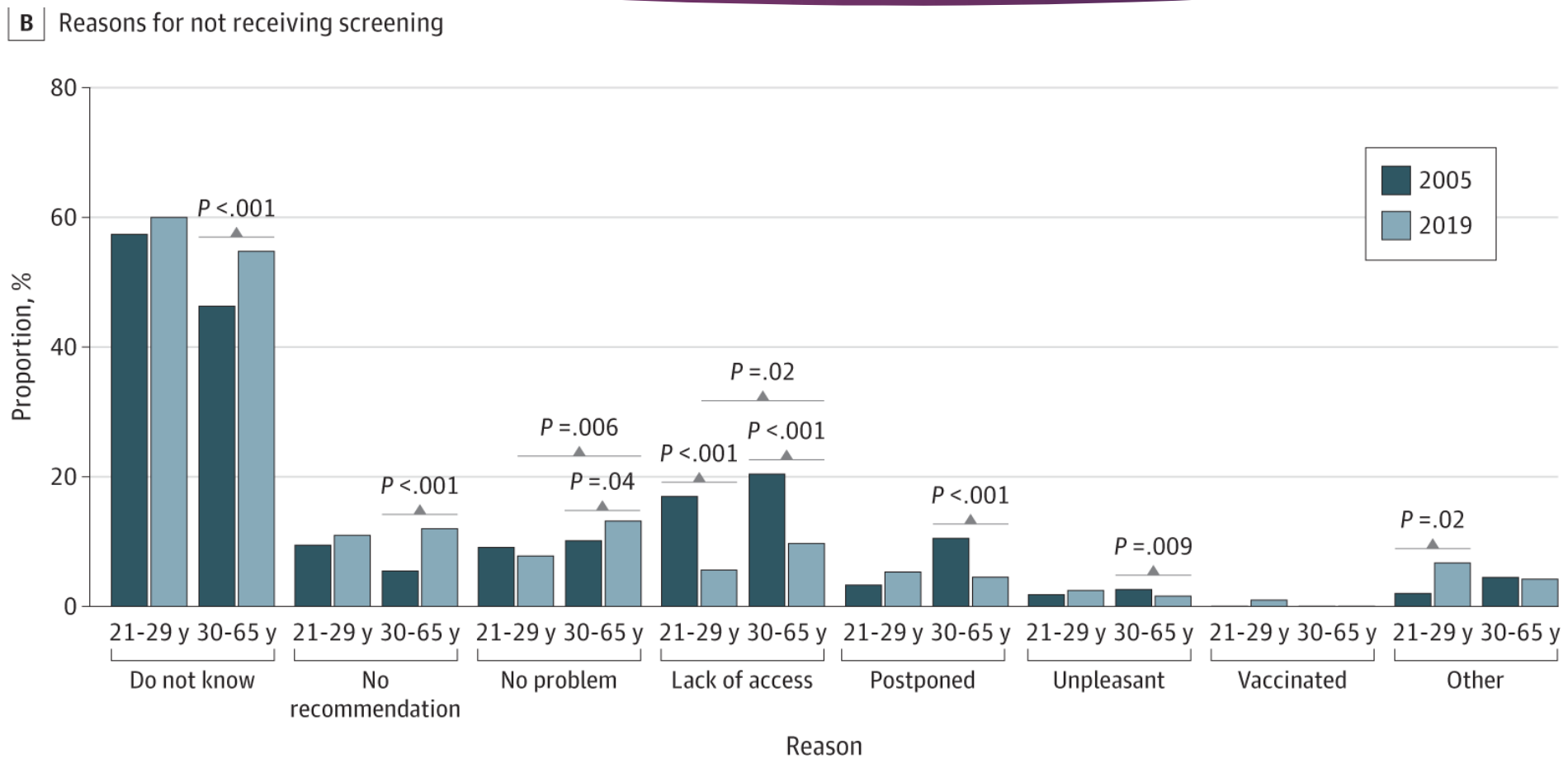
# How well are we doing?

- Assessment of USPSTF Screening Guideline Adherence – 2005 and 2019
  - Reviewed cross sectional day from the National Health Interview Survey (n=20,557)
  - 2005: screening q3 years (21-65yo)
  - 2019: q3 year (21-29), cotest 5 years (30-65)

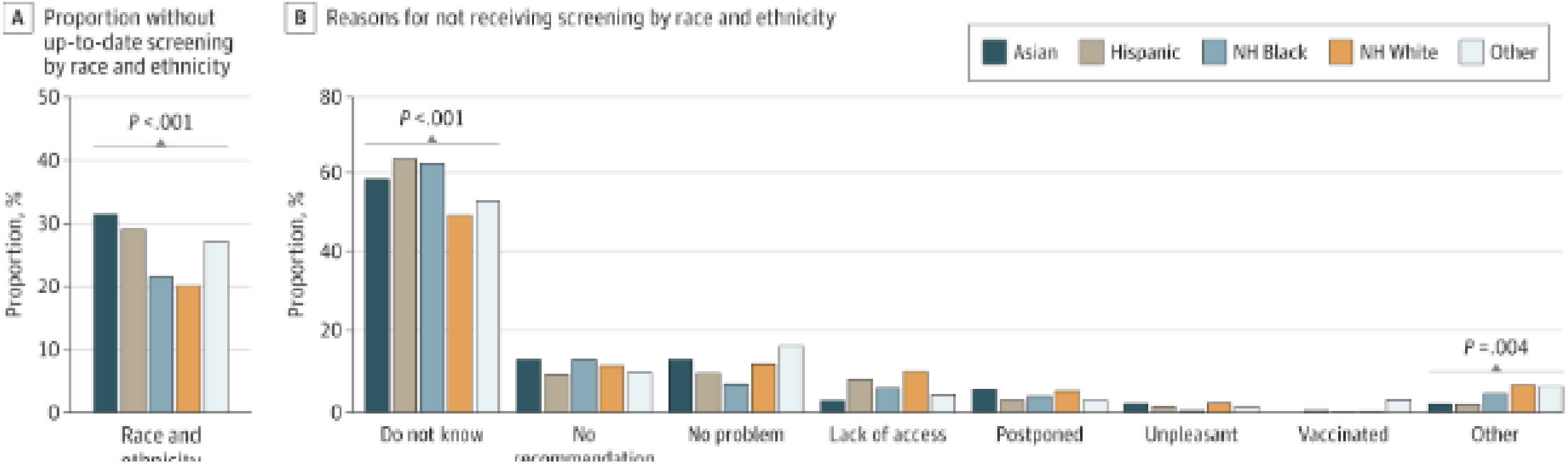
- **23%** of women have not had up to date screening



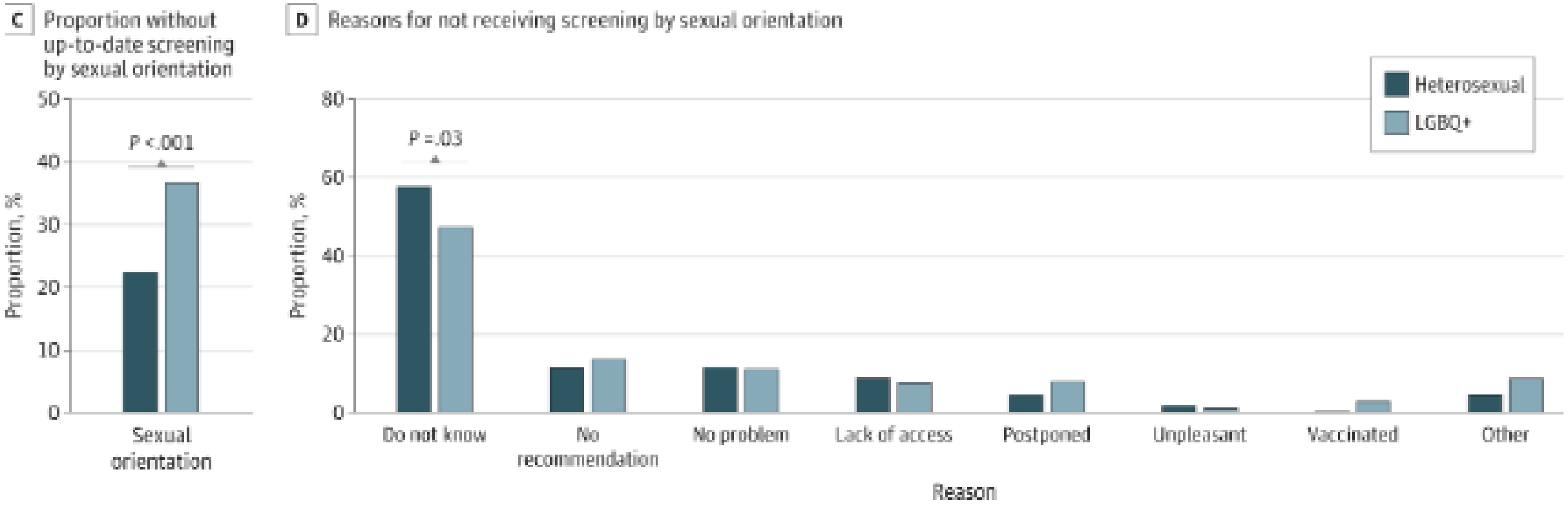
# 23%: Individuals without updated screening



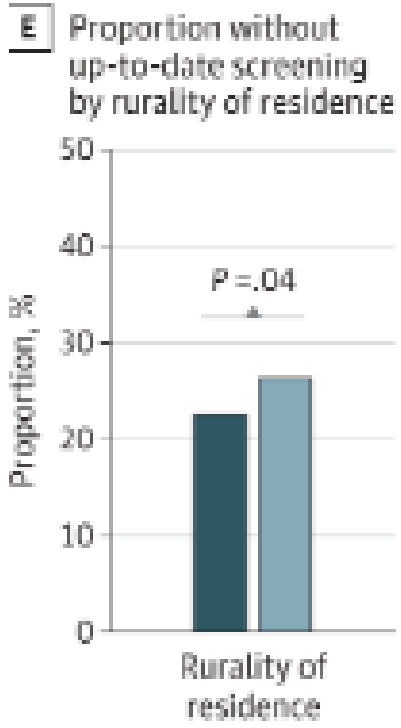
# Reasons for underscreening - ethnic

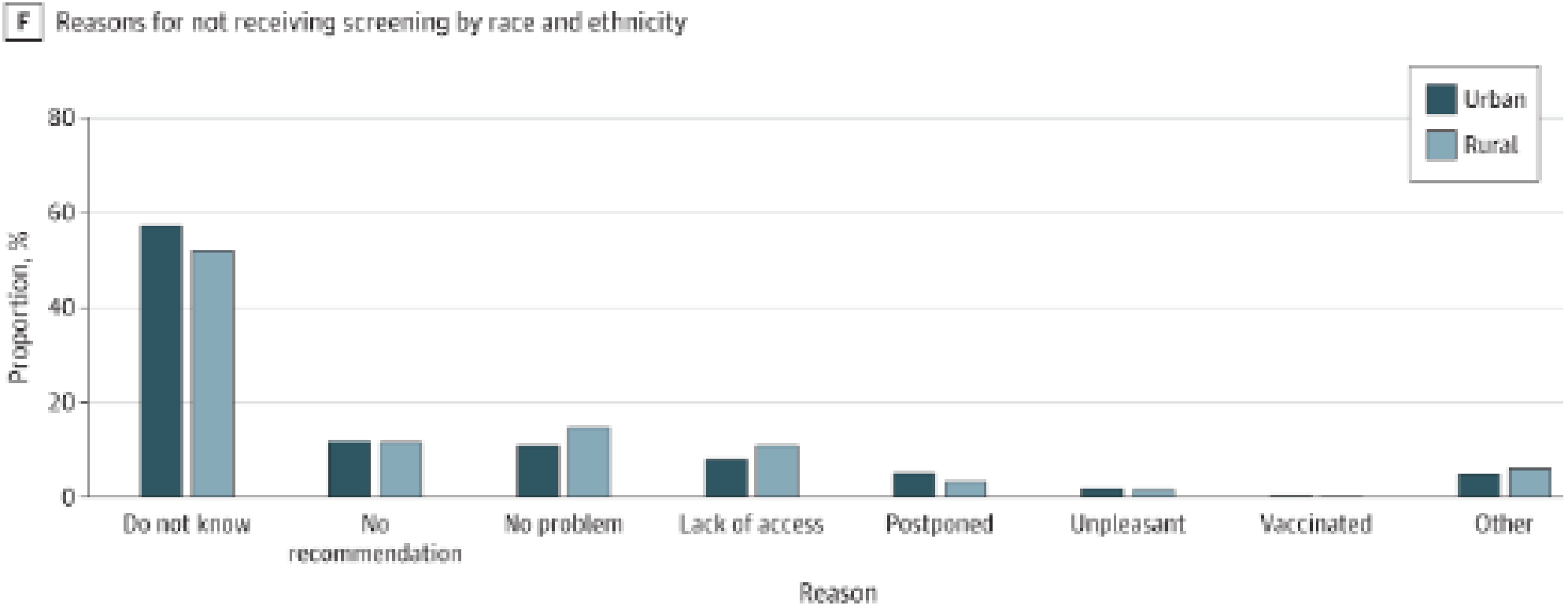


# Reasons for underscreening – sexual orientation

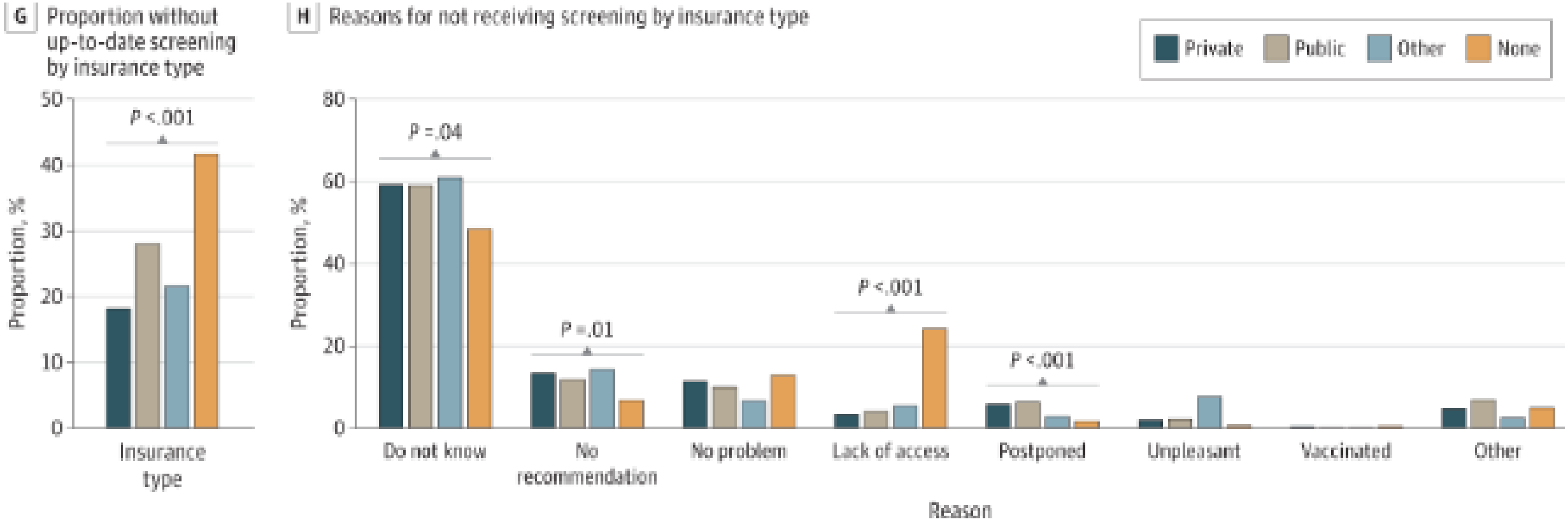


# Reasons for underscreening – location

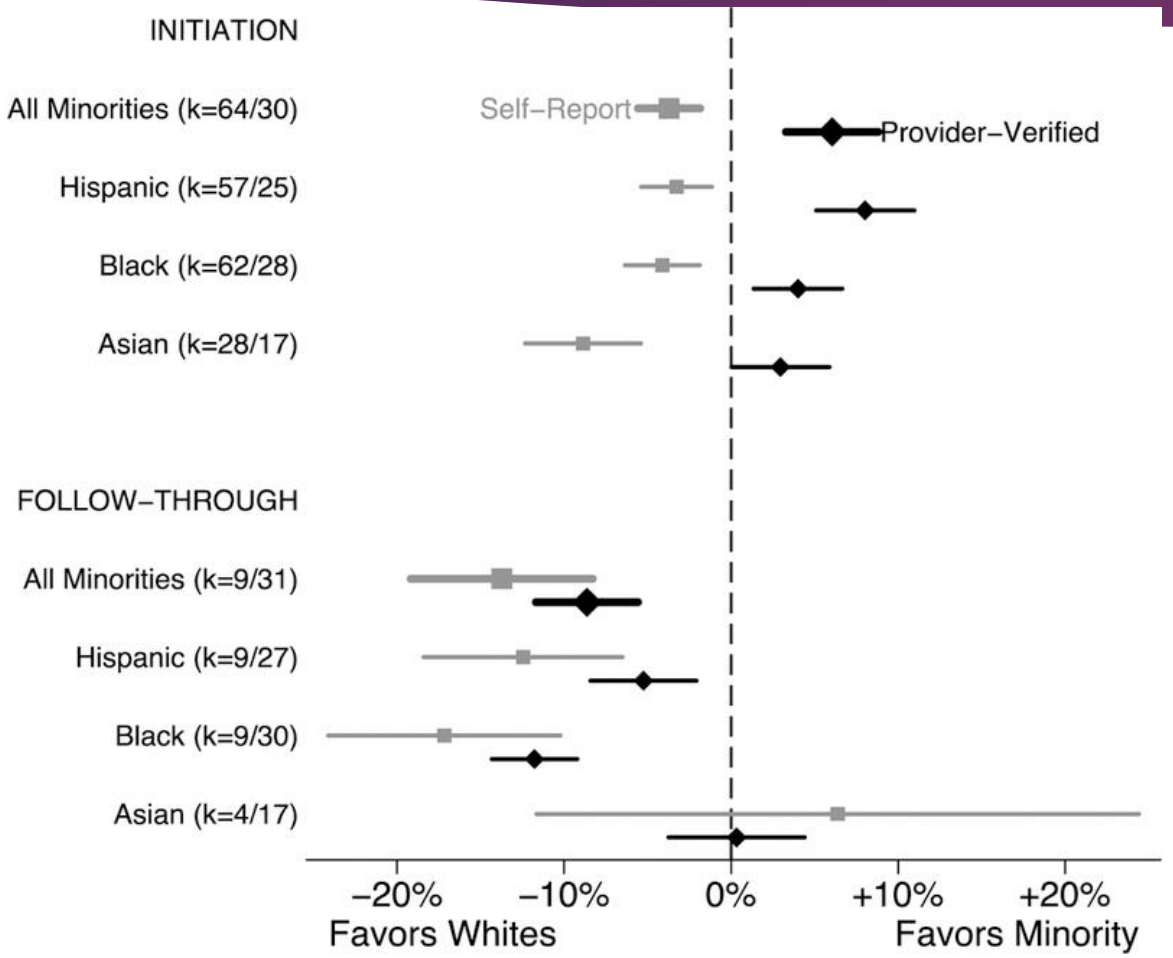


# Reasons for underscreening - insurance



# Reverse disparity

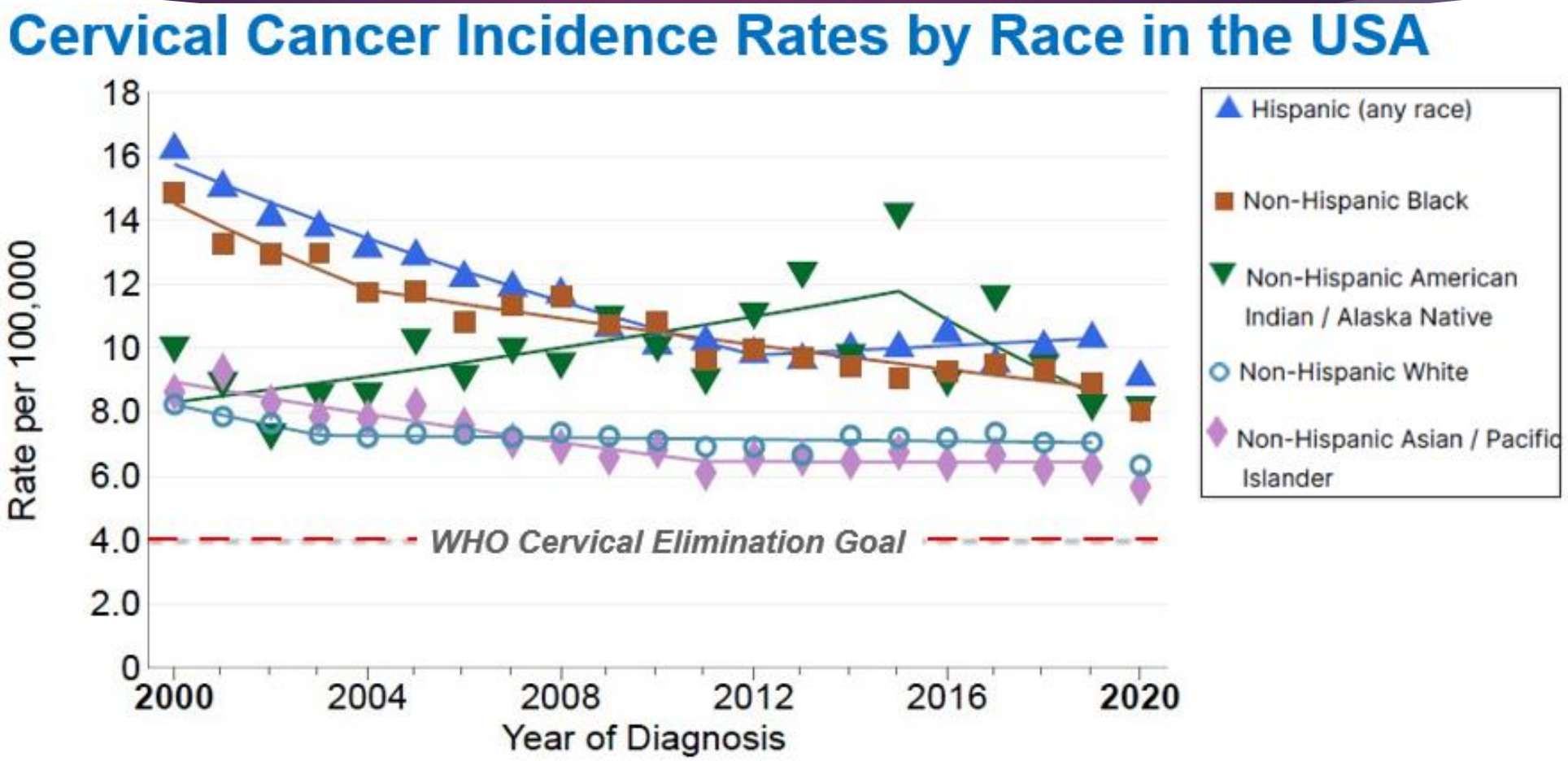



Review of 118 HPV vaccine studies in US (n=3mil)

Minorities were 6.1 more likely to initiate HPV vaccination compared to Whites

Minorities were 8.6% less likely to follow-up with full HPV vaccine series

# Where are we now?



# Trauma Informed Care

TRAUMA:  events or circumstances experienced by an individual as physically or emotionally harmful or life-threatening, which result in adverse effects on the individual's functioning and well-being (SAMHSA)

# 4 Rs for Trauma Informed Approach

# TIC during gynecologic exams

- During gynecologic exams
  - Ensure patient in safe space – do they want another person present or not
  - Ask permission to start exam, have chaperone
  - Share steps of procedure before you do them
  - Use nonjudgemental objective  language
  - Reinforce throughout the visit that the patient has control
  - Be flexible to patient needs and requests

- Review abnormal findings and next steps – ~~"no news is good news"~~

# What are we doing at Harbor/DHS

- Primary Prevention
  - Vaccination:  orchid prompt to offer starting age 9
- Secondary prevention
  - 2024: Launch primary HPV testing
  - DHS Expected practice
  - 2025: Launch self collection
- Tertiary Prevention
  - Incorporate immunotherapy into care of local advanced and advanced cervical cancer
  - Future roles for clinical trials

# CA HPV Vaccination Roundtable

CALIFORNIA HPV VACCINATION ROUNDTABLE
*Working to prevent HPV cancers*

The California HPV Vaccination Roundtable invites you to attend a free training on

## The Announcement Approach for Increasing HPV Vaccination

**Approved for 1 unit of AAFP Elective credits**

This one hour, interactive online meeting will share strategies for recommending HPV vaccination to promote vaccine acceptance and save clinical time. Learn the latest on HPV vaccine research and guidelines, as well as brief, evidence-based communication strategies to increase vaccine uptake by your adolescent patients.

**BENEFITS**

- **Learn an evidence-based approach to increasing HPV vaccination endorsed by the National Cancer Institute.**
- **This approach saves clinical time and patients prefer it.**
- **Stay up-to-date on the latest in HPV vaccine research**

Trainings are held virtually.

For more information and to schedule a training, contact Shauntay Davis-Patterson at Shauntay.davis@cdph.ca.gov

American Cancer Society

## 2025 Partner Opportunities to Prioritize HPV Vaccination

Register your organization to join us!

### HPV Vaccination Health System Learning Community

**Who:**
Community health centers, pediatric practices, and family practice medical groups located in: CA, FL, GA, IL, MI, NJ, NY, NC, OH, PA, TX, and VA.

**What:**
Learning community exploring quality improvement practices to close adolescent vaccination care gaps and improve clinical processes. Live CME/CNE credits available for all sessions after the info session.

**When:**
Info session: April 24
Series: May 22, July 24, September 25, October 23, and December 11 from 2-3pm EST.

**Where:**
Virtual via Zoom meeting. Registration required.

Register here!

### HPV Vaccination Promising Practices Series

**Who:**
Healthcare providers, health plans, public health professionals, and community partners.

**What:**
Informative quarterly series to learn about the latest evidence-based practices to improve on-time HPV vaccination rates among adolescents aged 9-13.

**When:**
March 26, June 25, August 27, and November 19 from 2-3pm EST.

**Where:**
Virtual via Zoom webinar. Registration is rolling so you can join anytime throughout the year!

Register here!

### Rural HPV Vaccination Learning Community

**Who:**
Healthcare providers, health plans, public health professionals, and community partners who serve rural communities.

**What:**
Learning community aimed at connecting partners and improving on-time HPV vaccination rates among adolescents aged 9-13. Live CME/CNE credits available.

**When:**
2nd Wednesday of every month (March-December) 2-3pm EST.

**Where:**
Virtual via Zoom meeting. Registration is rolling so you can join anytime throughout the year!

Register here!

American Cancer Society

*This programming is supported by the Centers for Disease Control and Prevention of the U.S. Department of Health and Human Services (HHS) as part of a $1,000,000 award funded by CDC/HHS. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by CDC/HHS, or the U.S. Government.*

# WHO 2030: Enough is enough – global mission to ERADICATE cervical cancer

**Few diseases reflect global inequities as much as cervical cancer. Cervical cancer is the fourth most common form of cancer among women worldwide.**

More than
**85%**
**OF THOSE AFFECTED ARE YOUNG**
undereducated women who live in the world's poorest communities.

Furthermore,
**90%**
**OF THE DEATHS**
occur in low- and middle-income countries (LMICs)

**OF THE 20 HARDEST HIT COUNTRIES, 19 ARE IN AFRICA**

Even in high-income countries, the inequity of cervical cancer disproportionately afflicts women of color, minorities, and other marginalized communities.

The disease
**KILLS MORE THAN**
**300 000**
**WOMEN EVERY YEAR,**

Annually, it is
**DIAGNOSED IN OVER**
**600 000**
**MORE,**

Unless we take action, this preventable tragedy will only worsen. If we accept the status quo,

**BY 2030**

annual
**DEATHS WILL RISE TO**
**400 000**

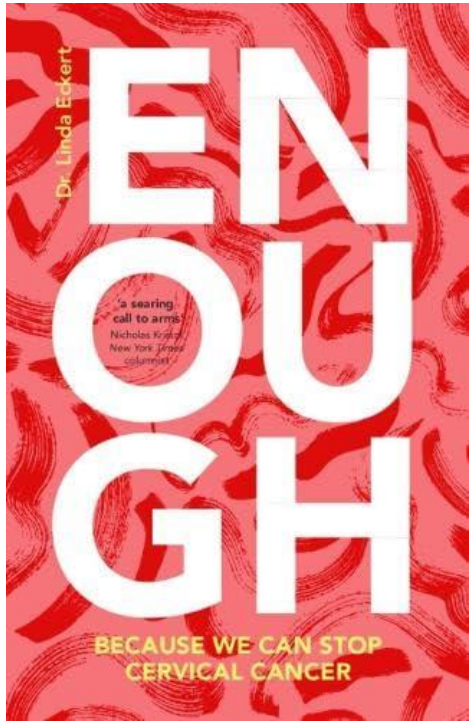
the annual number of new cases is projected to **INCREASE TO**
**700 000**

- **90% of girls fully vaccinated with the HPV vaccine by the age of 15;**
- **70% of women screened using a high-performance test by the age of 35, and again by the age of 45;**
- **90% of women with pre-cancer treated and 90% of women with invasive cancer managed.**


Meeting and maintaining the 90-70-90 targets would yield significant returns in the coming century:

- **the median cervical cancer incidence rate will fall by 42% by 2045, and by 97% by 2120, averting more than 74 million new cases of cervical cancer; and**
- **the median cumulative number of cervical cancer deaths averted will be 300 000 by 2030, over 14 million by 2070, and over 62 million by 2120.**

# Closing Thoughts




But I must do my part, knowing it will take a far-reaching, global effort to conquer this cancer. I'm willing to spread the word to anyone who will hear it. That word, the word that pushes me to keep going, is the title of this book: *Enough.*

*Enough, because cervical cancer can be stopped.*
*Enough, because each of us can play a role in making it stop.*

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# Frequently Asked Questions (FAQs)

**Q1:** Should I still do a pap if I see a cervical mass on routine exam?

**A:** Maybe. Pap test is a screening test for a presumably normal looking cervix. If a mass or cancer is suspected, recommend biopsy or referral to gynecology for evaluation/biopsy as a pap test may not be diagnostic.

**Q2:** My patient completed the HPV vaccine series. Does she still need to get cervical cancer screening routinely?

**A:** Yes, current guidelines recommend same cervical cancer screening intervals regardless of prior HPV vaccination history

# Frequently Asked Questions (FAQs)

**Q3:** My healthy 67yr old patient who transferred her care from another country is asking if she still needs a pap smear as she states that she never had an abnormal pap smear. Is it ok to stop?

**A:** Depends. If patient is not able to provide adequate screening over the preceding 10 years, would recommend ongoing screening until can document 3 consecutive negative liquid-based cytology test results or 2 consecutive negative primary HPV or co-tests (most recent test within 5 years).

**Q4:** I got an unsatisfactory pap test result but her HPV test was negative. Is it ok to just repeat it next year?

**A:** No, unsatisfactory cytology should be repeated in 2-4 months. Also consider cause for unsatisfactory cytology (i.e. Infection, vaginal atrophy) and treat underlying cause before repeat pap test.

# Questions


**suspark@dhs.lacounty.gov**
Clinic: 424-306-4061
Office: 424-306-6137

# Thank you!