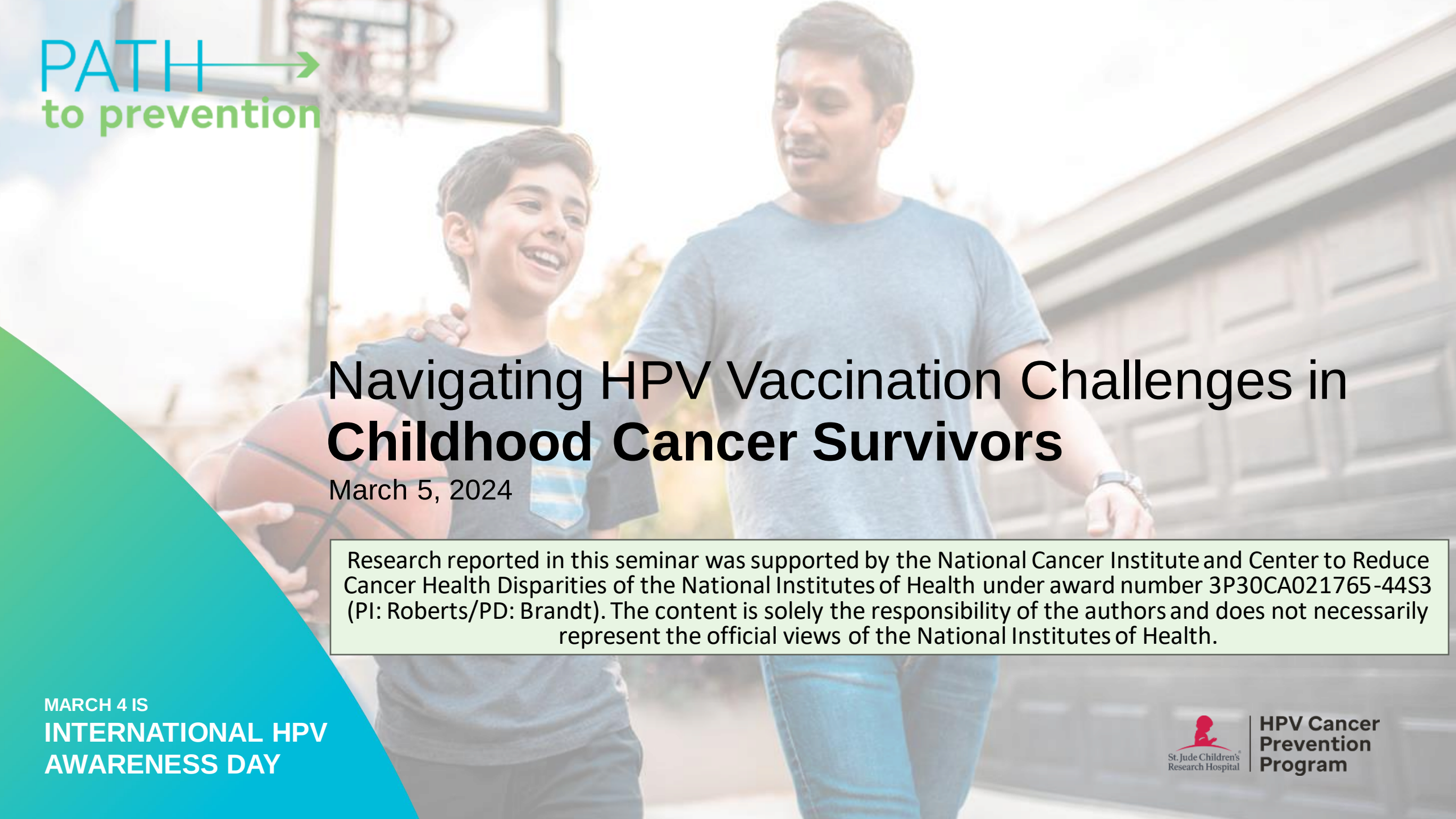

PATH to prevention

Navigating HPV Vaccination Challenges in **Childhood Cancer Survivors**

March 5, 2024

Research reported in this seminar was supported by the National Cancer Institute and Center to Reduce Cancer Health Disparities of the National Institutes of Health under award number 3P30CA021765-44S3 (PI: Roberts/PD: Brandt). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

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Why HPV Vaccination in Childhood Cancer Survivors?

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- Five-year survival rate of childhood cancer survivors has increased to 85%
- Higher risk for treatment related chronic problems, including HPV-related cancers
- Higher risk for developing HPV malignancies (male: 2.5-fold and female: 1.4-fold)
- Majority of these malignancies can be prevented through timely HPV vaccination
- Three-dose series regardless of age at first HPV vaccine dose, beginning six months after the completion of cancer directed therapy (COG, 2023)
- However, survivors are less likely to be vaccinated than general population

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HPV Cancer Prevention Program at St. Jude Children's Research Hospital

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- Administrative supplemental grant: Multi-channel communication campaign for improvement in cancer education and outcomes (MICEO) in underserved populations

- Examining HPV vaccination coverage among childhood cancer survivors using St. Jude Lifetime Cohort (St. Jude Life) data

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HPV Cancer Prevention Program at St. Jude Children's Research Hospital

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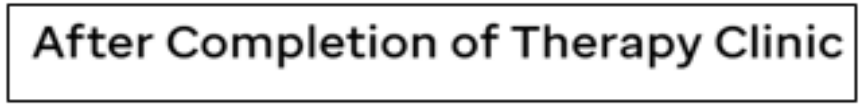
- Work closely with other programs within St. Jude to improve coverage in childhood cancer survivors



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Navigating HPV Vaccination Challenges in Childhood Cancer Survivors

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Objectives:

- Describe the importance of HPV vaccination for childhood cancer survivors
- Discuss strategies focusing on improving HPV vaccination rates among childhood cancer survivors

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Moderator

James L. Klosky, PhD, ABPP, Professor, Department of Pediatrics, Emory University School of Medicine and the Director of Psychology & Neuropsychology Aflac Cancer and Blood Disorders Center Children's Healthcare of Atlanta

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Welcome

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Casey Daniel, MPH, PhD
Associate Professor of Family Medicine, University of South Alabama

Brooke Cherven, PhD, MPH, RN, CPON
Assistant Professor of Pediatrics, Emory University School of Medicine, Aflac Cancer and Blood Disorders Center, Children's Healthcare of Atlanta

Melinda Butsch Kovacic, MPH, PhD
Professor and Associate Dean of Research, University of Cincinnati, Cincinnati Children's Hospital Medical Center

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HPV Vaccination for Childhood Cancer Survivors: Paramount for Prevention

Casey Daniel, MPH, PhD, Associate Professor
of Family Medicine, University of South Alabama

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HPV Vaccination for Childhood Cancer Survivors: Paramount for Prevention

Casey L. Daniel, PhD, MPH

Director of Epidemiology and Public Health

Associate Professor of Family Medicine

University of South Alabama Whiddon College of Medicine

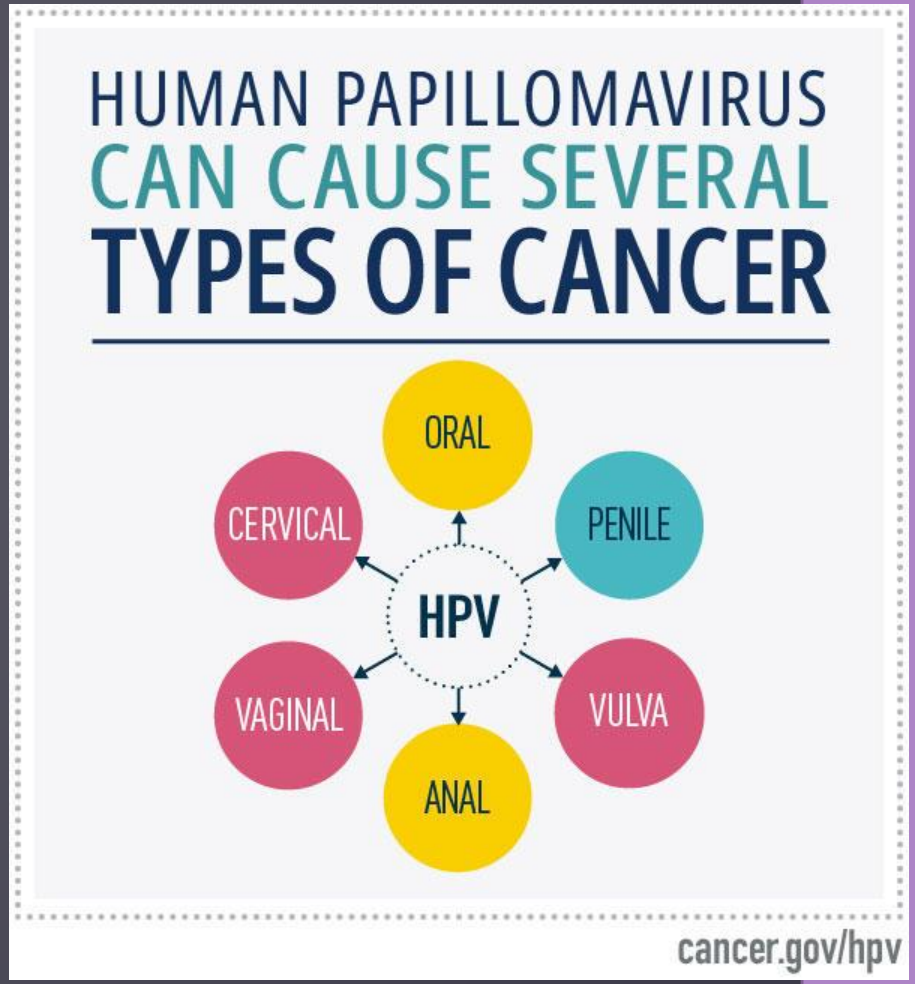
USA Health Mitchell Cancer Institute

Conflicts of Interest

- No Conflicts of Interest to disclose

HPV-related Cancers (in brief)

- High-risk strains of HPV can cause several types of cancer if they persist.
- There are 12 high-risk strains of HPV.
- Most common high-risk strains are 16 and 18.
- HPV can cause six types of cancer.
- Estimated 37,300 new HPV-related cancers in the US each year.



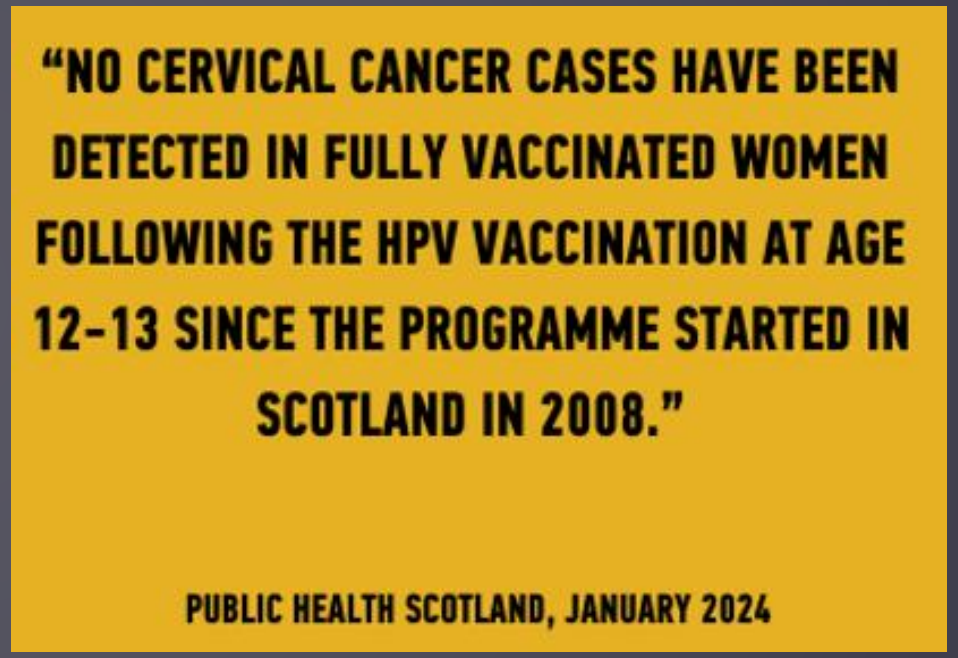
Childhood Cancer Survivors & HPV Cancers

- Childhood cancer survivors (CCS) are at high risk of HPV-related cancers.
  - Nearly three-fold higher risk compared to general population

- **Reasons for increased risk among CCS**
  - Less robust immune system response to HPV vax due to treatment
  - Genotoxic effects of cancer therapy
  - Prolonged immunosuppression; lingering inadequate humoral response
    - Increasing risk for oncogenic infections like HPV
  - Treatment can accelerate cancer development and progression with HPV

HPV Vaccination (in brief)

- Available in US since 2006 (recommended for males since 2011)
- Currently use Gardisil 9, protecting against 9 HPV strains
- The vaccine is ***safe*** and ***effective***
- Since first recommended in 2006, infections with HPV types causing most HPV cancers and genital warts have decreased 88% among teen girls and 81% among young adult women (CDC)



HPV Vax Recommendations for CCS

- Children's Oncology Group
  - Long-Term Follow-Up Guidelines for Survivors of Childhood, Adolescent, and Young Adult Cancers
- Version 6.0 – October 2023

CHILDREN'S ONCOLOGY GROUP

"All cancer survivors should receive the 3-dose series regardless of age at first HPV vaccine dose."

Standard HPV Vax Recommendations

- ACIP recommends **HPV vax for routine vax at age 11-12, as early as 9**.
  - **Before 15th birthday: 2 doses** (2nd dose 6-12 months after 1st dose)
  - **For ages 15-26: 3 doses** (Recommended schedule: 0, 1-2, and 6 months)
- ACIP recommends vax for everyone through age 26 if not adequately vax.
- ACS, National HPV Vax Roundtable, AAP recommend **starting HPV vax at age 9**.
  - Starting recommendation at age 9 increases success of series completion by 13.
  - Results in strong immune response to HPV vax.
  - Increases likelihood of vax prior to first HPV exposure.

https://www.cdc.gov/vaccines/vpd/hpv/hcp/recommendations.html
https://hpvroundtable.org/wp-content/uploads/2023/05/HPV_Roundtable-HPV_Why_Age_9_Sales_Sheet_WEB.pdf

Rates of HPV Vax in the US

- Despite availability, demonstrated efficacy, and safety, we continue to see rates of HPV vax uptake and completion lower than desired.
- Healthy People 2030 Objective
  - ***Increase adolescents who receive recommended doses of the HPV vax to 80%***

- General population rate, 2021: **58.5%** (ages 13-15, NIS-Teen, CDC/NCIRD)
- Among CCS: As much as **20% lower** than general pop
- In a study of 5 cancer centers, found only 24% CCS had initiated HPV vax; with just 13.5% having completed series.

Barriers to HPV Vax in General Pop

- Lack of education about HPV vax (importance, what it does, benefits)
- Lack of provider recommendation (#1 influence on uptake)
- Safety concerns; potential side effects – idea vax is “too new”
- Misinformation – Social media
- Stigma – Perceived association with sex; Fear it will encourage sexual interactions
- Vax hesitancy; increasing hesitancy post-COVID

Barriers to HPV Vax among CCS

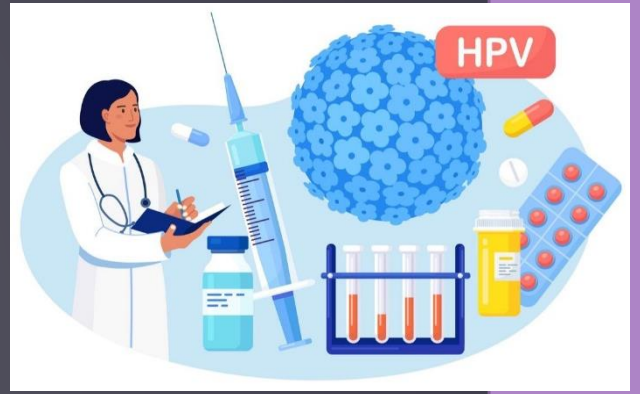
- Lack of education about HPV vax (its importance, what it does, benefits)
- Safety concerns; potential side effects; idea vax is “too new”
- Misinformation – Social media, hearsay
- Stigma – association with sex/sexually transmitted infection
- Vaccine hesitancy in general or specific to HPV vax
- Vaccinating at age 11 being too young
- Already been through so much; want to avoid more medical interventions
- Lack of provider recommendation*
- Provider advising to delay or decline vax due to CCS’s previous treatment

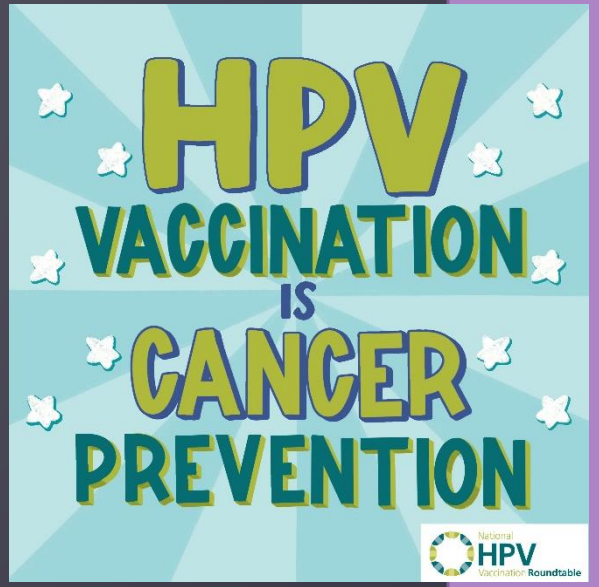
Interventions/Efforts to Increase Rates

- **Educating survivors and parents**
  - Providing counseling on HPV vax as clearly as possible; answering questions
  - Emphasizing the message of ***prevention***
  - Using evidence-based messaging to dispel misinformation
- **Examining ways to incorporate this education and messaging into transition from patient to survivorship care**
- **Encouraging discussion with pediatric oncologist and coordination with primary care team**
- **Determining ways to address CCS refusal**
- **Empowering CCS**

Recommendations and Key Takeaways

- HPV vax is important for *prevention* of HPV-related cancers.
- Children's Oncology Group recommends that CCS receive the 3-dose HPV vax series (can start ~6 months post-treatment).
- Despite higher risk for HPV-related cancers, CCS have *lower* HPV vax rates.
- CCS' lower HPV vax rates may be related to fear, refusal, lack of provider recommendation, lack of education, confusion about recommendations, etc.
- Address through interventions targeting increasing HPV vax education, using evidence-based messaging, working with oncology and primary care providers, and addressing specific reasons for CCS HPV vax refusal.





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- St. Jude HPV Cancer Prevention Program Team

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Thank You

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Addressing Reasons for Refusal of the HPV Vaccine Among Childhood Cancer Survivors

Brooke Cherven, PhD, MPH, RN, CPON, Assistant Professor of Pediatrics, Emory University School of Medicine, Aflac Cancer and Blood Disorders Center, Children's Healthcare of Atlanta

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Addressing Reasons for Refusal of the HPV Vaccine Among Childhood Cancer Survivors

Brooke Cherven, PhD, MPH, RN, CPON
Assistant Professor of Pediatrics
Aflac Cancer and Blood Disorders Center at Children's Healthcare of Atlanta
Emory University School of Medicine

Objectives

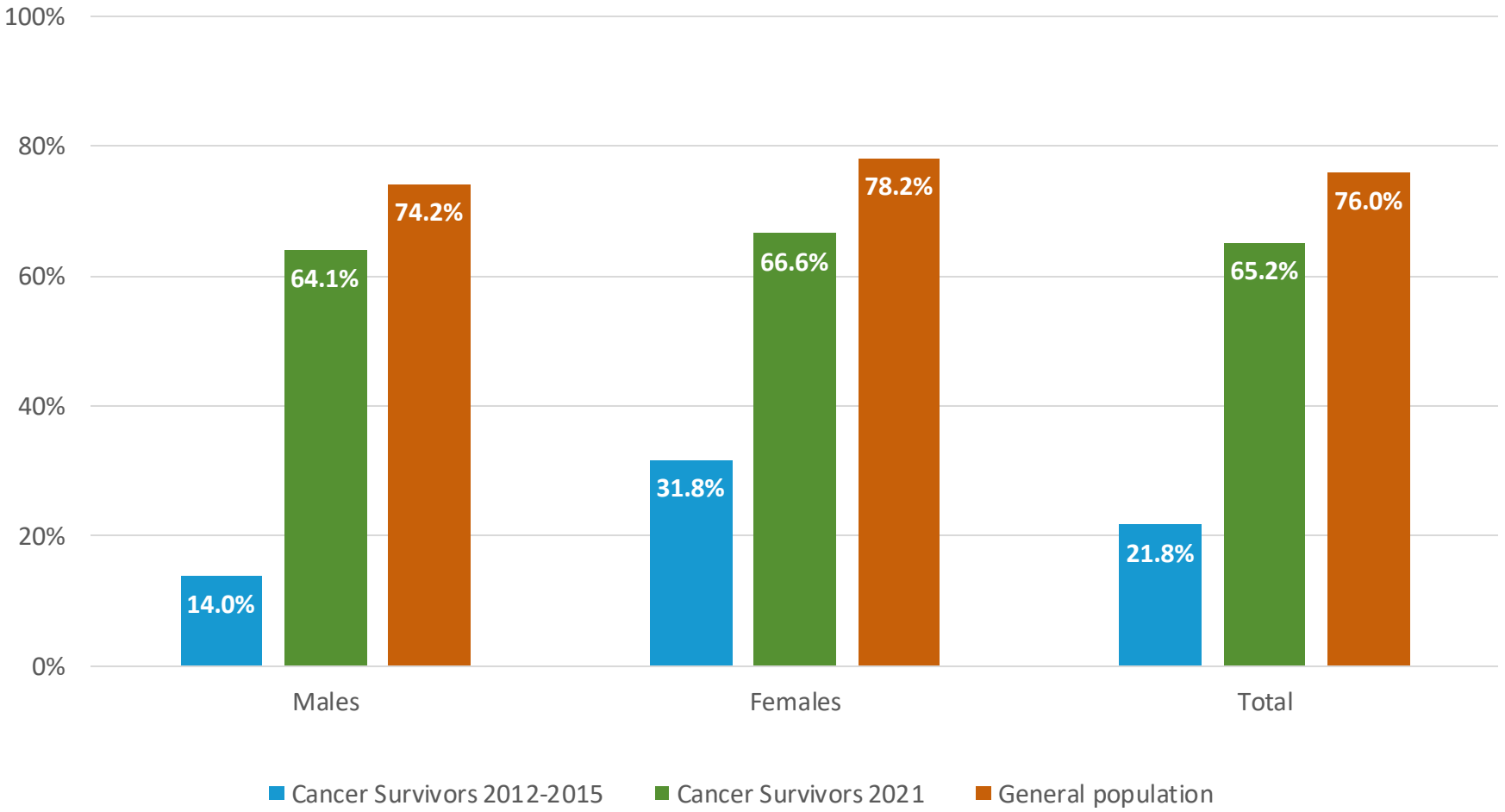
- Background on HPV vaccination and role of provider recommendation for cancer survivors
- Reasons for refusal of the HPV vaccine among survivors
- Communication strategies to address vaccine hesitancy

Background

- Cancer survivors are at 3-fold increased risk for HPV-associated cancers
- 9v HPV vaccine protects against ~90% of HPV-associated cancers and is recommended for both males and females in the U.S. beginning at age 9y
  - HPV vaccine in cancer survivors is safe and immunogenicity is comparable to general population
- Historically (2012-2015) uptake of HPV vaccine in cancer survivors has been low (<25% of survivors initiated vaccine)

MMWR 2016; 65(49): 405-1408; Henderson et al., *Cancer* 2022;128(2):373-382; Landier et al., *Lancet Child Adolesc Health* 2022;6(1):38-48

HPV Vaccine Initiation in Cancer Survivors 13-17y



Landier & Klosky et al., 2023, presented at the *International Symposium for Late Complications of Childhood Cancer*

Provider recommendations are uniquely powerful for cancer survivors

Provider recommendations are uniquely powerful for cancer survivors

Klosky & Landier et al.; *J Clin Oncol*. 2017;35(31):3582-3590.

Provider recommendations are uniquely powerful for cancer survivors

Klosky & Landier et al.; *J Clin Oncol*. 2017;35(31):3582-3590.

HPV Recommendation Preferences Among Cancer Survivors

Survivors want:

- To know the vaccine purpose
- Information about safety, and side effects in context of prior cancer treatment
- The oncology team to discuss when to restart vaccination after cancer treatment

Survivors and parents desire the recommendation from the oncology team

Recommendations from the oncology team are preferred over primary care

Strategies to address vaccine hesitancy can help pediatric oncology providers feel more confident in discussing HPV vaccination

Kirchhoff, A., et al.; *Hum Vaccin Immunother*. 2019;15:1767–1775;
Waters, A., et al.; *J Cancer Education*. 2022;37:1519-1524

Reasons for Refusal of HPV Vaccine Study

Purpose

- Understand the reasons for HPV vaccine refusal among young cancer survivors

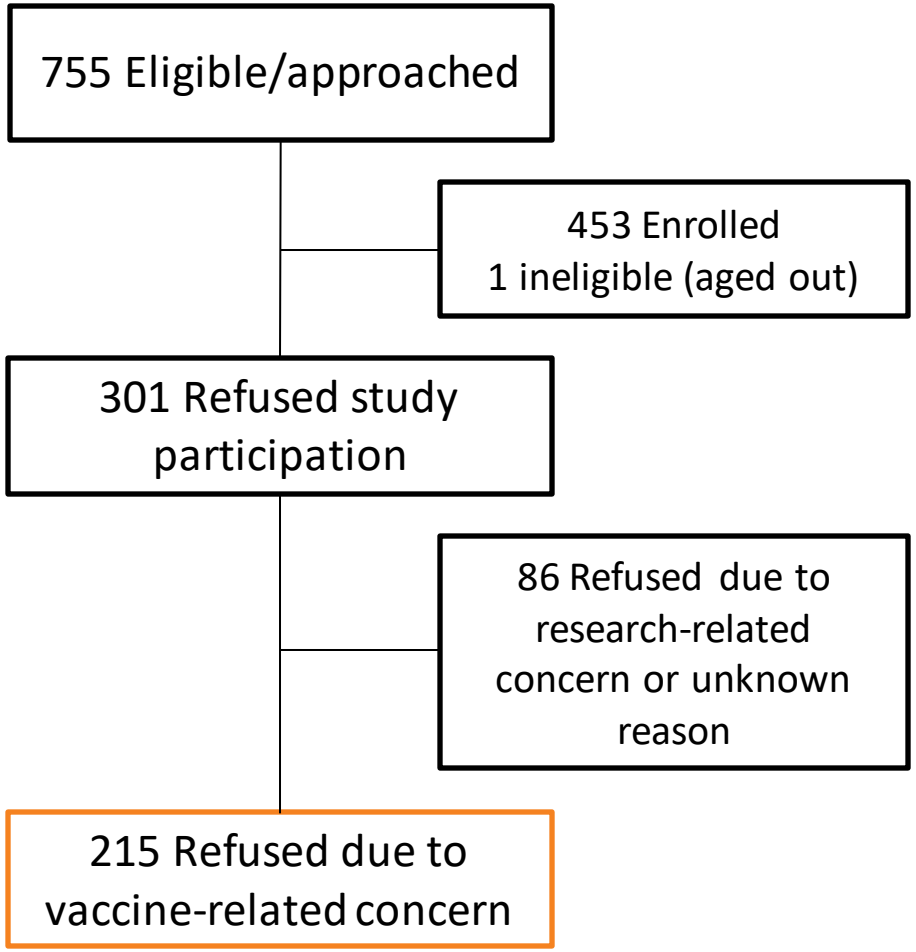
Data Source

- Vaccine-naïve cancer survivors, 9-26 years of age and 1-5 years from completion of cancer treatment, recruited to clinical trial evaluating immunogenicity/safety of vaccine
- Survivors/parents who declined participation were asked to provide their reason(s) for declining

Analysis

- Conceptual content analysis methodology
- A primary refusal reason was determined for each survivor

Study Sample



Vaccine-related refusal sample (N=215):

- Male 69.5%
- Mean age 15.0 ± 4.5y
- Non-Hispanic white 72.6%
- Years off therapy 2.9 ± 1.2

Cherven et al., *Cancer* 2023;129(4):614-623.

Primary reasons for HPV vaccine refusal among survivors

Category	N (%)	Sub-category
Safety concerns	37 (17.2%)	Concern about side effects More research is needed about vaccine safety and long-term effects
Vaccine Hesitancy/ Disinterest	26 (12.1%)	Apprehensive/Wants to wait Not interested in the vaccine
External Influences	36 (16.7%)	Policy Influences Vaccine is not mandated for school attendance Healthcare provider-related Influences Provider recommended waiting/declining vaccine Lack of a provider recommendation for vaccine Health Influences Survivorship concerns (potential relapse, managing health conditions, avoidance of additional medical interventions, aversion to needles)
Vaccine-Related Information Deficits	49 (22.8%)	Lack of information regarding vaccine Lack of information regarding vaccine indications and targeted groups
Health Beliefs/Family Decisional Processes	67 (31.2%)	General negativity regarding vaccines Negativity specific to HPV vaccine Religious reasons for declining vaccines Family decided against vaccine: Parent decision Survivor decision Made a decision as a family

Cherven et al., *Cancer* 2023;129(4):614-623.

Using Research Tested Messages to Address Vaccine Hesitancy in Cancer Survivors

Cancer Survivors' Reasons for Refusal	Research Tested Message
"I've heard bad things" "Just not sure that aren't any negative side effects" "Know someone who had a bad reaction"	**Safety.** "This vaccine has been studied specifically in cancer survivors and was found to be safe, just like HPV vaccination in the general population."
More research is needed The vaccine "is too new and we don't know enough yet"	**Protective.** "The HPV vaccine provides childhood cancer survivors with the same level of protection against HPV compared to kids who've never had cancer."
We don't want the vaccine right now because he's "already been through so much"	**Timing**. "Now that your child has completed cancer treatment, it is the right time for him to get the HPV vaccine as part of recommended survivorship care."
"Pediatrician doesn't recommend it for him right now because of all the treatment he's had"	**Guidelines.** "Experts at the CDC agree that kids should get the HPV vaccine, and HPV vaccination is recommended for childhood cancer survivors as part of the Children's Oncology Group survivorship guidelines."
Feels like she is "too young" "I'm not anti-vaccine but I'm not interested in this vaccine for him right now at this age."	**Age**. "Kids respond more strongly to the HPV vaccine when they are younger. This may give better protection against some cancers."

Shah & Gilkey et al., *Pediatrics*. 2019;143(2):e20181872

Subsequent HPV Vaccine Initiation: Don't Give Up!

- Among general population AYA who initially declined HPV vaccine (*n*=494)
  - Almost half (45%) reported getting HPV vaccine at a later visit
  - Another 24% planned to in the next year
- In cancer survivors, almost half (47%) with intent to receive the vaccine, subsequently initiated

Kornides et al., *Acad Pediatr*. 2018;18(2S):S37-S43, 2018;
Cherven et al., *Cancer*. 2019;125(21):3810-3817

Implementation of a Provider-Focused Intervention for Maximizing HPV Vaccine Uptake in Young Cancer Survivors Receiving Follow-Up Care in Pediatric Oncology Practices: A Cluster-Randomized Trial (U01CA246567 Landier, Klosky MPIs)

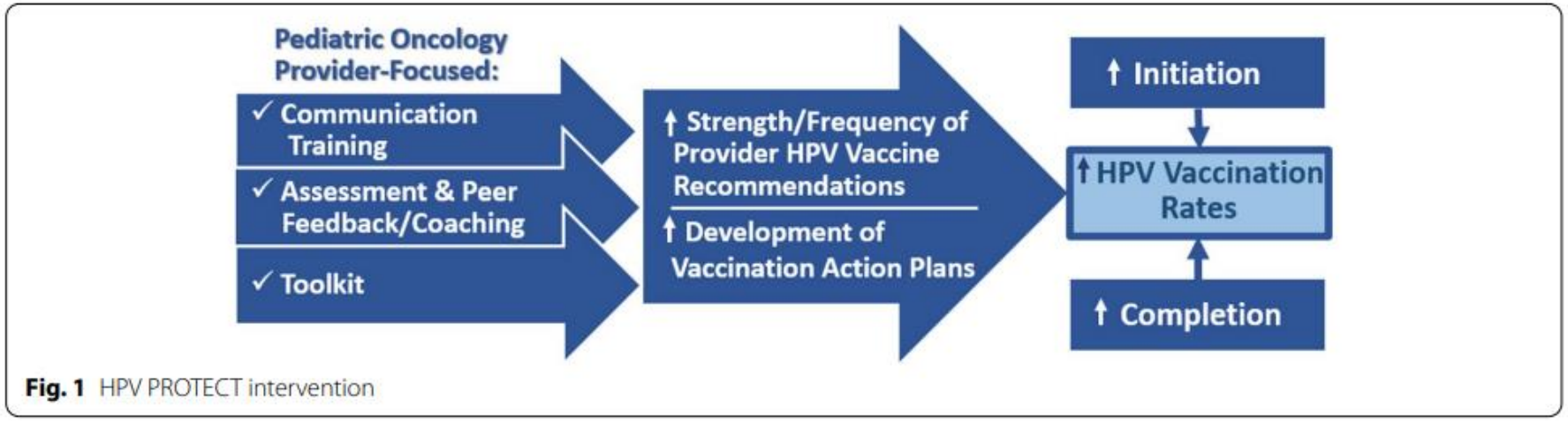


Fig. 1 HPV PROTECT intervention

Landier & Klosky et al., *BMC Pediatr*. 2022;22(1):541.

Conclusion

- Provider recommendation is critical to increase HPV vaccination among cancer survivors
  - Survivors prefer recommendations from oncology team
- Reasons for refusal of the HPV vaccine can be addressed through communication and research-tested messages
- Interventions to support oncology provider recommendation of the vaccine are warranted

Acknowledgments

- Survivors and their families
- HPV PROTECT study team
- Support: U01CA246567, R01CA166559, K23NR020037

The opinions expressed in this presentation are those of the authors and do not necessarily represent those of the NIH

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Engaging Both Young Survivors & Primary Care Providers in HPV Vaccination Programming

Melinda Butsch Kovacic, MPH, PhD
Professor and Associate Dean of Research, University of Cincinnati, Cincinnati Children's Hospital Medical Center

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Engaging Both Young Survivors & Primary Care Providers in HPV Vaccination Programming

Melinda Butsch Kovacic, MPH, PhD

Associate Director of Community Outreach & Engagement, University of Cincinnati Cancer Center

Professor, Department of Pediatrics, College of Medicine, University of Cincinnati

Program Director, We Engage 4 Health, Cincinnati Children's Hospital Medical Center

Professor and Associate Dean of Research, UC College of Allied Health Sciences

WE engage 4 health

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HPV-Related Cancers Can Be Prevented Through Vaccination

- While human papillomavirus (HPV)-associated cancers can be prevented by vaccination, their uptake is lower and delayed in pediatric and young cancer survivors.

- Targeted and engaging health promotion is critical to promoting timely vaccination in this high risk group.

- As a recommendation from a health care provider is a strong predictor of HPV vaccination, prioritizing cancer care provider education as well as improving the education of and coordination with primary care providers could also positively impact HPV vaccine uptake.

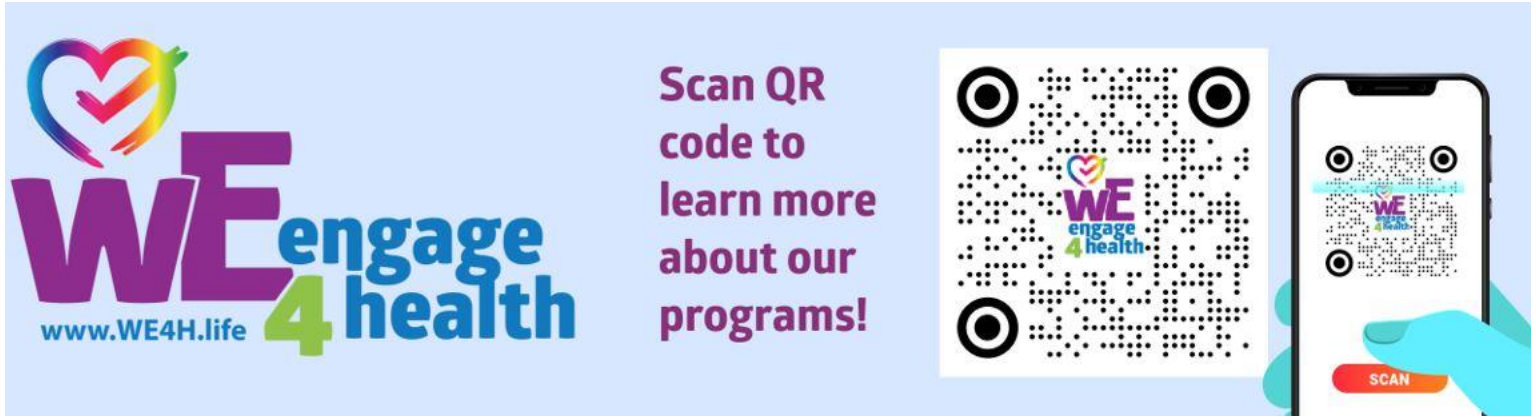
We Engage 4 Health (WE4H)

An *interdisciplinary* community-academic partnership

- 5 Faculty
- 4 Staff
- 4 High School Interns
- 2 Undergraduate Interns
- 6 Community Members
- 3 Evaluation Professionals

Focuses on promoting community health and participation in research

Foundation: community co-designed graphic-stories and hands-on learning experiences.



SEPA SCIENCE EDUCATION PARTNERSHIP AWARD

Supported by a National Institute of General Medical Sciences
Co-PI's: M Butsch Kovacic and S. Hershberger (Miami U)
Original Community Partner: Cincinnati's West End

SEVEN HILLS NEIGHBORHOOD HOUSES

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Differences Causing Health Promotion Challenges

People have many differences:

- Educational differences
- Health literacy levels
- Differing learning styles
- Socio-cultural differences
- Psychological/emotional differences
- Differences in life experiences
- Age-related differences

How can we better promote health?
How can we better encourage HPV screening and vaccination ?

Stories are recognized but underutilized strategies in health promotion

While stories can benefit ALL learners, stories are especially useful in working with experiential and global learners, those with limited health literacy, and those typically underserved by traditional health communication approaches.

They can be shared

- in written/text form
- verbally/orally
- on digital platforms
- with/without images
- graphic or comic style

Stories are:

A representation of connected events and characters that has an identifiable structure, is bounded in space and time, and contains implicit or explicit messages about the topic being addressed”

Storytelling and Story Sharing Are Useful Tools

- One of the most ancient forms of human expression.
- Throughout history, the telling and sharing of stories has enabled reflection and healing across diverse cultures.
- In religious practice, poetry, songwriting, etc., stories are employed to teach and to help others remember hardships so that future generations may struggle less.
- Useful for their ability to quicken perceptive insight and response and support health literacy where other approaches fail
- Helps people create greater personal meaning from what is shared and ultimately improve their understanding of critical points so that they can better recall these points over time.
- Are engaging and fun when shared/read aloud together!

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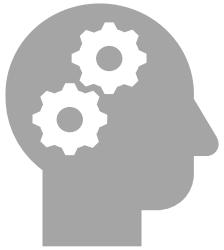
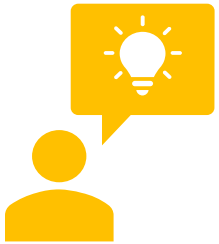
Why Stories Work?

Stories are low stakes – People can discuss a topic without discussing themselves.

Stories also they help make complicated messages easier to understand; creates engagement, improves learning, and influences behavior



fMRI studies have shown similar activity when we hear a story as when we recall a story about ourselves



While listening to stories, our brains are activated in a manner that makes us believe that the ideas and experiences in the story are our own

After listening to character-driven stories, researchers have observed increases in oxytocin synthesis – which enhances both empathy and motivates cooperation with others.

Stories also augment the release of dopamine which keeps those receiving the stories engaged and regulates their emotional responses

WEengage4health

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Stories can have the most impact when co-designed!

- Co-design is the *active* collaboration between researchers, designers, developers, and users as "experts of their experiences" as they jointly explore, and articulate group/community needs and collectively determine and make solutions.
- Ensures local and cultural relevance and meaning.
- Participants learn from the shared experiences of other cultural insiders "like me."
- Empowers storytellers to use their significant experiences to promote and advocate for health and health equity in their own and similar communities. They personally benefit too!

WE engage 4 health

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Our Cast of Characters are Community Co-designed Too!

Uniqueness of WE4H Graphic Style Stories

WE engage 4 health

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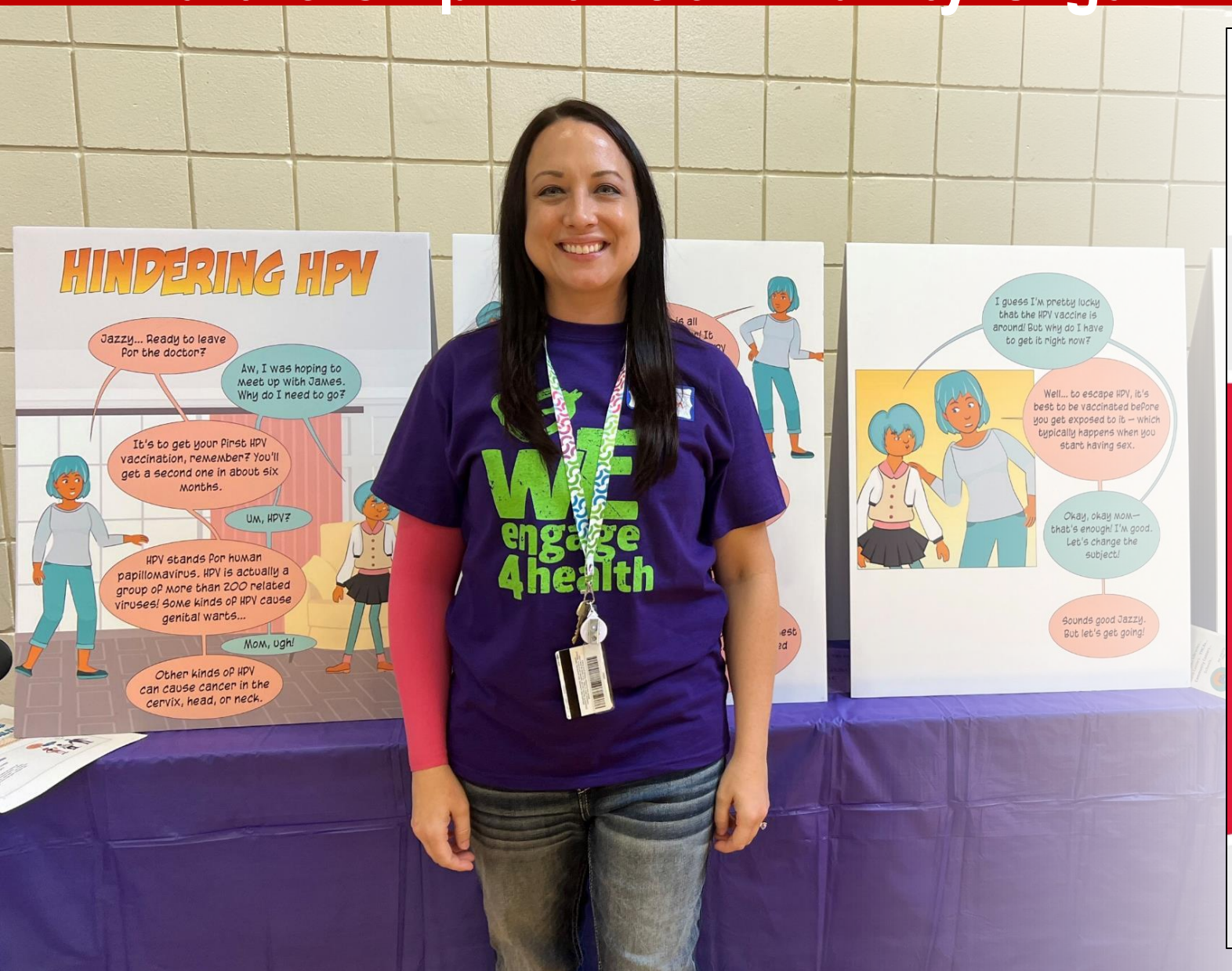
Reducing Your Risk Fairs:
In Partnership with Community Organizations



Stories Read Aloud Together

Uniquely, WE4H stories are read out loud together during our programs and at health fairs offering an engaging, nonintimidating way to quickly share information and lead to meaningful discussions post read.

Let's READ! Who wants to be?

- ***Monique*** *(left)– our mom of 2 girls and a breast cancer survivor*
- ***Jazzy*** *(left)- our sassy pre-teen*

Cancer? I'm way too young!

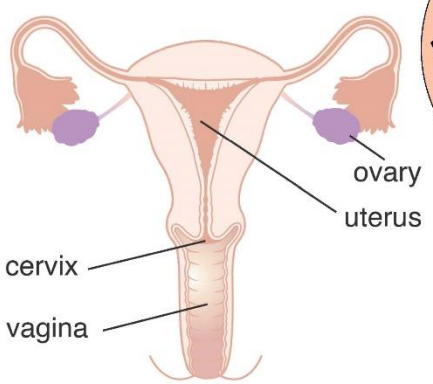
This vaccination is all about preventing cancer! It protects you from getting an HPV infection. That will reduce your chance of getting cancer when you're older.

Did you get the HPV vaccine?

Yes, I got vaccinated as an adult. Getting the HPV vaccine at your age would have been better, but it wasn't available yet. HPV is really common, so I probably was exposed to some types of HPV before I got my vaccination.

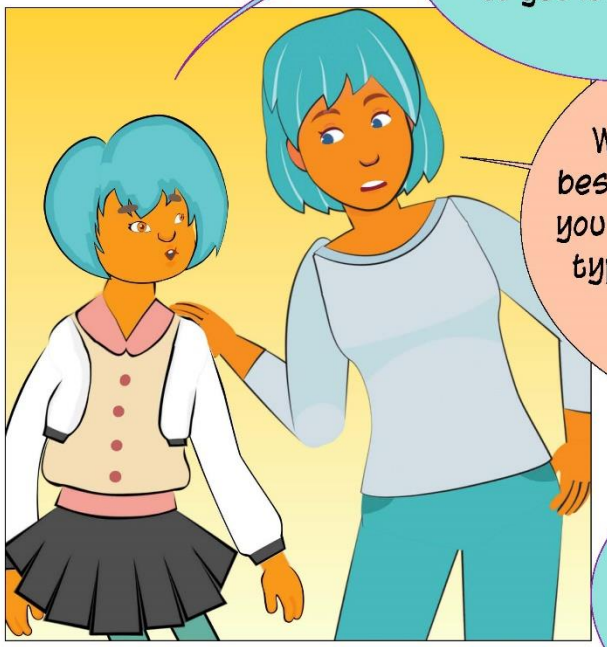
That's why I get something called a PAP test at the doctor every year.

The test looks for cell changes in my cervix that HPV could have caused. If the test finds these changes, they can be treated before cancer develops.



IN THE USA, THE CURRENT HPV VACCINE PROTECTS AGAINST SEVEN OF THE MOST COMMON CANCER-CAUSING HPV TYPES (16, 18, 31, 33, 45, 52, AND 58) AND TWO WART-CAUSING HPV TYPES (6 AND 11).

I guess I'm pretty lucky that the HPV vaccine is around! But why do I have to get it right now?



Well... to escape HPV, it's best to be vaccinated before you get exposed to it – which typically happens when you start having sex.

Okay, okay mom– that's enough! I'm good. Let's change the subject!

Sounds good Jazzy. But let's get going!

HPV VACCINATION IS RECOMMENDED FOR ALL GENDERS, IDEALLY BEGINNING BY AGE 11–12. (HPV VACCINE CAN BE GIVEN AS YOUNG AS AGE 9.)

CHILDREN 9–14 YEARS OLD GET 2 DOSES OF THE VACCINE, USUALLY 6 MONTHS TO A YEAR APART. TEENS AND ADULTS AGES 15–26 YEARS NEED 3 DOSES.

4th Panel Facts

- Highlights challenges and healthy actions

- Followed by discussion prompts asking
  - What did you learn?
  - What was new? Surprising?
  - What else do you need to know?

HPV HEALTH CHALLENGES

1. HUMAN PAPILLOMAVIRUSES (HPV) ARE A GROUP OF COMMON VIRUSES THAT CAUSE GENITAL WARTS, CERVICAL CANCER, AND SOME HEAD AND NECK CANCERS. THEY MAY ALSO CAUSE SOME PENILE AND ANAL CANCERS.

2. HPV IS MOSTLY TRANSMITTED DURING ORAL OR GENITAL SEX. HAVING MANY SEX PARTNERS, SMOKING, AND DRINKING INCREASE PEOPLE'S RISK OF BOTH CERVICAL AND HEAD AND NECK CANCER. HAVING A PRIOR DIAGNOSIS OF SOME CANCERS CAN ALSO INCREASE YOUR RISK.

3. IF A PERSON IS SEXUALLY ACTIVE, THEY ARE LIKELY TO BE EXPOSED TO HPV AT SOME POINT OVER THEIR LIFETIME.

HPV HEALTHY ACTIONS

1. THE HPV VACCINE IS MOST EFFECTIVE IF GIVEN TO YOUNG PEOPLE BEFORE THEY ARE SEXUALLY ACTIVE. BUT THE HPV VACCINE IS STILL VALUABLE LATER IN LIFE. PEOPLE WHO'VE HAD CANCER SHOULD STRONGLY CONSIDER IT. OTHER ADULTS AGE 27-45 YEARS CAN CONSIDER THE HPV VACCINE AFTER DISCUSSING RISKS AND BENEFITS WITH THEIR HEALTH CARE PROVIDER.

2. HPV TESTING AND PAP TESTS ARE IMPORTANT SCREENING TESTS TO DETECT CERVICAL PRE-CANCERS AND CANCERS. EARLY DETECTION INCREASES THE CHANCE OF A FULL RECOVERY. CHECK WITH YOUR HEALTH CARE PROVIDER ABOUT WHEN TO BEGIN AND HOW OFTEN TO TEST BASED ON YOUR AGE AND RISK FACTORS

3. HEALTH CARE PROVIDERS CAN CHECK FOR HEAD AND NECK CANCER BY EXAMINING THE MOUTH AND PALPATING THE NECK. ADDITIONAL TESTING WILL BE NEEDED TO CONFIRM A DIAGNOSIS.

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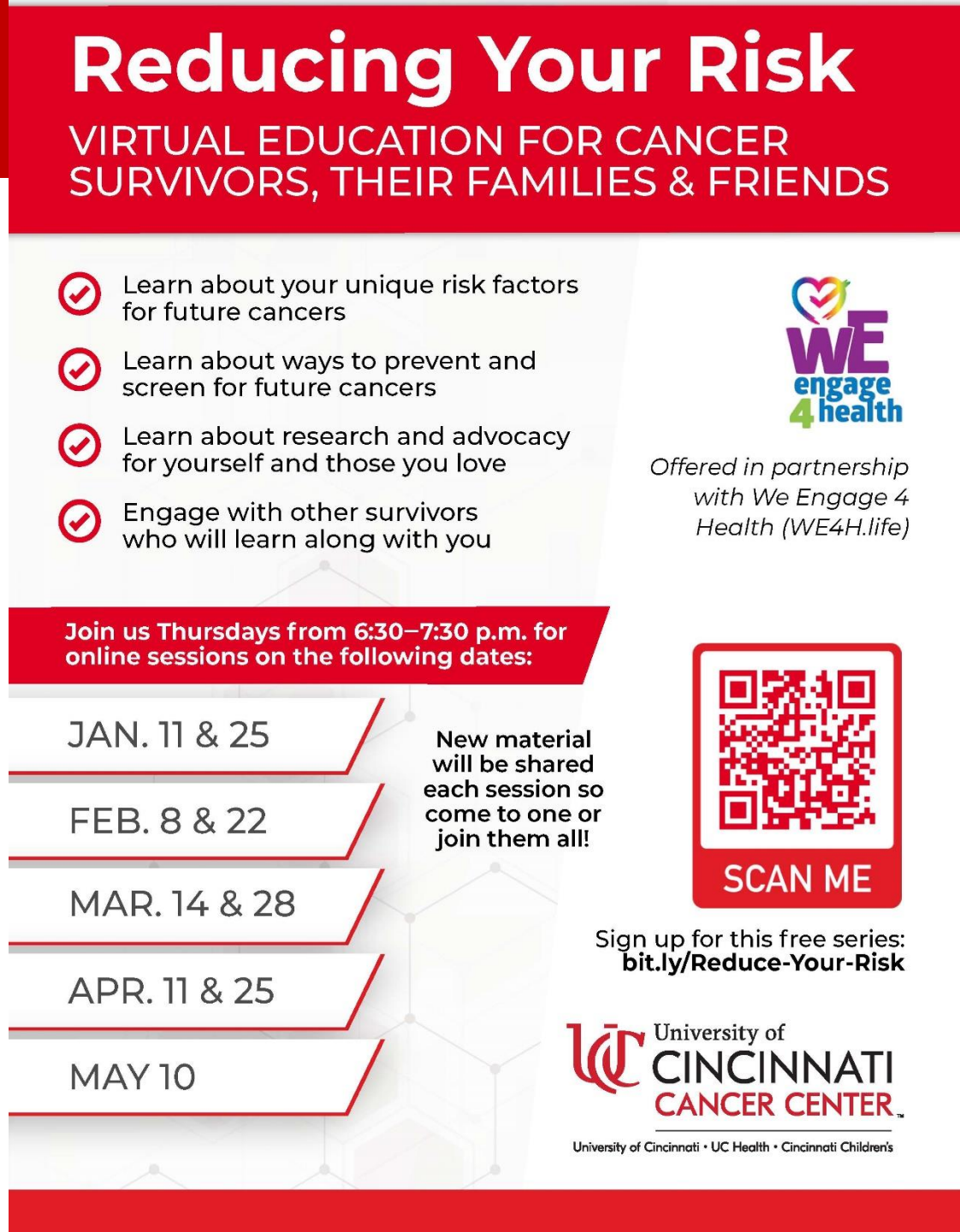
WE ENGAGE 4 HEALTH IS FUNDED BY A GRANT FROM THE NATIONAL INSTITUTES OF HEALTH SCIENCE EDUCATION PARTNERSHIP AWARDS.

Virtual Reducing Your Risk Events

- Virtual events to bring together survivors, their family members and close friends
- Leverages 3 stories for NEW attendees:
  - Reducing Your Risk – about cancer risk factors
  - Cells Gone Wrong- explains abnormal cell growth
  - Primary Care for Prevention – about primary care
- Returning attendees are offered different set of stories that vary by session– on other cancers, on advocacy, grief, on vaccines, etc.
  - Hindering HPV story facilitated by OB/GYN faculty so she can answer their many questions
  - Victory for Vaccines – facilitated by Health Champion



A Focus on Second Primary Cancers

- Created after several focus groups and a pilot of cancer survivors
- Has a focus on second primary cancers given many said that they had not realized their risks for these cancers
- Faculty and staff of our Survivorship program facilitates program; discusses Care Planning and shares details of our Onco-Primary Clinic.
- Added new partners - Cancer Family Care and Cancer Support Community – to increase invitation list and bridge to more survivor resources.
- Vaccination is discussed – particularly after the COVID pandemic – many more people are vaccine hesitant about receiving vaccination

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Second Primary Cancer (SPC) Fact Sheet

SPC Defined

A second primary cancer is a second, unrelated cancer in a person who has previously experienced another cancer at any time. A second primary cancer may occur in the same tissue or organ as the first cancer, or in another region of the body. These second cancers may be related to a genetic predisposition, common risk factors, treatments for the original cancer, or simply occur sporadically as cancer often does. The incidence of second primary cancers is highest in childhood cancer survivors, but relatively common in adults as well.

SPC is NOT Metastasis

Metastasis is the spread of cancer from one site to another. In the case of a person having metastatic lung cancer from a primary breast cancer, the cells in the lungs would be cancerous breast cells under the microscope and not cancerous lung cells. Recurrent cancer is more than often a result of metastasis. At times, it's possible to distinguish a SPC from metastases, other times, this is not possible. Some cancer cells appear abnormal making it difficult to tell the tissue or organ from which the cells came.

Talk to Your Healthcare Provider

It's important to talk to your healthcare provider about your potential risk factors for a SPCs and ask for a Care Plan to outline recommended cancer screenings and/or genetic testing.

Risk of SPC

The risk of a SPC depends on many factors:

- Age at diagnosis of the first cancer
- The type of the primary cancer
- The stage of the first cancer (those with advanced stage first cancer are less likely to develop a SPC)
- Treatments received for the first cancer
- Genetic predisposition or family history
- Other risk factors (such as lifestyle and diet factors)
- Common exposures (tobacco smoke, radon, etc.)

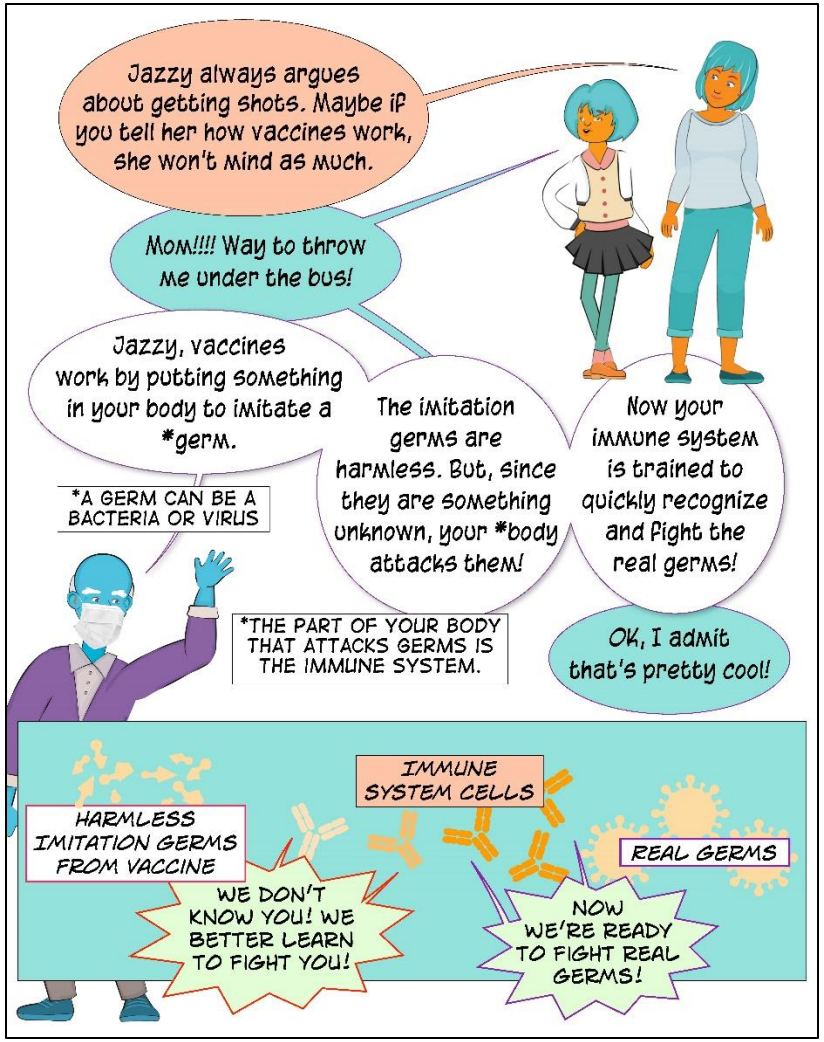
Statistics

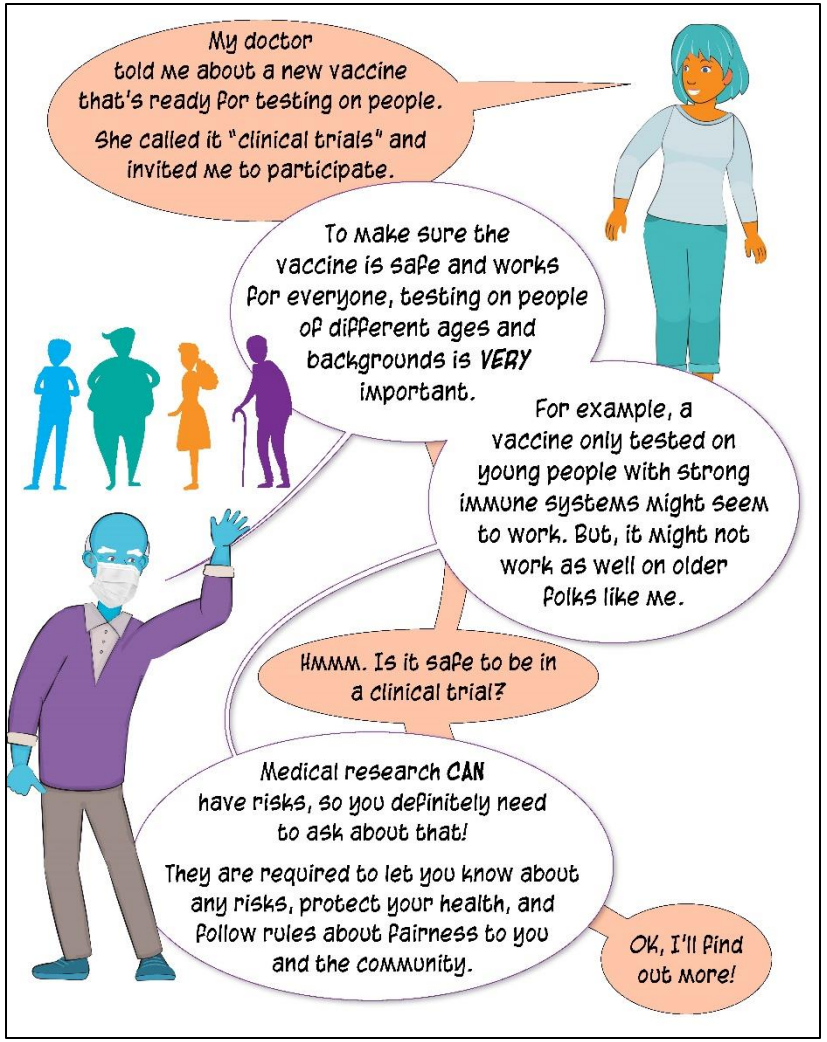
SPCs are common among cancer survivors, and in some cases, may be more of a threat to life than the original cancer. The incidence of SPC has been rising steadily, largely due to improving cancer survival rates. The incidence of SPC is highest in childhood cancer survivors given they often live for many years after their original cancer diagnosis, and the fact that their survival rates have also been improving.

Overall, the most common type of SPC in Cincinnati are lung and breast cancer, followed by prostate cancer. Older age and past smoking history are associated with SPC in Cincinnati.

Risk factors for one cancer may predispose a person to developing other cancers. For example, smoking is not only linked to lung cancer, but is also associated with cancers of the bladder, esophagus, liver, colon, and more.

Stories About Vaccines





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Tailoring Education

- We understand that some practices serve specific populations that have barriers to vaccination and screening for cancer
- We are open to studying WHY those barriers exist and using what we learn to inform the iterative co-design of our educational materials and approach with community representatives
- We have leveraged cultural insiders or lay educators –that we call Health Champions- to use our comic style stories to initiate meaningful and non-judgmental discussions within their family and friend circles with great success.
- For cancer survivors, we have been told that its helpful to receive education from other cancer survivors.

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Provider Referral & Care Plans

- Within our health system, we are encouraging our oncologists to refer their patients to our Survivorship Program and our Onco-Primary Clinic; here they will get their Care Plans and our EMR will flag our providers to encourage vaccination and screenings based on their Care Plans.
- As some of our patients want to return to their prior primary care providers (PCPs), it is good to share patients' Care Plans with them personally in addition to sharing with their PCP and directing them to discuss the plans within 6m of transition. It is also good to encourage regular visits to their PCPs depending on their risk s and comorbidities.

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Provider Education

- We hope to offer local PCPs our comic-style educational materials (posters, informational flyers, videos) that emphasize HPV vaccination and screening for SPCs in their offices. These are already available at many of our health departments.
- We are working with the Cincinnati Health Collaborative to get a cross-health system group together to specifically target outreach to both populations at risk for cancer and cancer survivors.
- We also plan to offer a continuing educational event targeting PCPs to support their understanding and use of Care Plans and to specifically provide education around HPV vaccination for pediatric and young cancer survivors.

Thank You!

Moderated Discussion

MARCH 4 IS
INTERNATIONAL HPV
AWARENESS DAY

James L. Klosky, PhD, ABPP

Casey Daniel, MPH, PhD

Brooke Cherven, PhD, MPH, RN, CPON

Melinda Butsch Kovacic, MPH, PhD

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Please use the "Q&A" feature to pose questions to speakers.

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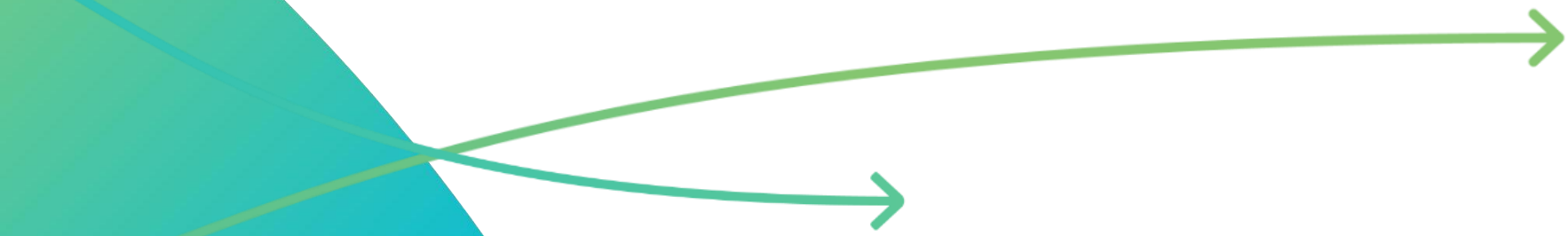
Closing Remarks



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Evaluation

We hope you enjoyed this webinar, and we would like to ask for your feedback.

Please take a few minutes to complete a brief evaluation that you will receive via email or using the QR code below.

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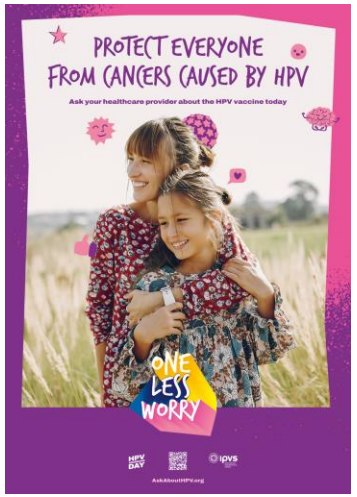
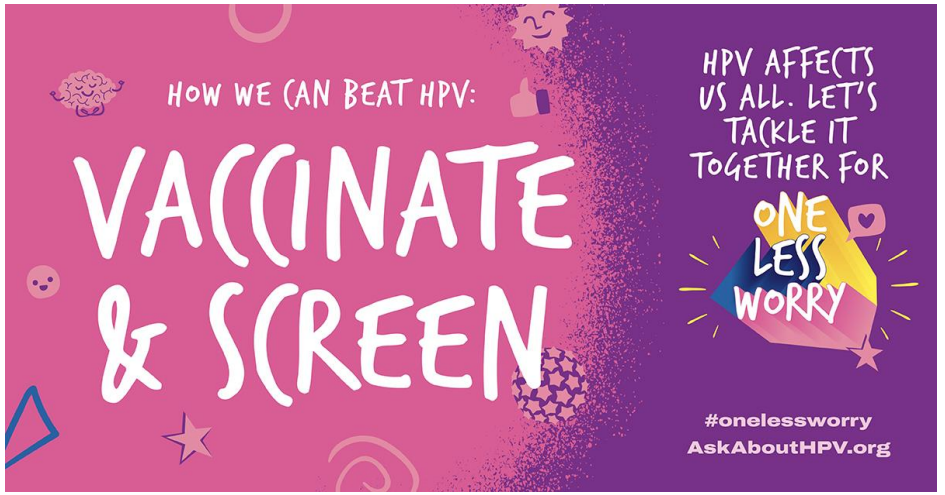
MARCH 4 IS
INTERNATIONAL HPV AWARENESS DAY

International Papillomavirus Society (IPVS): International HPV Awareness Day Campaign 2024

- HPV Cancer Stories
- Social media graphics #onelessworry
- HPV Facts
- Information about HPV vaccination & cervical cancer screening





Use the QR code to access the campaign or visit askaboutHPV.org.

THANK YOU

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