Breakout Topic C:

Vaccination Health Equity

11:00 AM – 12:30 PM

American Cancer Society®

NATIONAL HPV VACCINATION ROUNDTABLE

American Cancer Society®

NATIONAL ROUNDTABLE ON CERVICAL CANCER

Breakout Topic C:
Vaccination Health Equity

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CELEBRATING 20 YEARS OF THE HPV VACCINE

HPV Vaccination Health Equity in the Western United States

Deanna Kepka, PhD, MPH

Professor, College of Nursing • Investigator, Huntsman Cancer Institute
Director, Mountain West HPV Vaccination Coalition
University of Utah

National HPV Vaccination Roundtable & National Roundtable on Cervical Cancer National Meeting • June 9-10, 2026

Disclosures

- Dr. Kepka received funding from the MSD Investigator Studies Program (MISP).
- Dr. Kepka has received funding from MSD as a consultant.
- Dr. Kepka has received travel awards from MSD.

UNIVERSITY OF UTAH
HUNTSMAN
CANCER INSTITUTE

The Kepka Team at Huntsman Cancer Institute

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UNIVERSITY OF UTAH
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KEPKA RESEARCH LAB

HCI SERVING PATIENTS AND FAMILIES

Who live far from a major medical center

The **Comprehensive Cancer Center** of Idaho, Montana, Nevada, Utah, and Wyoming, and the only **cancer specialty hospital** in the region

10.3M
PEOPLE

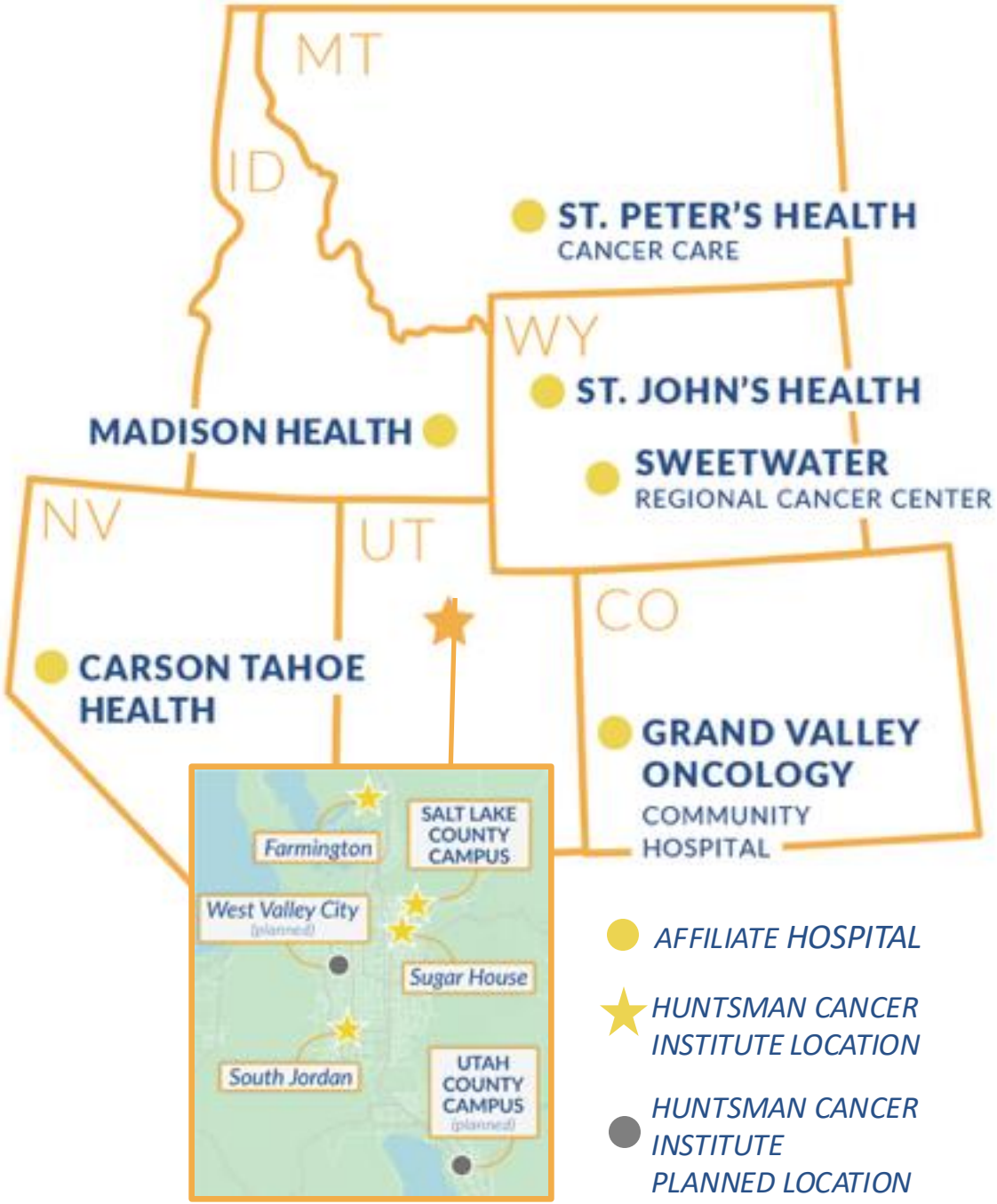
43
AMERICAN INDIAN TRIBES/NATIONS

53.3K
ANNUAL CANCER CASES

MORE THAN 1/3 OF OUR PATIENTS TRAVEL
>150
MILES FOR CARE

158
RURAL OR FRONTIER COUNTIES

Rural counties are <100 people/sq mi
Frontier counties are <7 people/sq mi



COVERING A VAST REGION

Patient and Community First

2 **CANCER SCREENING & EDUCATION MOBILE CLINICS**

1,245 **INDIVIDUALS SCREENED FOR BREAST CANCER**

more than half of whom were underserved/underinsured

3,714 **PATIENT CARE HOME VISITS THROUGH HUNTSMAN AT HOME™**

424 **NEW PATIENTS SERVED IN THE COMFORT OF THEIR OWN HOME**

ROADMAP

What you'll leave with today

Where the West stands after 20 Years of HPV Vaccine Availability

2024 NIS-Teen snapshot for all 13 Western states + how we compare to peer nations.

Why parents hesitate now

What's changed post-COVID, and the misinformation environment we're actually communicating into.

Population-level moves that work

School policy, pharmacy expansion, tribal partnerships, Spanish-language outreach, coalitions.

10 things to take home

Concrete actions for your state health department in the next 12 months.

THE ARC

Twenty years in. We can prevent six cancers. So why aren't we?

Two decades of HPV vaccine history

- **2006** Gardasil approved (June 8); ACIP recommends routine vaccination for girls 11–12
- **2011** ACIP extends routine recommendation to boys 11–12
- **2014** Gardasil 9 approved — covers 9 oncogenic HPV types
- **2016** Two-dose schedule approved for kids who start before age 15
- **2022** ACIP softens to allow initiation at age 9
- **2024** Scotland: zero invasive cervical cancers in fully vaccinated cohort
- **2025** 62 NCI cancer centers issue urgent joint call; U.S. coverage stagnant for 3rd year

THE PREVENTION POSSIBILITY

36,400

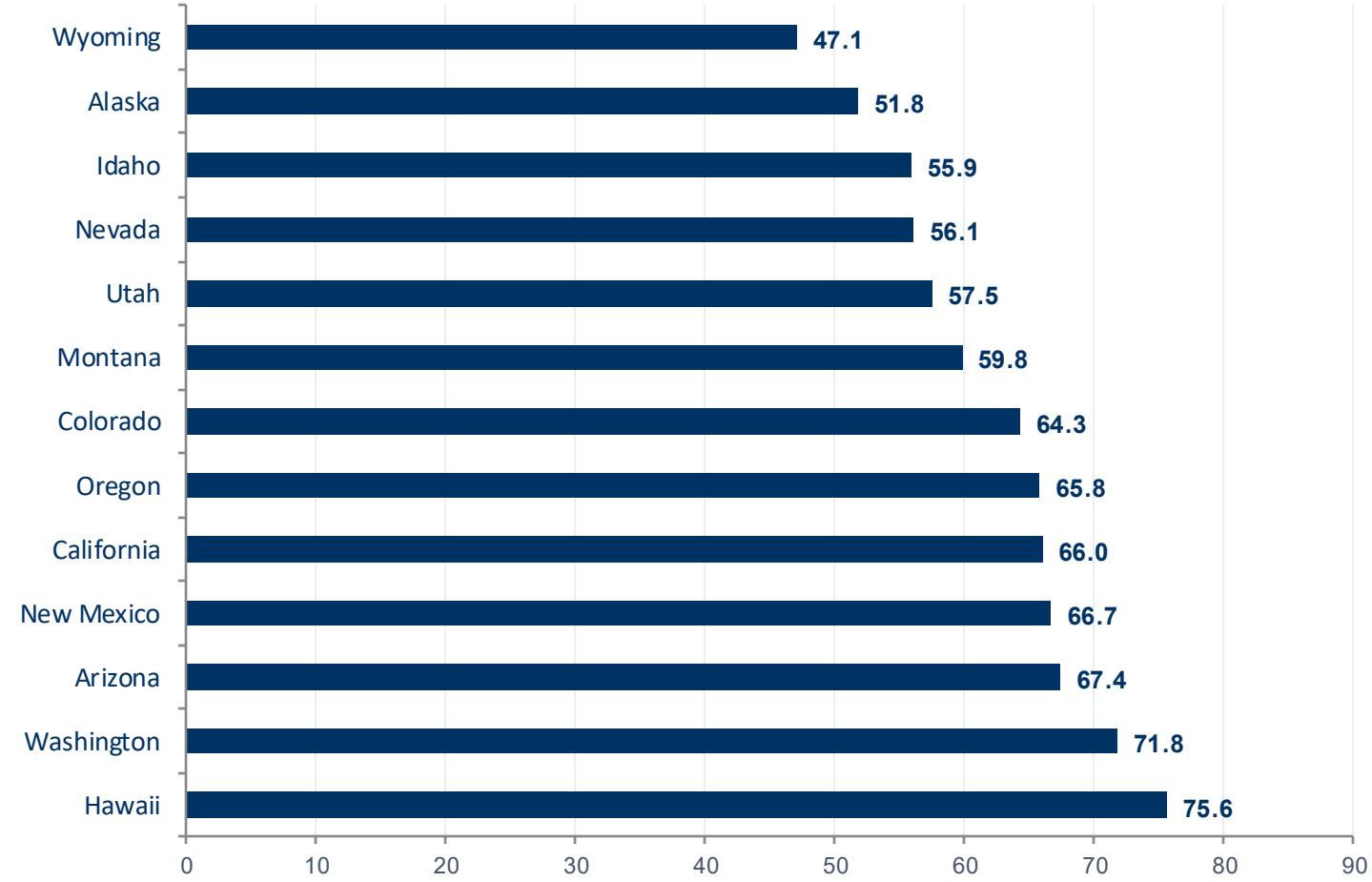
U.S. cancers each year that the HPV vaccine could prevent.

Cervical • Oropharyngeal • Anal • Vaginal • Vulvar • Penile

Source: CDC U.S. Cancer Statistics, 2018–2022.

COVERAGE SCORECARD

Where the West stands: 2024 NIS-Teen up-to-date coverage



Healthy People 2030 target: 80% UTD — no Western state has reached it.

HAWAII

75.6%

3rd in the U.S. — and the only Western state with a school-entry requirement.

WYOMING

47.1%

49th in the U.S. — a 28.5-point gap with Hawaii inside one region.

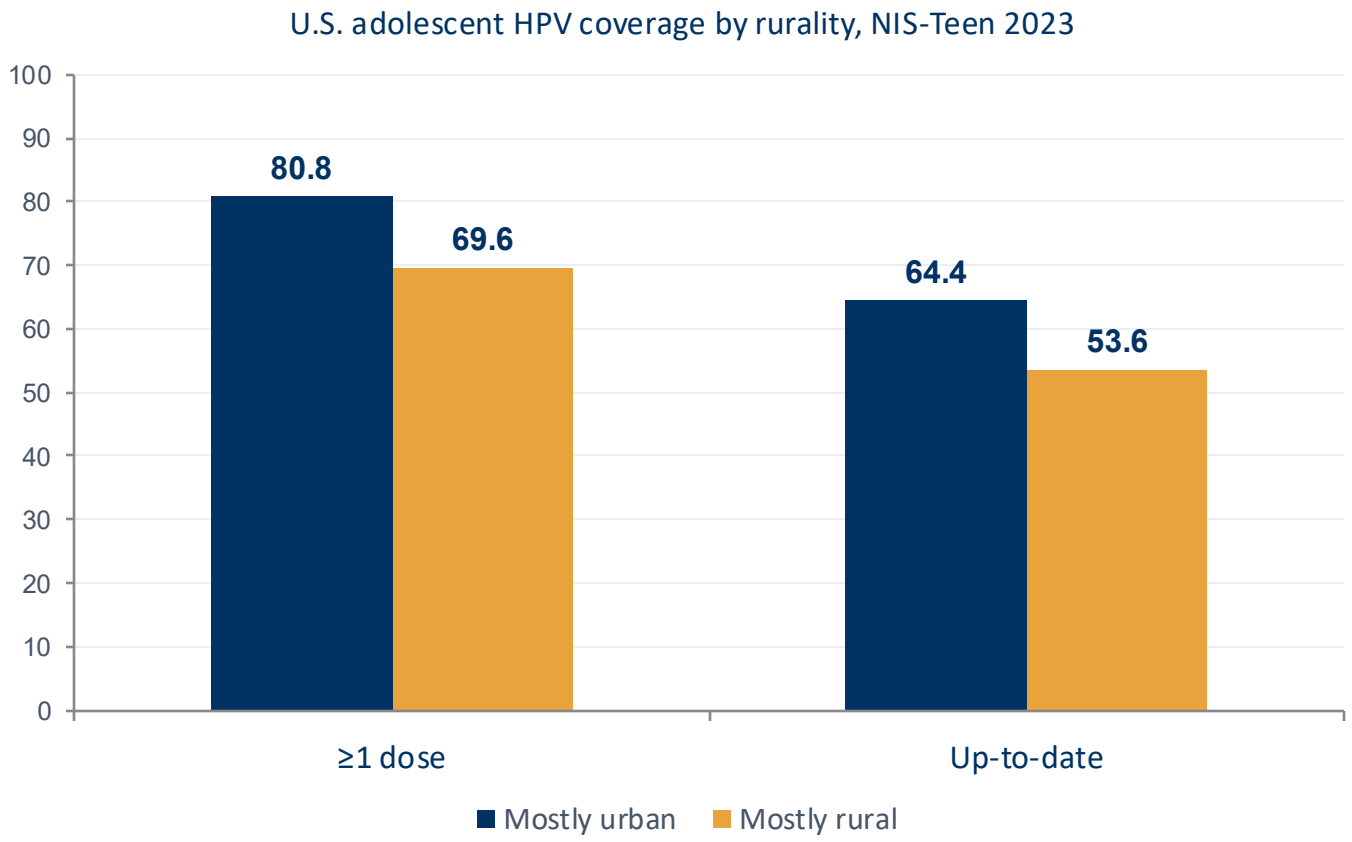
UTAH'S COMPLETION GAP

81.8% start, 57.5% finish.

Utah ranks high on initiation but loses 24 points to completion. That's where our state-level effort needs to live.

EQUITY

The rural–urban gap has not closed in a decade



What our team found in rural Utah

30% of rural Utah parents report their provider has NOT discussed HPV vaccination with them.

50% of Utah adolescents 9–17 received ZERO HPV doses between 2017 and 2023.

70% had at least one missed opportunity — they got another vaccine but not HPV when overdue.

2× the odds of HPV hesitancy among rural Hispanic young adults vs. urban Hispanic young adults.

Sources: Pingali MMWR 2025; Kepka Lab Utah Missed-Opportunities Analysis 2017–2023; Kepka et al., rural Mountain West young-adult survey.

HESITANCY DRIVERS

Why parents hesitate and what's changed since COVID

1	**"Not necessary"**	Most common reason; ties closely to provider not recommending it.
2	**Safety concerns**	Increased from 13% (2015) → 23% (2018). Now the fastest-growing driver.
3	**Lack of recommendation**	30% of rural parents report no HPV conversation with their provider.
4	**Lack of knowledge**	Especially in lower-income & Hispanic/Latino families with limited English.
5	**"Not sexually active"**	Misframes the vaccine as STI prevention rather than cancer prevention.

WHAT'S CHANGED POST-COVID

30.1% of U.S. parents are now hesitant about HPV vaccine specifically — vs. **12.2%** for routine childhood vaccines.

HPV hesitancy now patterns more like COVID-vaccine hesitancy than like measles. The most common reason for non-vaccination among parents of unvaccinated boys is no longer access — it's misinformation (30%) followed by safety concerns (23%).

LISTENING IN RURAL UTAH

What parents and providers told our team

> *"The anti-vaccine campaign is winning in our area. People will trust my medical opinion… but they don't want to listen about HPV."*
>
> — Primary-care provider, rural Utah (Kepka Lab, Rural clinic focus groups)

PARENT THEMES

- Viewed as "optional" — not part of regular childhood shots
- "Not sure if it's for boys…"
- Provider offer "felt sketchy" or rushed
- Confusion about HPV vs. COVID timing
- 78% cite fear of side effects as a reason for refusing any vaccine

Source: Kepka Lab Grand Challenges parent/caregiver focus groups (n=21–30) and rural clinic surveys, rural Utah.

CULTURAL CONTEXT

Three Western communities, three different conversations

Faith communities

Especially LDS / evangelical / conservative Catholic

Cautious sexual attitudes independently predict lower HPV intent in Utah, even after controlling for knowledge (Redd 2022). Don't fight the framing — lead with cancer prevention; partner with faith leaders.

Hispanic/Latino families

Especially Spanish-dominant & immigrant households

Initiation often higher than non-Hispanic white; completion and knowledge often lower. Misperception scores 3 points higher on the 12-item scale. Promotora outreach and Spanish-language radionovelas move knowledge measurably.

Tribal / AI-AN communities

Across IHS Areas in the West

Pediatric vaccination is high; HPV completion lags. Tribal QI work finds 39% of patients fear long-term side effects vs. only 7% of HCPs flagging this. Native-led messaging and elder + youth dual voices matter.

Common thread: provider recommendation matters more in every group than in the general U.S. parent. The trusted local voice is the lever.

PART TWO

What actually works

Evidence-based population-level strategies for the Western region.

SYSTEM LEVEL

Population-level moves your health department controls

School-entry policy & school-located clinics

Hawaii is the only Western state requiring HPV vaccination for school entry (7th grade, since 2020–21) — and is 3rd in the U.S. for UTD coverage at 75.6%.

Politically feasible bridge:
parental-notification laws + HPV in school immunization audit reports.

School-located clinics:
OHSU Knight toolkit is a regional model.

Coalitions: the trusted convener

MOUNTAIN WEST HPV VACCINATION COALITION

2014	400+	28
Founded	Members	States

Coalitions provide the neutral table where state immunization, FQHCs, Medicaid, Tribal health, and cancer centers coordinate. The monthly meeting cadence is the simplest way to translate evidence into local practice — and it's free to join.

huntsmancancer.org/hpv-coalition

PROOF POINTS

Three Western case studies you can borrow from

HAWAII

School entry requirement

75.6% UTD

Required HPV vaccine for 7th-grade entry starting SY 2020–21. Now 3rd in the U.S. for UTD coverage despite pre-policy provider barriers.

RURAL COLORADO

Multi-level QI in a 5-clinician FQHC

Replicable

Kepka et al. (Frontiers in Digital Health, 2021) combined EHR reminder workflows + team training in Telluride Regional Medical Center. Reduced perceived barriers; sustained gains.

UTAH

PIPA: a personalized AI chatbot

Live in 2025

Huntsman team launched 2025 conversational chatbot tailored to parent concerns — early evaluation shows knowledge gains and reduced decisional conflict.

Each case shows a different lever: policy (Hawaii), team-level QI (Colorado), technology (Utah). All three can be adapted to your state.

OUR RESEARCH

PREVENT: a Western-region NCI-funded R01 to reduce HPV vaccine hesitancy

THE PARTNERSHIP

Three institutions, three Western states

WASHINGTON — *Western Washington and Seattle Areas*

Sea Mar Community Health Centers

37-clinic FQHC network, 320K patients, 40% Hispanic

OREGON — *Portland*

Kaiser Permanente Northwest

Center for Health Research — Petrik Lab (Site PI)

UTAH — *Salt Lake City*

Huntsman Cancer Institute

University of Utah — Kepka Lab (PI)

THE PREVENT INTERVENTION

A multi-modal, EHR-embedded outreach program for HPV vaccine–overdue adolescents

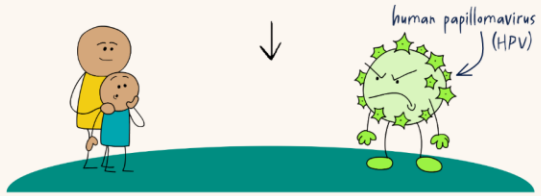
1. Mailed letter + bilingual fact sheet
2. Bilingual text-message outreach with video links
3. Live call from clinic care coordinator
4. Educational website: LearnAboutHPV.org
5. Co-created clinic materials (BCT-developed)

R01 CA279973, funded by the National Cancer Institute. Sites: rural Utah, rural Oregon, rural Washington.

Sea Mar

Hello!

We know you would do anything to protect your child.
Help protect them from cancers caused by HPV later in life.

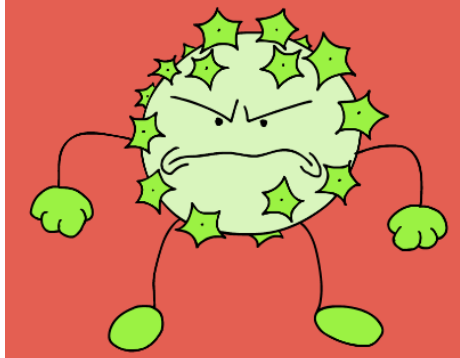


HPV Vaccine is Cancer Prevention

PREVENT

Meet

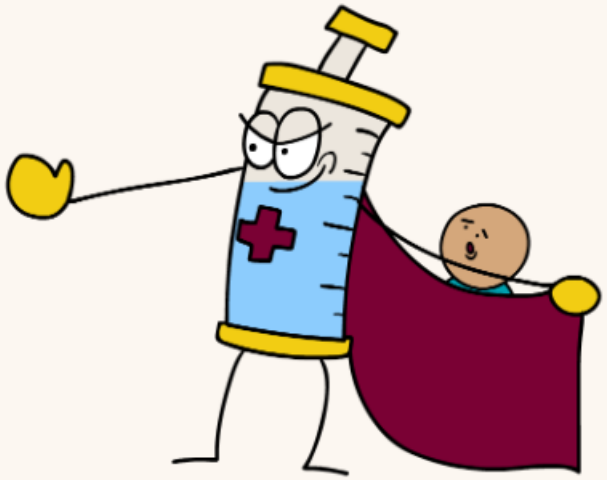
HPV



The sneaky virus with a secret identity!

Meet

the HPV Vaccine



The superhero against a sneaky villain!

METHODS + SIGNALS

Co-creating messages with rural communities — and early results

BOOT CAMP TRANSLATION

Letting rural communities write the message

A validated community-participatory method: clinicians and researchers bring the evidence; community members translate it into language and constructs that fit their lives.

01	**Listen**	5-hour in-person sessions, Aberdeen (English) and Bellingham (Spanish), Feb–Mar 2024
02	**Translate**	Community members rewrite messages in their own voice across two virtual follow-ups
03	**Test**	Refined materials deployed via mailers, texts, navigator scripts, and posters

Thompson JH, Rivelli JS, … Kepka D. Health Educ Behav, Dec 2025.

PRELIMINARY RCT OUTCOMES

Auto Plus arm — Waves 3–5 (Oct 2025 – Jan 2026)

485 adolescents enrolled across 3 waves

253 completed live-call outreach (52% reach)

147 **vaccinations scheduled**

58% of completed calls → scheduled appointment. Only 11% refused.

The bilingual mailer + text + live-call sequence converts overdue adolescents into scheduled visits.

PREVENT RCT Waves 3–5 tracking data, mailed Oct 2025 – Jan 2026.

GLOBAL CONTEXT

20-year scorecard: what's biologically possible

COUNTRY	COVERAGE	CANCER OUTCOMES	NOTE
Scotland	**~88%**	**Zero invasive cervical cancers**	in fully vaccinated cohort at 8–12 years follow-up (Palmer et al., JNCI 2024).
Australia	**~80%**	**Incidence 6.3 / 100,000**	On track to eliminate cervical cancer between 2028 and 2035.
England	**~73%**	**–87% cervical cancer**	in cohorts offered routine vaccination at 12–13 (Falcaro et al., Lancet 2021).
United States	**62.9% UTD**	**Coverage flat 3 years**	Healthy People 2030 goal of 80% UTD reached only in Massachusetts.

Scotland and Australia prove the biology works. The U.S. has the same vaccine — and a delivery system that's leaving 36,400 cancers a year on the table.

TAKE HOME #2

Your Monday-morning checklist — population level

1. Publish a public state HPV coverage dashboard, stratified by county, rurality, and race/ethnicity.
2. Join (or start) a state/regional HPV coalition — **the Mountain West HPV Vaccination Coalition is free to join.**
3. Push for school immunization audits to include HPV reporting, even where not required.
4. Codify pediatric pharmacy vaccination authority in state law before PREP Act sunset (2029).
5. Fund promotora / Native-led / faith-partner outreach in the communities where coverage lags.

TWENTY YEARS IN

We have the vaccine.
We have the evidence.
We have the playbook.

What we're missing is the will to deliver it consistently in every Western community — rural and urban, every faith, every Tribal Nation, every income.

That's the work in front of us here today from the West.

THANK YOU

Questions? Contact Us!

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Join us for monthly meetings!

MOUNTAIN WEST HPV VACCINATION COALITION

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U HEALTH UNIVERSITY OF UTAH

CITATIONS

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13. NCI-Designated Cancer Centers Joint Statement on HPV Vaccination. September 16, 2025.

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REFERENCE

Resources to take with you

Announcement Approach Training

hpviq.org — free CME-eligible

National HPV Vaccination Roundtable

hpvroundtable.org — Start at 9 toolkit, 7 research-tested messages

Mountain West HPV Coalition

huntsmancancer.org/hpv-coalition — monthly meetings, travel awards for in-person meetings

CDC "You Are the Key" / NIS-Teen

cdc.gov/hpv

NCI Cancer Centers Joint Statement (Sept 2025)

62 NCI centers + Puerto Rico

St. Jude HPV Cancer Prevention Program

stjude.org/hpv — AI/AN factsheet, toolkits

NPAIHB / OHSU Knight provider toolkit

For tribal-serving clinics in OR, WA, ID

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Thank You

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University of Pennsylvania

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Clinical and Research Insights for Increasing Equitable Delivery of HPV Vaccination

Disclosures

- I have no disclosures to report.

Defining vaccine equity

- Vaccine equity exists when everyone has a fair and just opportunity to be vaccinated — regardless of socioeconomic status, race, ethnicity, or geographic location.
- The groups least likely to be vaccinated include racial and ethnic minoritized populations, rural and medically underserved communities, and families with lower income.
- These disparities are driven by economic, access, and social factors.

Centers for Disease Control and Prevention, 2024.

Intention does not always lead to vaccination

- In a 2018 national cross-sectional survey of 2,406 mothers of adolescents in states with low HPV vaccine uptake, 18.2% intended to vaccinate their child but had not yet done so.
- These mothers differed from those who had vaccinated chiefly in not having received a provider recommendation — not in their attitudes or beliefs.
- Much of the equity gap therefore reflects reach: visits not made and recommendations not given. These barriers fall disproportionately on rural and lower-income families.

Srivastava et al., Prev Med, 2023.

How can we improve HPV vaccination equity through clinical and research practices?

Five evidence-based insights across two domains:

Clinical

(1) Recommendation quality and consistency

(2) Initiation at ages 9–10

(3) Use of family and parental context

Research:

(4) Test interventions for equitable effect

(5) Characterize message delivery and the information environment

Clinical Insights

3 evidence based insights for equitable delivery

Penn Nursing
University of Pennsylvania

Insight 1: A high-quality provider recommendation

- Design: 2018 national cross-sectional survey of 2,406 mothers of adolescents in low-uptake U.S. states.
- We compared mothers whose children were vaccinated with the 18.2% who intended to vaccinate but had not.
- A high-quality recommendation was associated with more than double the odds of vaccination (OR 2.49; 95% CI 1.93–3.22).
- Among the willing but unvaccinated, 48% reported the provider did not discuss HPV — versus 26% of vaccinated families.

Srivastava et al., Prev Med, 2023.

Insight 1, continued: communication quality and follow-up

- In a 2016 cross-sectional survey of 795 parents, higher communication satisfaction predicted greater odds of series initiation (adjusted OR 3.59; 95% CI 2.23–5.78).
- In a 2016 cross-sectional survey of 494 parents who had declined, follow-up counseling predicted later acceptance (adjusted OR 2.16; 95% CI 1.42–3.28); only 53% received it.

Implication for practice: a clear, presumptive recommendation at every eligible visit with follow-up recommendations after an initial declination

Kornides et al., Vaccine, 2018; Kornides et al., Acad Pediatr, 2018.

Insight 2: Recommending vaccination at ages 9–10

- In the 2018 survey, 66% of mothers would vaccinate at age 9 if their provider recommended it.
- In a 2024 national survey of 2,272 parents of unvaccinated 9–10-year-olds, the provider's age recommendation and a perceived early-start benefit predicted intention to vaccinate early.
- In a companion 2024 survey, parents preferred to widen the window, not replace it: 52% favored the current schedule; 54% ranked starting HPV at age 9 least preferred.

Implication for practice: offer HPV vaccination beginning at ages 9–10 for all children

Fontenot et al., Vaccine, 2026; Zimet et al., J Adolesc Health, 2025.

Insight 3: Using family and parental context

- Design: 2018 national cross-sectional survey of 3,261 mothers across the 27 lowest-coverage states.
- A mother's own HPV vaccination was associated with more than three times the odds that her child was vaccinated (adjusted OR 3.58; 95% CI 2.81–4.56), and with higher intention among not-yet-vaccinated children (adjusted OR 3.32; 95% CI 2.09–5.26).
- Maternal vaccine confidence was not associated with her own vaccination status — the relationship was behavioral, not attitudinal.

Implication for practice: use family context to identify and prioritize under-reached households.

Kornides et al., Hum Vaccin Immunother, 2019.

Research Insights

2 evidence-based insights to improve intervention equity

Penn Nursing
University of Pennsylvania

Insight 4: Testing interventions for equitable effect

- In a 2018 randomized controlled trial of mothers with low intent, tailored video messages raised vaccination intention vs. control (4.2 vs. 3.5 on a 10-point scale; $p = 0.002$).
- In an exploratory sub-analysis ($n = 496$), the benefit concentrated among more-advantaged subgroups: white versus Black children, non-Hispanic families, higher income, and more-educated mothers.
- These subgroups were small and underpowered (for example, 53 Black children); the findings are hypothesis-generating.

Implication for research: pre-specify subgroup analyses and report who does (and does not) benefit

Feemster et al., Prev Med Rep, 2021.

Insight 5: Characterizing the information environment

- In a 2023 conjoint study of 3,803 mothers, the source of a vaccine social-media post mattered far more than its format.
- The American Academy of Pediatrics carried by far the highest importance score (57.2) — more than double any other feature (vaccine type, hyperlink, or message style).
- Persuasiveness declined as hesitancy rose; the most hesitant mothers gave more weight to narrative than to statistics.

Implication for research and practice: identify trusted sources, and match message format to the audience.

Imburgia et al., Prev Med Rep, 2025.

Alignment with the broader evidence base

- Randomized trials confirm that presumptive, high-quality recommendations increase HPV vaccine uptake (Brewer et al., Pediatrics, 2017; Dempsey et al., JAMA Pediatr, 2018).
- Earlier initiation is associated with higher series completion, an advantage observed across racial and ethnic groups (Hirth et al., Vaccine, 2024).
- Rural adolescents remain under-vaccinated relative to their urban peers, reflecting access barriers and missed visits (Williams et al., Hum Vaccin Immunother, 2019; Vasudevan et al., J Rural Health, 2025).

Full citations on the references slides.

Recommendations

Clinical

- Presumptive, high-quality recommendation at every visit
- Re-counsel after an initial declination
- Offer vaccination beginning at ages 9–10
- Use family context to identify high-risk households

Research

- Pre-specify subgroup analyses and report who benefits
- Identify trusted message sources and formats
- Track recommendation delivery as an equity metric

Conclusion

- Improving HPV vaccination equity depends less on new tools than on the consistent delivery of existing ones — and on measuring who is reached.
- Clinicians can strengthen and standardize the recommendation, begin at ages 9–10, and use family context.
- Health research can ensure that interventions are tested for equitable effect and grounded in trusted communication.
- Taken together, these clinical and research factors offer a practical path toward more equitable HPV vaccination.

Thank you!

APPENDIX References — studies presented

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Thank You

Questions?

Move to Lunch Session

Lunch Service: 12:30 PM – 1:00 PM

Lunch Session – Survivor Panel: 1:00 PM – 1:45 PM