Using this slide deck

- This slide deck was created for a project with the Indian Academy of Pediatrics (IAP), the Federation of Obstetric and Gynaecological Societies of India (FOGSI), Cancer Foundation of India (CFI), American Cancer Society (ACS) and funded in part by Cancer Research UK (CRUK)

- If you are interested in receiving the presentation in PowerPoint format, **please complete this brief form to access the PPT:** https://forms.gle/YYLDPKPK11mbCzR28

PREVENT GLOBAL HPV CANCERS

About this slide deck

- **Intended audience:** pediatricians, family medicine doctors, OBGYNs, and other health practitioners who recommend HPV vaccine recommendations
- **Intended presenter:** MD with expertise in cervical cancer prevention and/or HPV vaccination
- **Estimated time to present:** 1 hour
- Delete this slide before presentation

PREVENT GLOBAL HPV CANCERS

This is a "Trainer's Information " slide. To be deleted after reading for Trainings

Trainer Instructions

- Insert speaker picture, name, title, and affiliations on Your Trainer Today slide (slide 6)
- Review slides including talking points in the notes section before presenting
- Delete this slide before presentation

PREVENT GLOBAL HPV CANCERS

These are instruction for Trainers.

As Trainers, you will...

- Download your own copy of the slides
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Cervical Cancer Prevention Through HPV Vaccination in India

PREVENT GLOBAL HPV CANCERS

Month XX, 2024

Disclaimer:

Expert review of this original content was coordinated by the Cancer Foundation of India and the American Cancer Society's Global HPV Cancer Free program.

The Cancer Foundation of India and The American Cancer Society do not endorse any company, product, or service.

PREVENT GLOBAL HPV CANCERS

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Industry representatives were not involved in development of the content.

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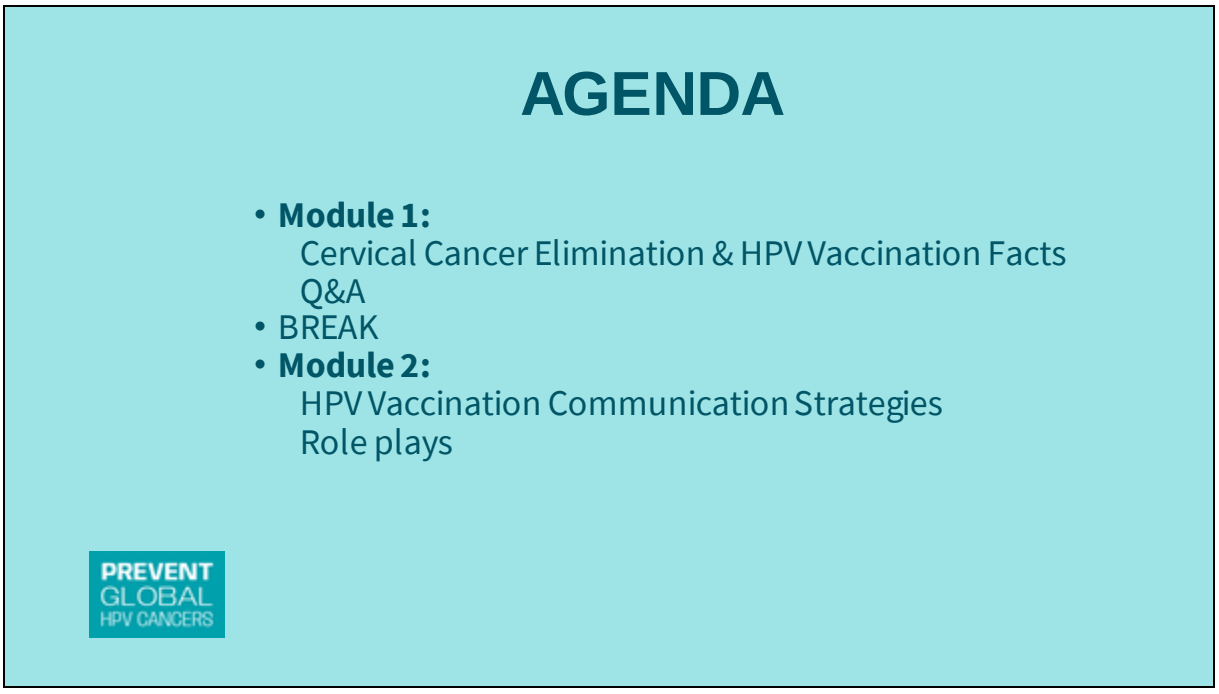
Your Trainer Today

Insert Trainer Picture
Trainer Name
Title

PREVENT GLOBAL HPV CANCERS

Welcome everyone to today's training

Introduce yourself.



Review agenda. We will stick to a tight timeline in order to end on time.

- Welcome
- **Module 1:**

  Cervical Cancer Elimination & HPV Vaccination Facts

Break

- **Module 2:**

  HPV Vaccination Communication Strategies


PREVENT
GLOBAL
HPV CANCERS
Module 1
Cervical Cancer Prevention and
HPV Vaccination Facts Refresher
Models used for illustrative purposes only.

Module 1 Outline

- Cervical Cancer: Burden & Impact
- Human Papillomavirus (HPV) Infection
- Cervical Cancer Prevention: HPV Vaccination

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In today's session we'll be covering:

- Cervical Cancer Burden & Impact
- HPV Infection
- HPV Vaccination

There is a follow-up module on how to counsel parents about the HPV vaccine.

77,348 women die every year in India from cervical cancer

Some of these women may have been your patients
Some may have been in your family or your community

These women are no longer with us to tell their stories
The families and communities they have left behind are forever changed

Before we get started we're going to hear from a survivor, Sangeeta, to bring a face and voice to the statistics you'll hear throughout the presentation

Reference

NICPR ICMR. Cancer Statistics - India Against Cancer [Internet]. 2022 . Available from: *http://cancerindia.org.in/cancer-statistics/*

- International Agency for Research on Cancer. India Globocan 2020 [Internet]. 2021 .
  - Source

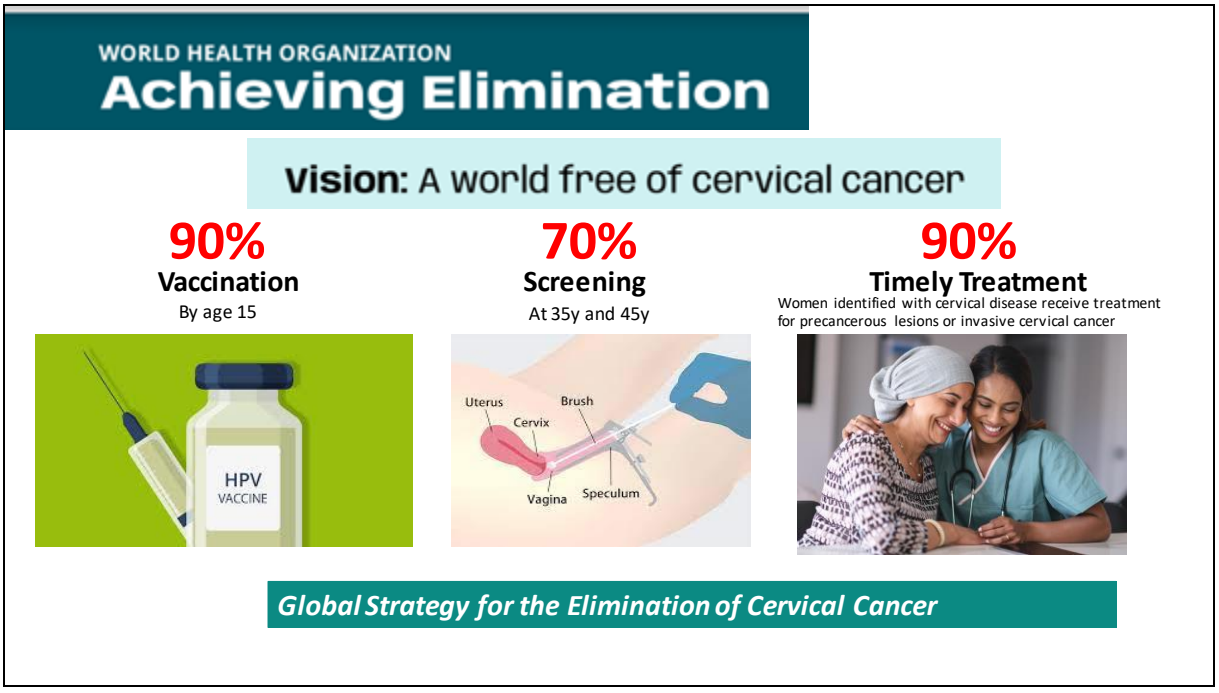
- Cancer Today website for chart data: https://gco.iarc.fr/tomorrow/graphic-isotype?type=0&population=900&mode=population&sex=2&cancer=39&age_group=value&apc_male=0&apc_female=0
- Adjust the percent increase in new cases: Percentage Increase = [(Final Value - Starting Value) / |Starting Value|] × 100

Meet a Cervical Cancer Survivor

- Length of video: 2 1/2 minutes
- https://www.youtube.com/watch?v=Wl1E83lQ5AE&list=PLRu0uHzo7TdJkJ7jnqrxeA4zkhHVk32HQ&index=1

- Play the video, https://www.youtube.com/watch?v=Wl1E83lQ5AE&list=PLRu0uHzo7TdJkJ7jnqrxeA4zkhHVk32HQ&index=1
- After the video share your reflections on the impact of women being diagnosed and dying from a preventable cancer.
- Sangeeta was fortunate that she had access to high quality medical care and had a good outcome.
- Unfortunately many women who face a cervical cancer diagnosis are not as lucky.
- Today we are going to review the importance of your role as a doctor in talking to parents about protecting their daughters through HPV vaccination.

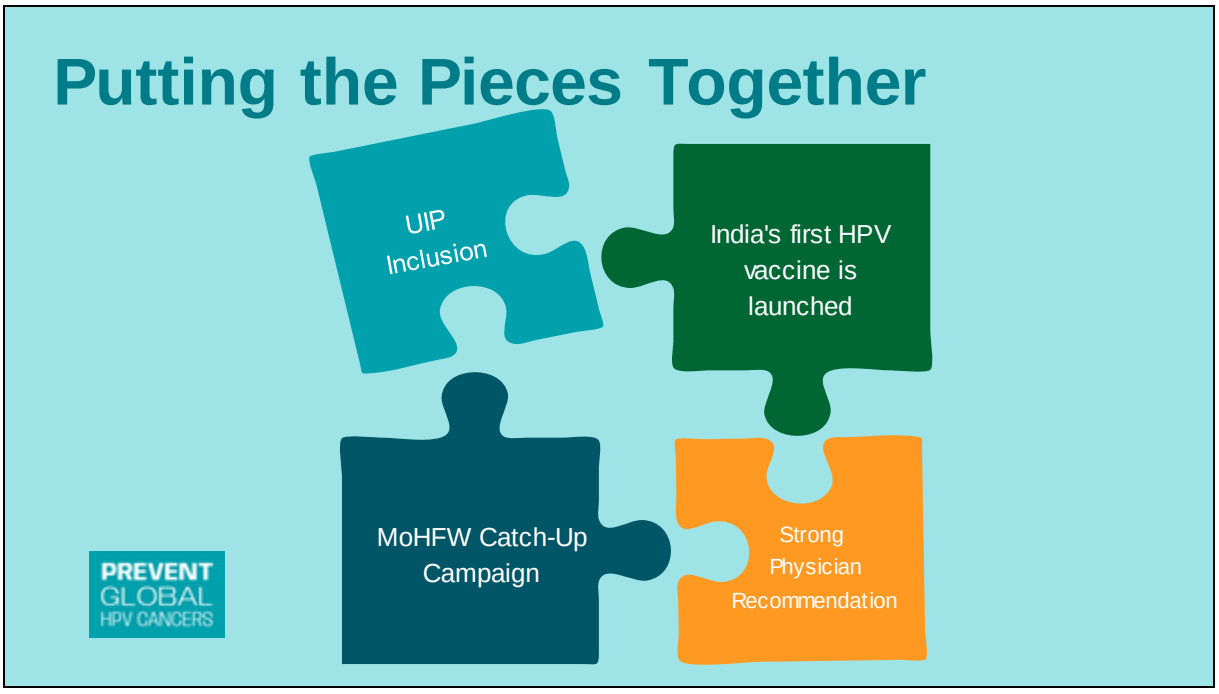
NOTE: Place to interact with participants. Ask them write one reflection from the video.



- For the first time ever, we can end a specific cancer.
- In May 2018 WHO announced a *Global Strategy for the Elimination of Cervical Cancer a Public Health Problem* provides a roadmap, which India has signed onto.
- To eliminate cervical cancer, all countries must reach and maintain incidence rate of below four per 100,000 women. Achieving that goal rests on three key pillars and the following targets for 2030:
- Vaccination: 90% of girls fully vaccinated with the HPV vaccine by age 15
- Screening: 70% of women are screened with a high-performance test by 35 and 45 years of age
- Treatment: 90% of women identified with cervical disease receive treatment (90% of women with pre-cancer treated; 90% of women with invasive cancer managed)
- Elimination Threshold: <4 cases of cervical cancer per 100,000 women per year

Reference

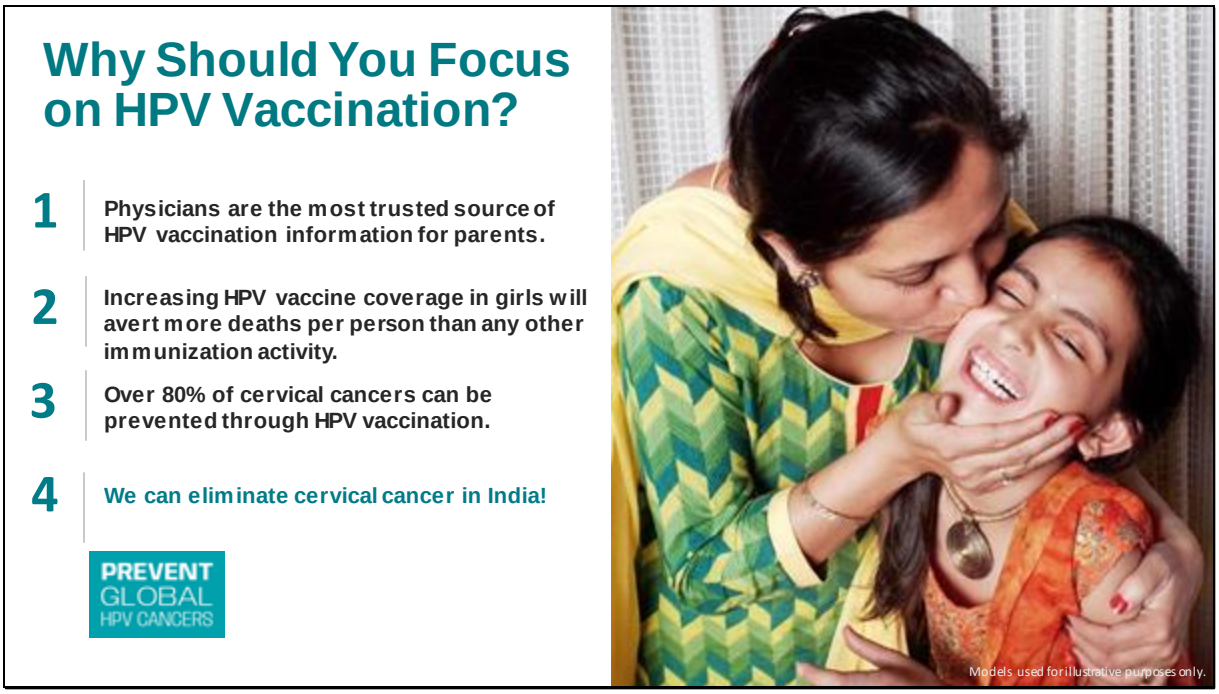
- https://www.who.int/initiatives/cervical-cancer-elimination-initiative



- We are at a historic moment where we are soon to have the supply, at an affordable cost, to vaccinate girls across the country which could ultimately lead to 90% vaccination rates which is needed to eliminate cervical cancer in India.
- As physicians, it is our job to champion this life-saving vaccine across India.
- As you will hear today, as the most trusted source of health information for parents, what we say and how we say it matters.
- Parents are depending on us to provide clear recommendations and answer their questions with facts.
- Let us look back on this moment in time in 20 –30 years with great pride that we did not let this opportunity go by.

Acronyms:

- UIP = Universal Immunisation Programme
- MOHFW = Ministry of Health and Family Welfare



With so many competing priorities for your time, why should you focus on HPV vaccination?

We are at a pivotal time:

- As a physicians, you are the most trusted source of HPV vaccination information for parents
- Increasing HPV vaccine coverage in girls will avert more deaths per person than any other immunization activity.
- 70-90% of cervical cancers can be prevented through HPV vaccination (The percentage of cancers prevented depends on the type of vaccine used)
- For the first time in history, we can eliminate a cancer!

Reference

International Agency for Research on Cancer. India Human Papillomavirus and Related Cancers, Fact Sheet 2023. [Internet]. 2023 .
Available from: https://hpvcentre.net/statistics/reports/IND_FS.pdf

Kaarthigeyan K. Cervical cancer in India and HPV vaccination. Indian J Med Paediatr Oncol. 2012 ;33(1):7-12. Available

from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3385284/#ref3

https://www.who.int/publications/i/item/WHO-NMH-NVI-17.9

https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)32657-X/fulltext

Cervical Cancer Burden

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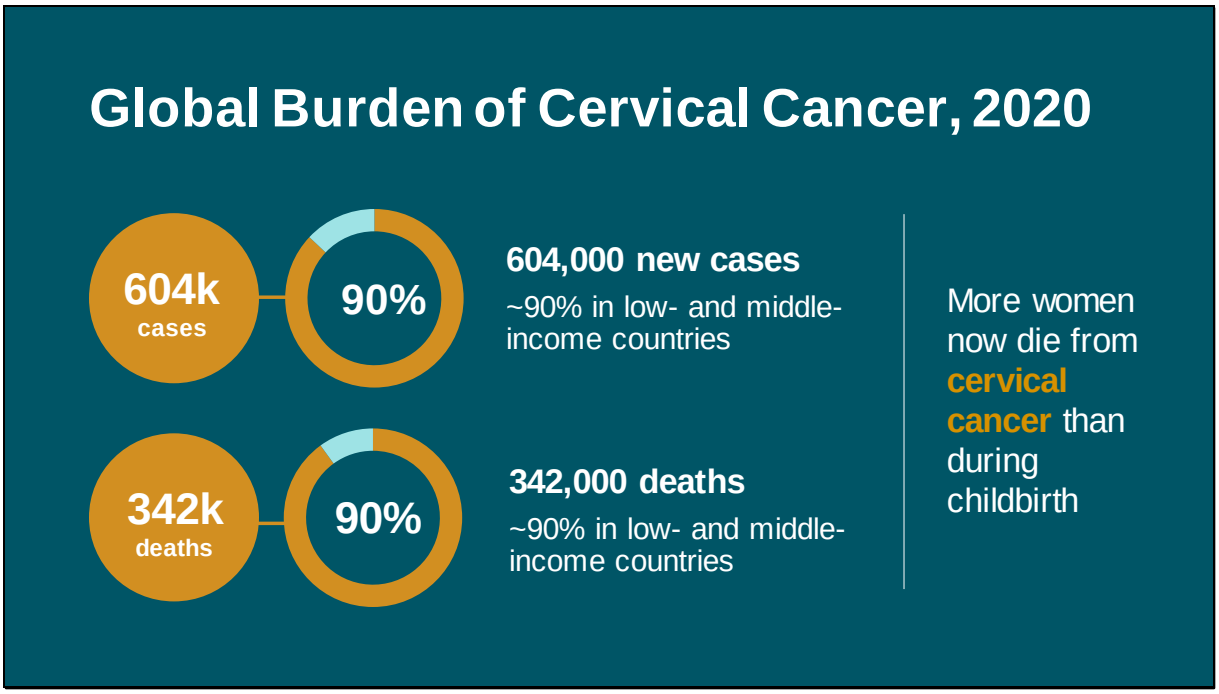
- Cervical cancer is preventable and curable, yet it is the 4th most common form of cancer among women worldwide
- Few diseases reflect global inequities as much as cervical cancer.



- In 2020 there were 604,000 new cervical cancer cases worldwide
- 342,000 deaths worldwide
- Cervical cancer kills more women than childbirth. 287,000 women died in childbirth in 2020 compared to 342,000 deaths worldwide from cervical cancer in 2020.
- New cases and deaths have increased steadily in the last decade.
- Trends project a global increase in cervical cancer deaths.
- **20% or 5th of the global burden is from India**

Reference

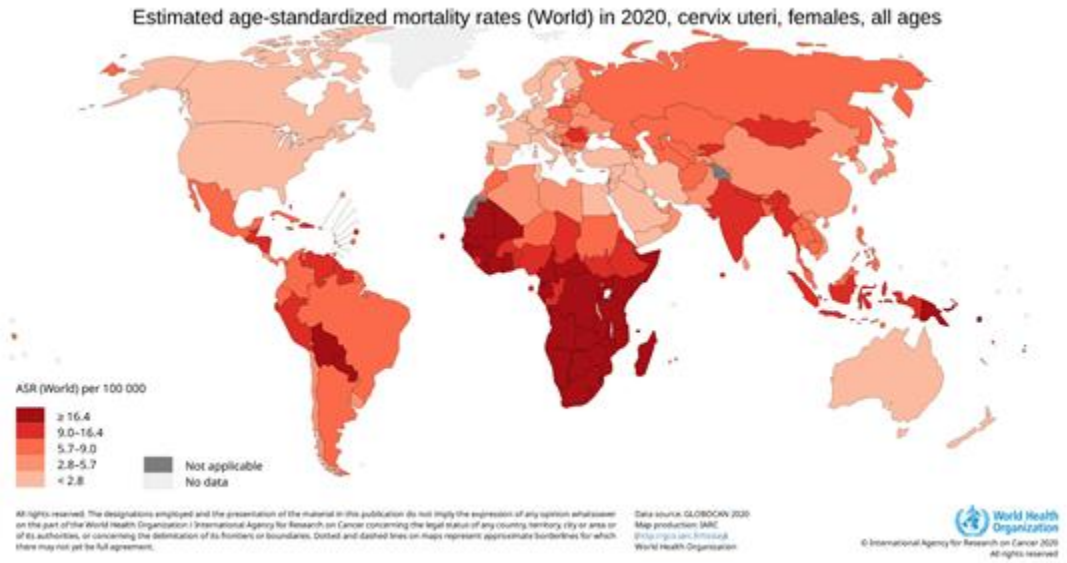
World Health Organization. Cervical cancer [Internet]. 2022 Available from: https://www.who.int/news-room/fact-sheets/detail/cervical-cancer

- Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A, et al. Global cancer statistics

2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2021;71(3):209-249.

- https://www.who.int/news-room/fact-sheets/detail/maternal-mortality

Global Burden

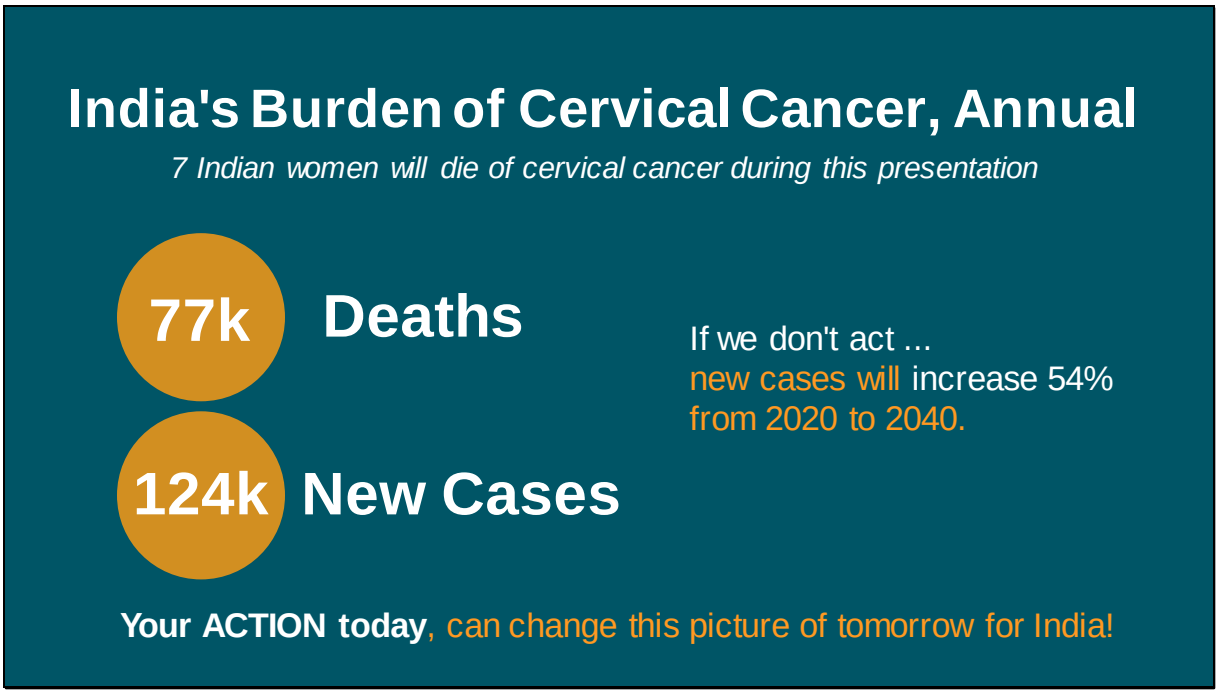


- Darker colors indicate higher mortality rate
- Approximately 90% of the estimated 604,000 new cervical cancer cases and 342,000 deaths due to cervical cancer in 2020 occurred in low- and middle-income countries
- This is because of differences in access to HPV vaccination, cervical screening, and treatment.
- In high income countries, cervical cancer screening is an established part of routine health services for women
- Inclusion of HPV vaccination as a routine vaccination has made the likelihood of eliminating cervical cancer a feasible goal for many high-income countries.
- Where screening rates are low, the HPV vaccine is the best line of defense against cervical cancer.

Reference

World Health Organization. Cervical cancer [Internet]. 2022 Available from: https://www.who.int/news-room/fact-sheets/detail/cervical-cancer

- Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A, et al. Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2021;71(3):209-24



- In 2020 more than 124,000 new cases of cervical cancer in India,
- 77,000 cervical cancer deaths occurred in India.

That is 1 new case every 5 min. and 1 death every 8 min. today

- We are potentially losing women we saved during child birth to cervical cancer. The deaths from cervical cancer have surpassed those during child birth.
- If we don't act new cases will increase 54% by 2040

During the short time of this presentation at least 7 Indian women will die of cervical cancer

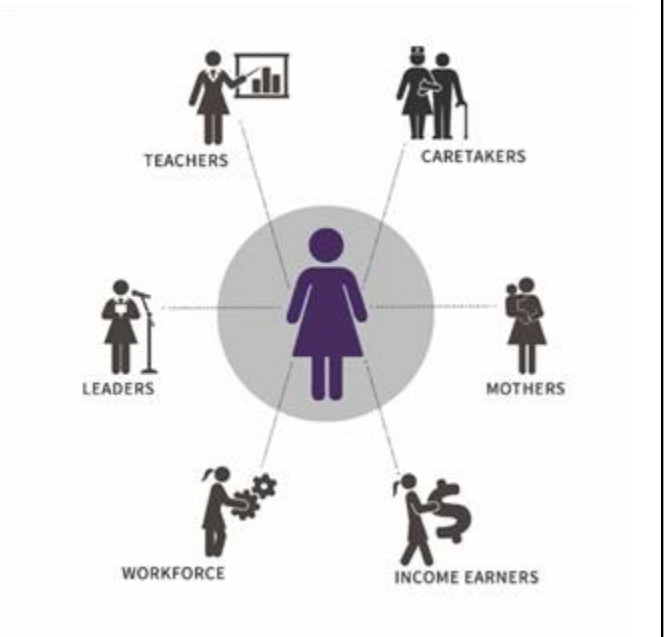
Reference

NICPR ICMR. Cancer Statistics - India Against Cancer [Internet]. 2022 . Available from: *http://cancerindia.org.in/cancer-statistics/*

- International Agency for Research on Cancer. India Globocan 2020 [Internet]. 2021 .
    - Source
    - Cancer Today website for chart data: https://gco.iarc.fr/tomorrow/graphic-isotype?type=0&population=900&mode=population&sex=2&cancer=39&age_group=value&apc_male=0&apc_female=0

- Adjust the percent increase in new cases: Percentage Increase = [(Final Value - Starting Value) / |Starting Value|] × 100

The Ripple Effect of Cervical Cancer



- Cervical cancer is a major cause of disability and death for women, primarily in their 30s and 40s.
- These create a ripple effect across various levels of society
- Families lose a mother, sister, wife, grandmother. Families also lose important roles – caretaker, homemaker, educator.
- Cervical cancer can push families into poverty. Health care costs impose a great burden on families. Where women bring in income, the household may also suffer financial losses or must pay for labor that was once free.
- Cervical cancer robs communities of income generators
- Puts strain on national health care system's resources and budgets.
- Cervical cancer was estimated to cost low- and middle-income countries US$1.3 billion in 2008, and the number of cervical cancer cases have increased since then and are projected to continue increasing.

- $3.2 US dollars are returned to the economy for every dollar invested through 2050 and beyond.
- The figure rises to $26 USD when the benefits of women's improved health on families, communities and societies are considered.
- https://www.who.int/publications/i/item/9789240014107

"Cervical cancer strikes women in the prime of life. These women are raising children, caring for their families and contributing to the social and economic fabric of their communities ...

if we don't act, deaths from cervical cancer will rise (globally)...

But it doesn't have to be this way ..."

– Dr Tedros Adhanom Ghebreyesus, WHO Director-General

Photo: Business Wire

- "Cervical cancer strikes women in the prime of life. These women are raising children, caring for their families and contributing to the social and economic fabric of their communities ..."
- Global trends project an increase if we do not act
- Cervical cancer can be prevented to save lives and keep families and keep communities intact and healthy.
- **No woman should die from cervical cancer.**

Human Papillomavirus (HPV)

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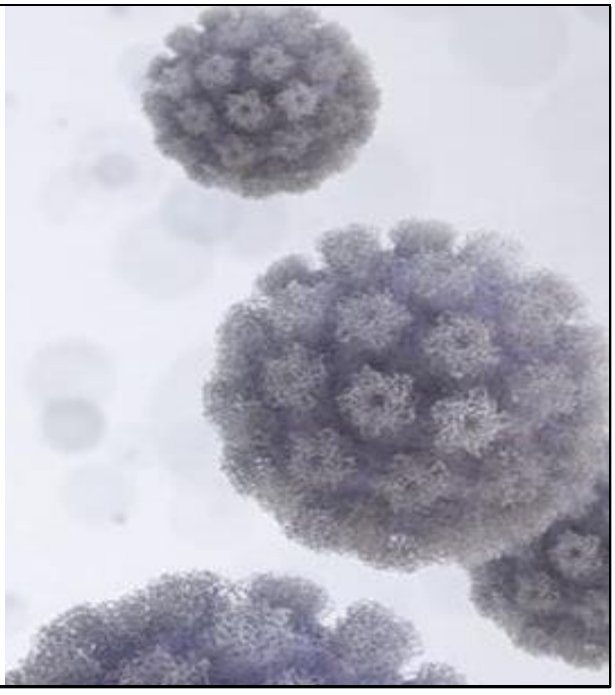
- We've discussed the burden of cervical cancer, now we will review the cause of cervical cancer, the Human Papillomavirus (HPV) infection.

What is HPV?

Human Papillomavirus

- > 150 types
- At least 14 types of HPV can cause 6 types of cancer in men and women: **cancer of the cervix, vulva, vagina, penis, anus, and oropharynx**

PREVENT GLOBAL HPV CANCERS



- Human papillomavirus (HPV) is a small, non-enveloped deoxyribonucleic acid (DNA) virus that infects skin or mucosal cells.
- At least 14 of more than 150 known HPV genotypes can cause cancer of the:
- Cervix, vagina, and vulva in women
- Penis in men
- Anus in both men and women
- Back of the throat, including the base of the tongue and tonsils (oropharynx), in both men and women

References:

In India, 84% of cervical cancers caused by HPV 16 and 18 - Bhatla N. Elimination of Cervical Cancer and the Role of HPV Vaccination [Internet]. 2020. Available from: https://projectsanchar.org/wp-content/uploads/2020/02/Elimination-of-Cervical-Cancer-and-the-Role-of-HPV-Vaccination-Dr-Neerja-Bhatla.pdf

> 150 types - Centers for Disease Control and Prevention. Human Papillomavirus (HPV) Infection [Internet]. 2021. Available from: https://www.cdc.gov/std/treatment-guidelines/hpv.htm

WHO: https://www.who.int/teams/health-product-policy-and-standards/standards-and-specifications/vaccine-standardization/human-papillomavirus

About 14 types of HPV can cause cancer- Klemp Gjertsen M, Nilsen E, Alfsen GC, Feiring B, Skjeldestad FE, Steen R, Sæterdal I. Prophylactic Vaccines Against Human Papillomavirus [Internet]. https://pubmed.ncbi.nlm.nih.gov/29319982/

HPV infection is very common

- HPV infects both men and women alike.
- An estimated >50% – 80% will get at least one type of HPV infection in their lifetime.
- Most HPV infections do not have symptoms
- The body fights off most HPV infections in about 2 years, but not all
- If the HPV does not go away on its own, it can cause changes in healthy cells.

PREVENT GLOBAL HPV CANCERS

- HPV infection is very common
- HPV infects both men and women alike.
- > 50% - 80%+ (depending on year of study and country), will have at least one type of HPV infection in their lifetime - [NOTE: these figures apply to populations before introduction of vaccine, or to older cohorts who missed the opportunity to be vaccinated]
- Most HPV infections with the types of HPV that can cause cancer do not cause any symptoms until they've progressed to precancer or cancer.
- The body's immune system will fight off most HPV infections.
- Most people never know they are infected.
- But if the HPV infection in the cervix does not go away on its own, it causes changes in cervix cells.

- People will only know they have had HPV infection if they develop precancer, cancer, or anogenital warts, or if they have a positive HPV test

Source

National Cancer Institute. Understanding Cervical Changes - A Health Guide. Available from https://www.cancer.gov/types/cervical/understanding-abnormal-hpv-and-pap-test-results/understanding-cervical-changes.pdf

- https://www.euro.who.int/__data/assets/pdf_file/0009/356841/Q-and-A_HPV_Parents_EN.pdf
- Kaarthigeyan K. Cervical cancer in India and HPV vaccination. Indian J Med Paediatr Oncol. 2012 ;33(1):7-12. Available from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3385284/#ref3
- Best SR, Niparko KJ, Pai SI. Biology of human papillomavirus infection and immune therapy for HPV-related head and neck cancers. Otolaryngol Clin North Am. 2012;45(4):807-22 Available from Biology of Human Papillomavirus Infection and Immune Therapy for HPV-Related Head and Neck Cancers - ScienceDirect
- The epidemiology of genital human papillomavirus infection - ScienceDirect
- The Estimated Lifetime Probability of Acquiring Human Papillomavirus in the United States - PMC (nih.gov)
- https://journal.waocp.org/article_33037_4ca3d55e1f982fe4e19221b9dacc49f4.pdf

How is HPV spread?

- HPV is spread skin-to-skin primarily during sexual contact
- HPV can be spread through a single exposure
- Condoms provide limited protection
- HPV can spread even if someone delays sex until marriage
- Vaginal – penile intercourse is not required for exposure
- HPV vaccination is the **most effective** method of primary prevention.

PREVENT GLOBAL HPV CANCERS

- HPV infection is easily spread through skin-to-skin and skin-to-mucosa contact with infected areas, primarily during sexual contact.
- However, HPV has also been demonstrated to be spread by non-sexual means including self-inoculation (from one part of the body to another) and from mother to child during childbirth.
- Condoms provide limited protection and cannot completely prevent the spread of HPV infection. This is because HPV is not passed through bodily fluids like HIV. HPV is passed through skin-to-skin mucosal contact.
- Because it is so common, HPV can spread even if someone delays sex until marriage, has only one partner, or limits the number of sexual partners.
- HPV cannot be transmitted by shaking hands, sharing clothes, or using public toilets.
- HPV vaccination is the most effective method of prevention. Cervical cancer screening is very effective and important, but HPV vaccination is even more effective.
- Skin to Skin contact can include vaginal–penile sex/contact, penile–anal sex/contact, penile–oral sex/contact, vaginal–oral sex/contact.

Source

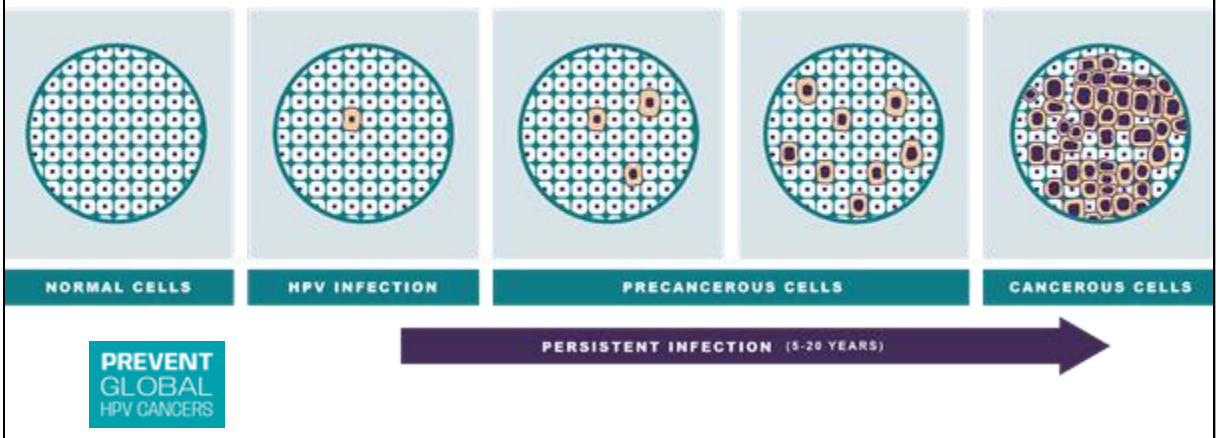
Liu Z, Rashid T, Nyitray AG. Penises not required: a systematic review of the potential for human papillomavirus horizontal transmission that is non-sexual or does not include penile penetration. Sex Health. 2016;13(1):10-21.Available from https://pubmed.ncbi.nlm.nih.gov/26433493/,

Petca A, Borislavschi A, Zvanca ME, Petca RC, Sandru F, Dumitrascu MC. Non-sexual HPV transmission and role of vaccination for a better future (Review). Exp Ther Med. 2020;20(6):186.Available from https://pubmed.ncbi.nlm.nih.gov/33101476/ ,

Moscicki AB, Schiffman M, Burchell A, Albero G, Giuliano AR, Goodman MT, et al. Updating the natural history of human papillomavirus and anogenital cancers. Vaccine. 2012;30 Suppl 5(0 5):F24-33. Available from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3700362/

Winer RL, Hughes JP, Feng Q, O'Reilly S, Kiviat NB, Holmes K, Et al. Condom Use and the Risk of Genital Human Papillomavirus Infection in Young Women. N Engl J Med 2006; 354:2645-2654. Available from https://www.nejm.org/doi/full/10.1056/nejmoa053284

How does HPV infection progress to cervical cancer?



While HPV can cause 6 types of cancers, the focus of remainder of this presentation will focus on the most common HPV-related disease: cervical cancer.

- A subset of HPV types is responsible for virtually all cases of cervical cancer.
- HPV infection causes cervical cancer over the course of many years in three general phases:

  1) High-risk HPV infection leading to abnormal cell development and growth

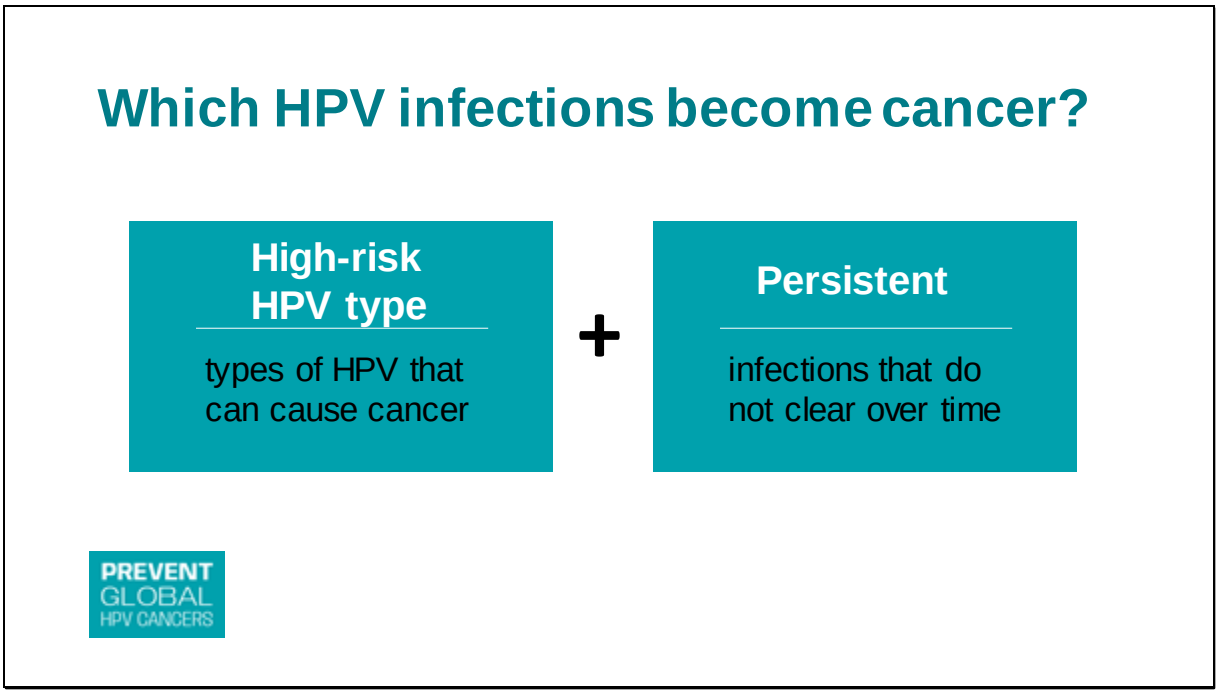
  2) infection persistence leading to precancerous lesions,

  3) precancer development into cervical cancer

- Cervical precancerous cells or precancers are *not cancer* and usually do not have any symptoms.
- If not identified and treated with preventive therapy in time these precancers can become cancer
- The long time period between HPV infection and the development of cervical cancer provides an opportunity to prevent cervical cancer in women by identifying and treating these precancers. We will discuss this again later in the course during cervical cancer prevention.

References

- https://www.who.int/news-room/fact-sheets/detail/cervical-cancer
- https://www.cdc.gov/hpv/parents/cancer.html



Cervical cancer requires two conditions to develop:

- 1) Infection with a high-risk (oncogenic) type of HPV and
- 2) that high-risk HPV infection must persist over time instead of being cleared by the body's immune system
- A "high-risk" type of HPV is a type that can cause cancer. Only about 14 types out of the over 150 types of HPV can cause cancer
- Infections with high-risk types of HPV can cause six types of cancers; cervical, vulvar, vaginal, penile, anal, and oropharyngeal.
- Cervical cancer is **by far** the most common HPV cancer in India. 4 out of 5 cervical cancers in India are caused by HPV types 16 and 18.
- *Persistent* HPV infections that do not clear over many years, even decades, can cause cancer
- It is not possible to know which HPV infections will persist and which will not

- However, factors that increase the risk for persistent HPV infection include smoking, alcohol use, and a weakened immune system (for example, due to HIV infection or other immune disease).

Reference: - Burd EM. Human papillomavirus and cervical cancer. Clin Microbiol Rev. 2003 ;16(1):1-17. Available from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC145302/

✶ https://journal.waocp.org/article_33037_4ca3d55e1f982fe4e19221b9dacc49f4.pdf

Most cervical cancers are caused by HPV

- In India, **84%** of cervical cancers are caused by HPV types 16 and 18
- Persistent HPV infection causes cervical cancer.
- Good hygiene is important for the overall health and wellbeing of a woman.
- HPV vaccination is the best way to prevent HPV infections and cervical cancer.

PREVENT GLOBAL HPV CANCERS

- Persistent HPV infection can cause cervical cancer.
- In India, 84% of cervical cancers caused by HPV 16 and 18
- The two most common "high-risk" genotypes (HPV 16 and 18) cause approximately 84% of all cervical cancers in India, more than the global average of 70%.
- HPV infection is the main cause for cervical cancers with PAF (population attributable fraction) ranging between 93% and 100% in India.

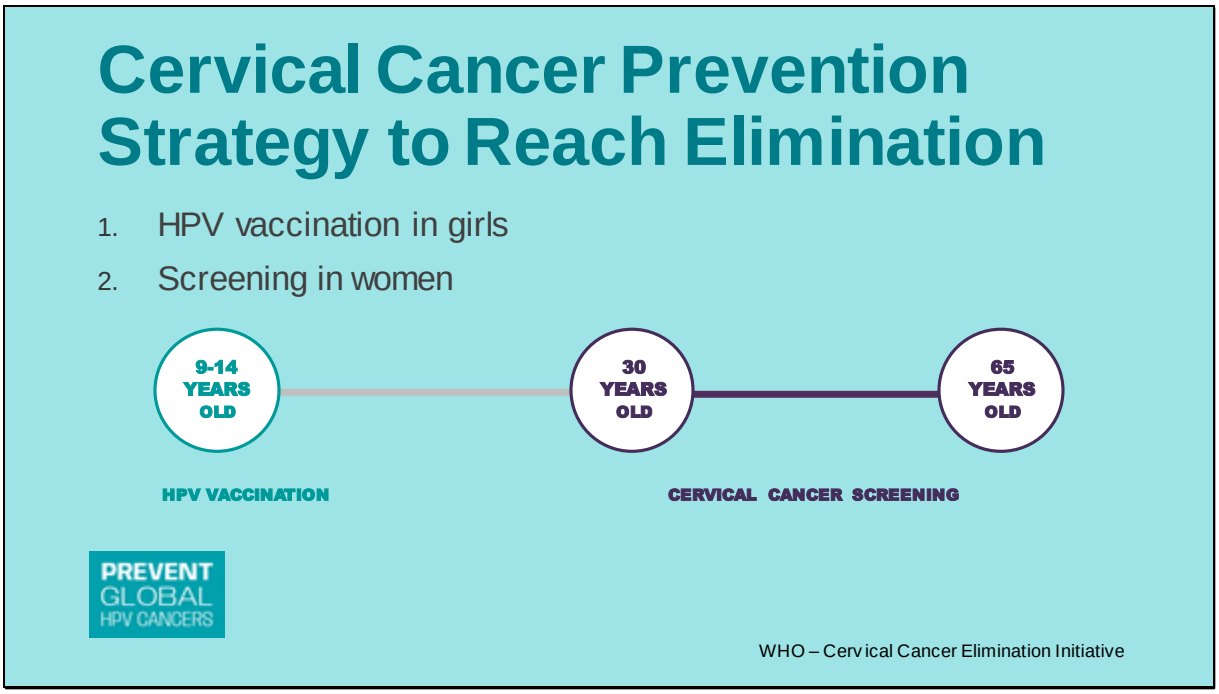
*** Hygiene and cervical cancer ***

- Good hygiene is important for the overall health and wellbeing of a woman.
- Almost all cervical cancer is caused by persistent HPV infection.
- Even populations with excellent hygiene are at risk of HPV infection and cervical cancer – National HPV vaccination programs and high HPV vaccination rates in countries like Australia, UK are a testament to that.
- HPV infections are very common. Most people get it at some point in their life, even those with good hygiene.

- HPV vaccination is the best way to prevent HPV infections and cervical cancer.

Source

- National Cancer Institute. Understanding Cervical Changes - A Health Guide. Available from https://www.cancer.gov/types/cervical/understanding-abnormal-hpv-and-pap-test-results/understanding-cervical-changes.pdf
- https://www.euro.who.int/__data/assets/pdf_file/0009/356841/Q-and-A_HPV_Parents_EN.pdf_
- Kaarthigeyan K. Cervical cancer in India and HPV vaccination. Indian J Med Paediatr Oncol. 2012 ;33(1):7-12. Available from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3385284/#ref3_
- Best SR, Niparko KJ, Pai SI. Biology of human papillomavirus infection and immune therapy for HPV-related head and neck cancers. Otolaryngol Clin North Am. 2012;45(4):807-22 Available from Biology of Human Papillomavirus Infection and Immune Therapy for HPV-Related Head and Neck Cancers - ScienceDirect
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9666279/#sec-11title
- https://journal.waocp.org/article_33037_4ca3d55e1f982fe4e19221b9dacc49f4.pdf



- There is no cure for HPV infection which is why preventing it with HPV vaccination is so important.
- Currently there are only two ways to **effectively** prevent cervical cancer.
- These methods work in two different ways and at two different time periods during a woman's life to prevent cervical cancer.
- Primary prevention:
- Target HPV vaccination of girls ages 9 – 14, which works by protecting them from HPV infection that causes cervical cancer.
- Extended Age Group: 15 – 26 year old girls should also be vaccinated if they weren't already and cost allows.
- The vaccine is labeled for women up to age 45, but there is little efficacy at older ages and it's not universally recommended.
- Secondary prevention: Routine cervical screening for women age 30 to 65, works by

either identifying precancerous cells or persistent HPV infections which can lead to precancerous cells. Precancerous cells can then be removed with preventive treatment before they develop into cancer.

Source

World Health Organization. Cervical Cancer Elimination Initiative. [Internet]. https://www.who.int/initiatives/cervical-cancer-elimination-initiative

Kaarthigeyan K. Cervical cancer in India and HPV vaccination. Indian J Med Paediatr Oncol. 2012;33(1):7-12. Available from https://pubmed.ncbi.nlm.nih.gov/22754202/

CDC. Human Papillomavirus (HPV). https://www.cdc.gov/hpv/parents/vaccine-for-hpv.html#:~:text=HPV%20vaccination%20is%20not%20recommended,benefits%20of%20vaccination%20for%20them

National Cancer Institute. Cervical Cancer Screening [Internet] . Available from: https://www.cancer.gov/types/cervical/screening

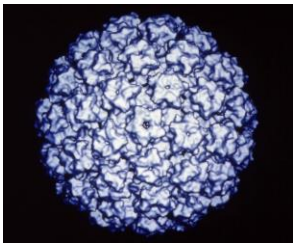
Facts About the HPV Vaccine

PREVENT GLOBAL HPV CANCERS

- We cannot treat our way out of the cervical cancer epidemic: we must work to prevent cervical cancer.
- We're going to cover basic facts about the HPV vaccine, which is the most effective method for cervical cancer prevention

HPV Prophylactic Vaccines

- ✓ Recombinant L1 capsid proteins that form "virus like" particles (VLP)
- ✓ Non-infectious and non-oncogenic
- ✓ Produce higher levels of neutralizing antibody than natural infection



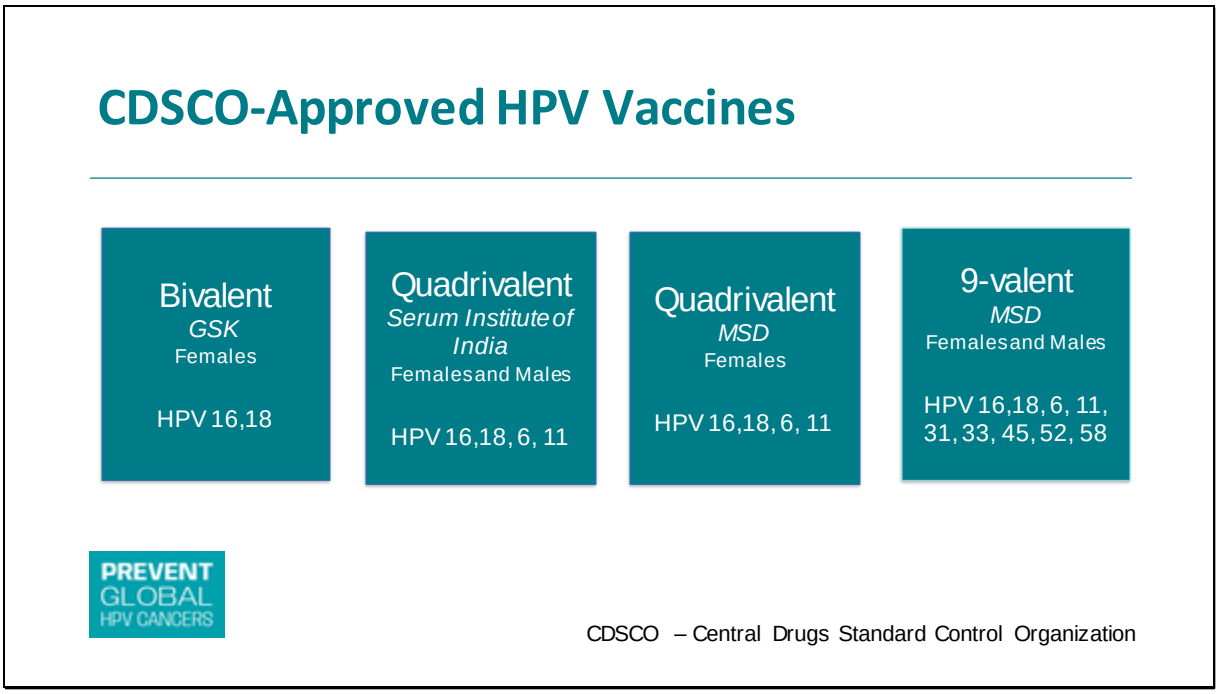
HPV VLP

PREVENT GLOBAL HPV CANCERS

Adapted from Dr. Rebecca Perkins slides

- First introduced in 2006, current HPV vaccines are prophylactic, i.e., to be administered prior to exposure with HPV

- HPV vaccines are made from virus-like particles that cannot cause infection with HPV or cause cancer. HPV vaccines produce a better immune response than an HPV infection.



The CDSCO has approved 4 HPV vaccines.

Date of Approval:
GSK Bivalent - 2008
MSD Quadrivalent - 2008
MSD Nonavalent – 2018
SII Quadrivalent – 2022

Ages:
Bivalent (CERVARIX by GSK) licensed for girls 10–45 years.
Quadrivalent (Cervavac by SIL) licensed for girls and boys 9–26 years.
Quadrivalent (Gardasil by MERCK) licensed for girls 9–45 years.
Nonavalent (Gardasil by MERCK) licensed for girls 9–45 years.

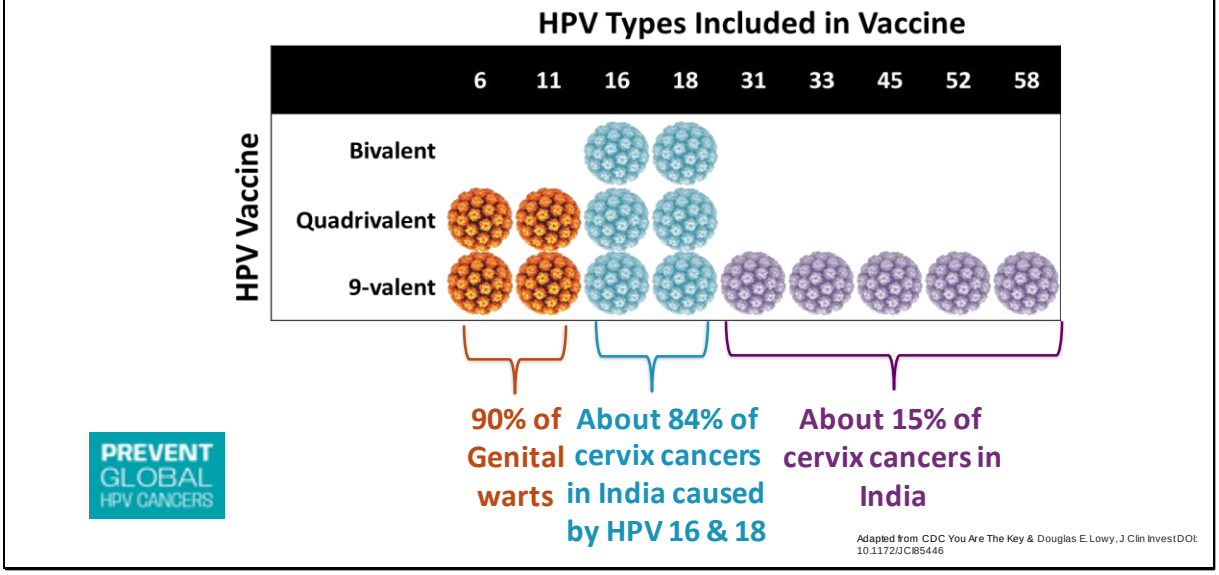
Sankaranarayanan R, Basu P, Kaur P, Bhaskar R, Singh GB, Denzongpa P, et al Current status of human papillomavirus vaccination in India's cervical cancer prevention efforts. Lancet Oncol. 2019 ;20(11):e637-e644. Available from https://pubmed.ncbi.nlm.nih.gov/31674322/

https://www.livemint.com/news/india/serum-institute-s-qhpv-vaccine-against-cervical-cancer-gets-india-regulator-dgci-s-nod-11657630152069.html

Details of import permissions of Human Vaccines approved by CDSCO (2009 to 2022).

Available from:
https://cdsco.gov.in/opencms/resources/UploadCDSCOWeb/2018/UploadVaccineImport/Details%20of%20Import%20Permissions%20of%20Human%20Vaccines%20approved%20by%20CDSCO%20(2009%20-%206th%20Oct.%202022).pdf
HPV vaccination in south Asia: new progress, old challenges.Lancet Oncol. 2022. 23(10):1233. Available from: https://www.thelancet.com/journals/lanonc/article/PIIS1470-2045(22)00567-8/fulltext

HPV Vaccine Comparision

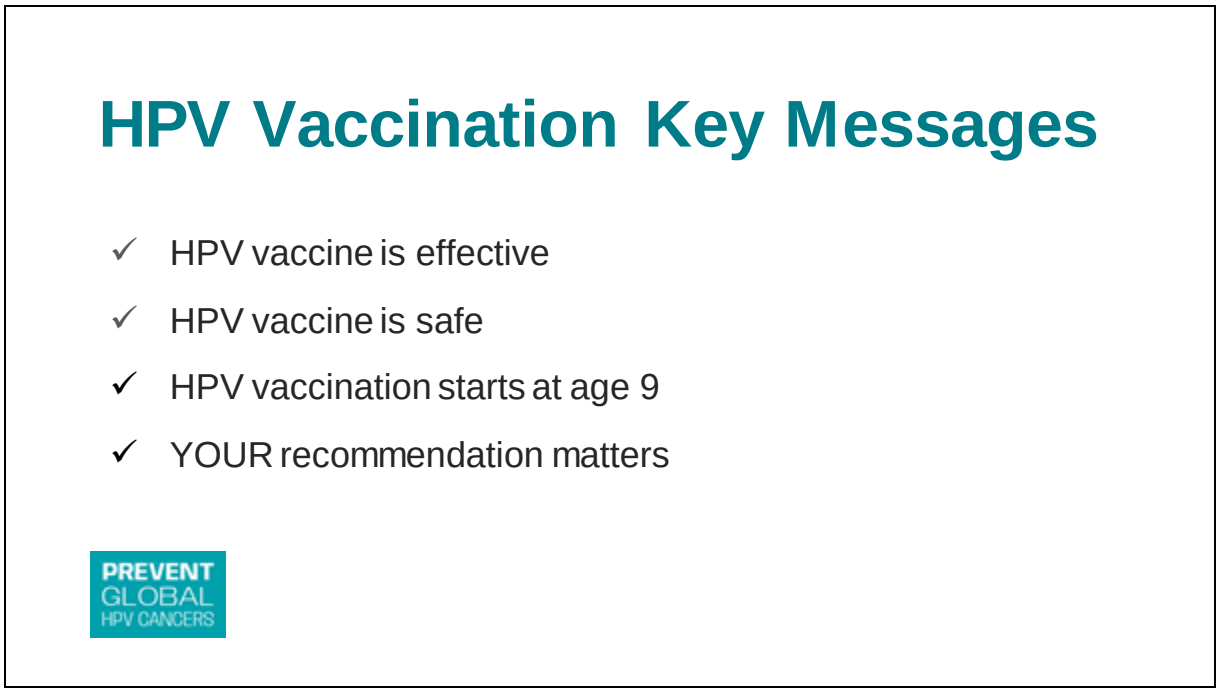


- This chart demonstrates the HPV types targeted by three different HPV vaccines.
- Bivalent HPV vaccine targets two types of HPV
- quadrivalent HPV vaccine targets four types of HPV
- 9-valent HPV vaccine targets nine types of HPV.
- Bivalent, quadrivalent, and 9-valent HPV vaccines all protect against HPV 16 and 18, the HPV types that cause about 70% globally and 84% of cervical cancers in India.
- Quadrivalent and 9-valent HPV vaccines also protect against HPV 6 and 11, HPV types that cause anogenital warts.
- In addition, 9-valent HPV vaccine targets five additional cancer-causing types, which account for another 10 – 20% of cervical cancers worldwide and about 15% in India. The additional five types in 9-valent HPV vaccine account for a higher proportion of HPV-associated cancers in women compared with men.

<u>Sources:</u>

- India Human Papillomavirus and Related Cancers, Fact Sheet 2023. ICO/IARC Information Centre on HPV and Cancer. [Internet]. 2023. https://hpvcentre.net/statistics/reports/IND_FS.pdf
- Douglas E. Lowy, J Clin Invest DOI: 10.1172/JCI85446
- https://www.cancer.gov/about-cancer/causes-prevention/risk/infectious-agents/hpv-vaccine-fact-

sheet#:~:text=The%20trials%20that%20led%20to,that%20it%20targets%20(10).



The HPV Vaccine is cervical cancer prevention
In addition to preventing cervical cancer...
•The HPV vaccine works well and provides protection against cervical cancer well into adulthood
•The HPV vaccine is extremely safe
•The HPV vaccine works best and prevents the most cancers when given on-time starting at age 9
•You are a valued and trusted source of information for parents

HPV VACCINATION IS EFFECTIVE

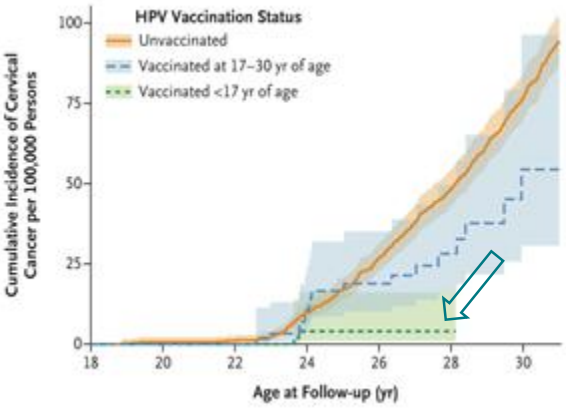
- HPV vaccination is effective at preventing cancer as well as precancer and HPV infections

HPV vaccination is effective

Sweden, 2020: 1.7 million females who were 10-30 yrs. of age between 2006 through 2017 were followed and evaluated until their 31st birthday.

Key Findings:

- 538 cases in 528,000 unvaccinated
- 19 cases in 518,000 vaccinated
  - 2 cases in 439,000 vax age 10-16 yrs.
  - 17 cased in 90,000 vax 17-30 yrs.



PREVENT GLOBAL HPV CANCERS

SOURCE: Lei, et al, NEJM 2020

88% protection against invasive cervical cancer when vaccinated before age 17

- This study used quadrivalent vaccine.
- Sweden, 2020: 1.7 million females who were 10-30 yrs. of age between 2006 through 2017 were followed and evaluated until their 31st birthday.
- Most of the 10-16 year olds were vaccinated close to age 12 and most of the 17 – 30 year olds were vaccinated close to age 17.

Key findings:

- 538 cases in 528,000 unvaccinated
- 19 cases in 518 vaccinated
  - 2 cases in 439,000 vax age 10 – 16 yrs
  - 17 cases in 90,000 vaccinated age 17 - 30

Reference : Jiayao Lei J, Ploner A, Elfström KM, Wang J, Roth A,Fang et al. HPV Vaccination and the Risk of Invasive Cervical Cancer
N Engl J Med 2020; 383:1340-1348. Available from https://www.nejm.org/doi/full/10.1056/NEJMoa1917338

HPV vaccination is effective

IARC-India Trial/Observational Study

Analysis of cervical screening outcome (N=13,300)

Study Group	Women screened	Positive on HCII test (%)		Positive for HPV 16 or 18 on PS test		CIN 2/3 associated with HPV 16/18	Any CIN 2+
Unvaccinated	4,719	316	(6.7)	68	(1.4)	5	8 (includes 1 Ca)
All vaccinated	8,581*	409	(4.8)	9	(0.1)	0	1
3- dose	1,943	105	(5.4)	2	(0.1)	0	0
2- dose (D 1 & 180+)	2,146	133	(6.2)	3	(0.1)	0	0
1- dose	2,593	117	(4.5)	3	(0.1)	0	1

*Includes 2 dose (0, 60 days) group

Basu P, Malvi SG, Joshi S, et al. Vaccine efficacy against persistent human papillomavirus (HPV) 16/18 infection at 10 years after one, two, and three doses of quadrivalent HPV vaccine in girls in India: a multicentre, prospective, cohort study [published correction appears in Lancet Oncol. 2022 Jan;23(1):e16] *Lancet Oncology*. 2021;22(11):1518-1529. doi:10.1016/S1470-2045(21)00453-8.

- Data from the WHO-IARC HPV Vaccine trial, which became an observational study in 2010, show the vaccine is effective in preventing cervical cancer.

Results:

- At 4 years post-vaccination - no persistent HPV 16 or 18 infections were detected (when participants were 14–22 years).

- At 7 years post-vaccination - The rates of persistent HPV16 or HPV18 infection were 0.2% (95%CI 0.0–0.9%) in the three-dose arm, 0% each in two-dose and single-dose arms and 1.2% (95% CI 0.7–2.1%) in the unvaccinated women.

- HPV vaccination is effective in preventing cervical cancer.

More Background:

- In April 2010, when the Indian government suspended all HPV vaccine trials for reasons not related to the WHO-IARC HPV Vaccine Trial, 17,729 participants (88.6% of the targeted recruitment of 20,000 girls) had been recruited; many had not yet completed their full dose schedules – some had received only one, some two, and some all three.
- The trial became an observational study!
- A supplementary cohort of married, unvaccinated females aged 18–23 years (corresponding to the age of the married vaccinated females at the time of follow up) was recruited from different study sites in India during 2012 to 2015, allowing

comparison of HPV infection data between participants vaccinated with one, two or three doses and those who had not received any vaccine doses

- Collection of cervical samples commenced six months after delivery of a baby or 12 months after marriage, whichever was earlier

HPV VACCINATION IS SAFE

- HPV vaccination is very safe

160

studies in several countries have shown: NO serious side effects, other than what's typical for all vaccines

(i.e., allergic reactions, fainting).

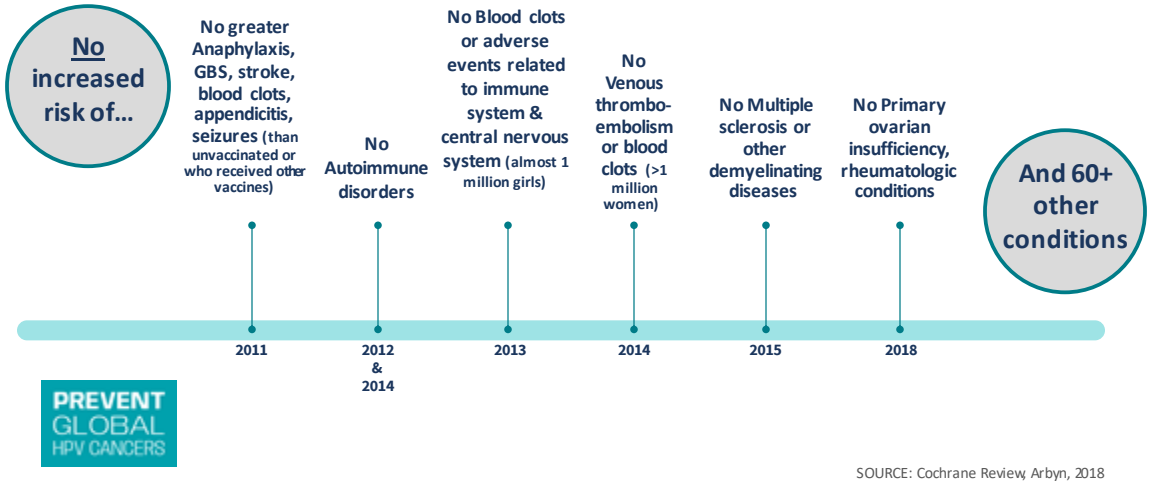
PREVENT GLOBAL HPV CANCERS

- If there are any doubts about the safety of this vaccine, these numbers should clear that up. 160 studies.
- Covering millions of people and multiple countries. NO serious side effects aside from what is common for vaccines (allergic reactions).
- Since the first marketing authorization in 2006, post-licensure monitoring and research have been conducted for the 3 vaccines (bivalent by GlaxoSmithKline, quadrivalent and 9-valent by Merck and Co.), with over 160 studies completed in several countries.
- HPV vaccines were found to have a favourable safety profile, with no confirmed clinically serious signals about safety. Anaphylaxis and syncope are known AEs.
- We know that we can expect HPV vaccination to cause some injection site reactions, possibly fever, and headache.
- We know that anyone who has any severe allergies, including an allergy to yeast, anyone who has ever had a life-threatening allergic reaction to any component of HPV vaccine or to a previous dose of HPV vaccine, should not be vaccinated.
- We also know that fainting spells, or syncope, is very common with adolescents when they receive injections.
- To reduce the risk of syncope, patients should be seated while vaccinated and remain in that position or should lay down for 15 minutes.

Source:

- Phillips A, Patel C, Pillsbury A, Brotherton J, Macartney K. Safety of Human Papillomavirus Vaccines: An Updated Review. Drug Saf. 2018;41(4):329-46.
- https://www.who.int/groups/global-advisory-committee-on-vaccine-safety/topics/human-papillomavirus-vaccines/infertility

HPV vaccination has long-term safety data

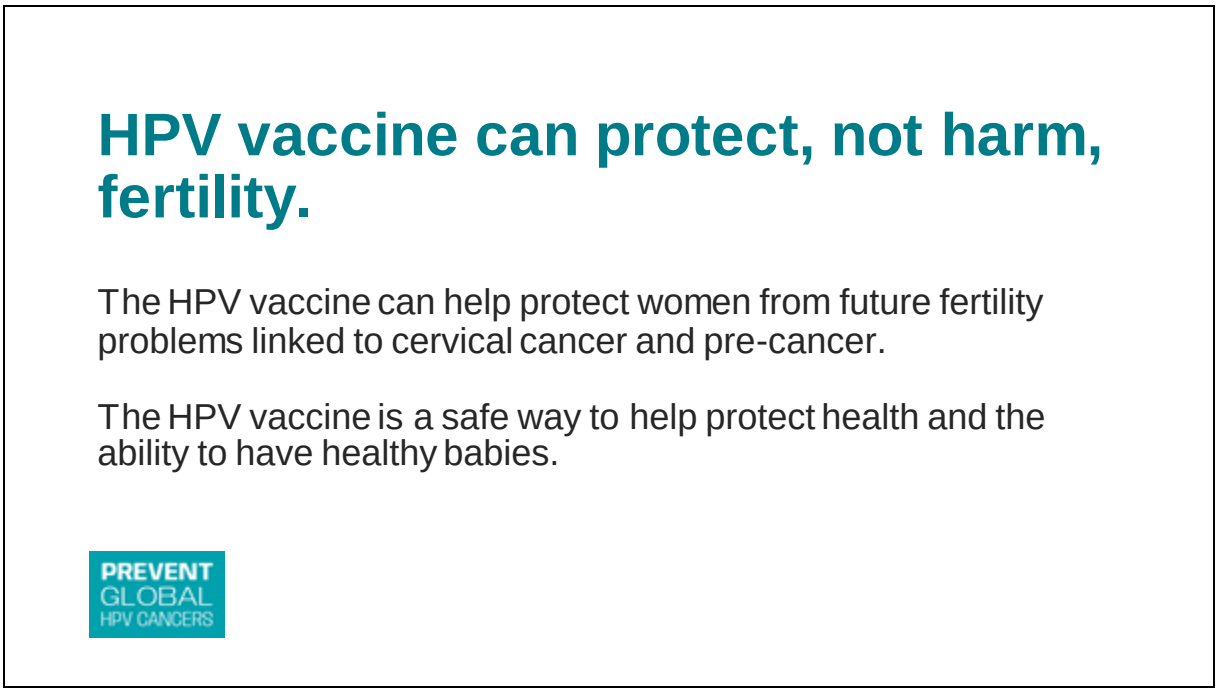


- HPV vaccine safety is better studied than most vaccines.
- The HPV vaccine has passed the test of time. Since 2006, many studies have been undertaken in response to varied concerns brought forward globally, and they have all been dismissed.
- Studies with almost 4 million people showed no relationship between the HPV vaccine and autoimmune disorders, blood clots, or other serious disorders.
- All the disorders listed above have been studied and found in similar numbers among the vaccinated to those who aren't vaccinated against HPV.
- Monitoring systems are in place in more than 80 countries to ensure that HPV vaccine, and all vaccines recommended for children and adolescents, are safe.
- HPV vaccination is safe.

Sources

- Genovese C, LA Fauci V, Squeri A, Trimarchi G, Squeri R. HPV vaccine and autoimmune diseases: systematic review and meta-analysis of the literature. J Prev Med Hyg. 2018 Sep 28;59(3):E194-E199. Available from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6196376/
- HPV Vacs. Vaccinate adolescents against cancer . Available from https://www.cancer.org/content/dam/cancer-org/online-documents/en/pdf/flyers/hpv-vacs-just-the-facts-for-providers.pdf
- Arbyn M, Xu L, Simoens C, Martin-Hirsch PP. Prophylactic vaccination against human papillomaviruses to prevent cervical cancer and its precursors. Cochrane Database of Systematic Reviews [Internet]. 2018 ;(5). Available from:

https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD009069.pub3/full



- **HPV vaccine can protect, not harm, fertility.**
- There is no credible evidence that HPV vaccination leads to issues with fertility.
- The HPV vaccine is very safe and prevents cervical cancer.

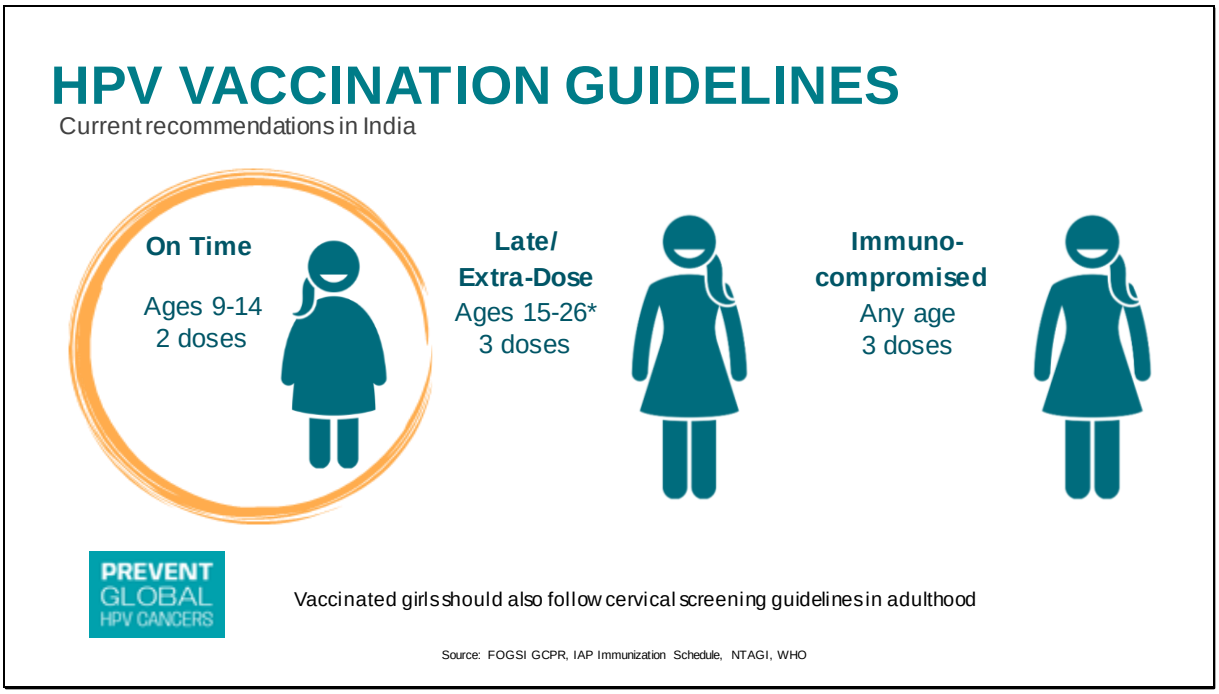
References:

WHO The Global Advisory Committee on Vaccine Safety (GVACS): GACVS concluded that the available data do not support an association between HPV vaccination and infertility.

https://www.who.int/groups/global-advisory-committee-on-vaccine-safety/topics/human-papillomavirus-vaccines/infertility

HPV VACCINATION STARTS AT AGE 9

HPV vaccination is best given on-time, starting at age 9



HPV Vaccination Guidelines:

- MOHFW (Ministry of Health and Family Welfare) announcements and FOGSI GCPR as well as IAP Immunization Schedule strongly recommends a two-dose schedule for the primary target group of girls ages 9 – 14.
- NTAGI has recommended introduction of the HPV Vaccine in the Universal Immunization Programme (UIP) with a one-time catch-up for 9-14 year-old girls followed with routine introduction at age 9.

Vaccination at Older Ages:

- The vaccine is also labeled for women up to age 45. However, the vaccine is not a therapeutic vaccine and will not treat existing pathology.
- There is reduced efficacy in older women as most people first contract HPV in their teens and early 20.
- FOGSI GCPR suggests a 3-dose regimen for older women, evaluating the evidence as level II grade B
- Recommending it to women in adulthood may lead those women to think their daughters can wait to get vaccinated and potentially reduce the likelihood of on-time

vaccination for girls.

Sources:

- Human papillomavirus vaccination: Good clinical practice recommendations from the Federation of Obstetric and Gynecological Societies of India. https://www.fogsi.org/fogsi-gcpr-on-prevention-and-management-of-cervical-cancer-june-2023/
- IAP. IAP Immunization Schedule 2021 (Tabular form). https://acvip.org/professional/columns/iap-immunization-schedule-2020-2021-table-form
- CDC. Human Papillomavirus (HPV). https://www.cdc.gov/hpv/parents/vaccine-for-hpv.html#:~:text=HPV%20vaccination%20is%20not%20recommended,benefits%20of%20vaccination%20for%20them

Early age HPV vaccination

More effective

Age at Vaccination	Effectiveness against CIN3+	Effectiveness against cervical cancer
12-13	97%	87%
14-16	75%	62%
16-18	39%	34%

HPV vaccination can start at age 9.

PREVENT GLOBAL HPV CANCERS

SOURCE: Falcaro, et al. Lancet 2021;398(10316):2084-2092

- From a study in England It's clear that vaccination is MUCH more effective at younger ages then at older ages.
- Similar findings have been reported from other countries as well.
- Clinicians and parents who think it's OK to delay vaccination should keep these numbers in mind.
- **This study demonstrates that vaccinating at earlier ages will prevent more cancers.**
- Data based on use of bivalent vaccine. Actual effectiveness may differ slightly for quadrivalent vaccine.

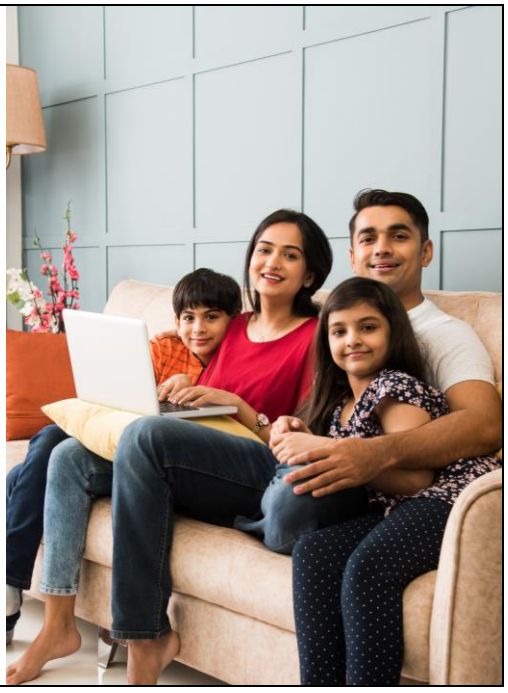
<u>References</u>

- Goleman MJ, Dolce M, Morack J. Acad Pediatr. 2018;18:769-775
- St Sauver, et al. Prev Med. 2016;89:327-333
- Biancarelli et al. J Pediatr. 2020;217:92-97
- Falcaro M, Castañon A, Ndlela B, Checchi M, Soldan K, Lopez-Bernal J,et al .The effects of the national HPV vaccination programme in England, UK, on cervical cancer and grade 3 cervical intraepithelial neoplasia incidence: a register-based observational study. Lancet. 2021 ;398(10316):2084-2092. Available from.https://pubmed.ncbi.nlm.nih.gov/34741816/

BENEFITS OF VACCINATING STARTING AT AGE 9

1. More time for completion on-time (before 15)
2. Results in a stronger immune response
3. Increased likelihood of vaccinating prior to first HPV exposure
4. Decreased questions about sexual activity by parents and guardians
5. Increased vaccinations and therefore cancers prevented
6. Shown to increase vaccination rates in health systems in US
7. Shown to be highly acceptable by health systems, providers, and parents in the US

PREVENT GLOBAL HPV CANCERS



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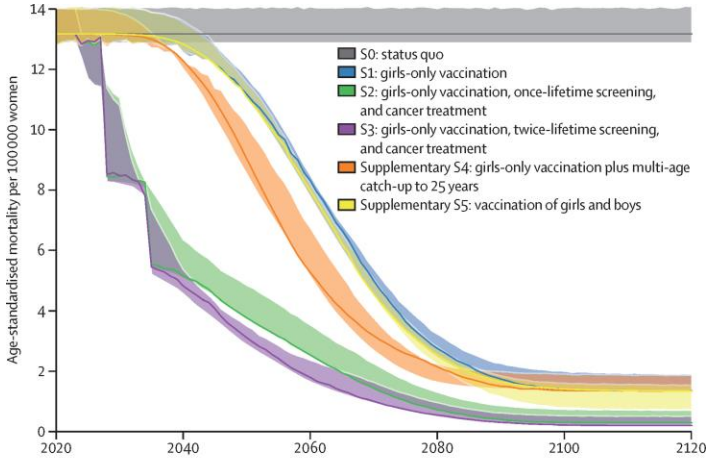
Reference: Saslow et al. Human papillomavirus vaccination 2020 guideline update: American Cancer Society guideline adaptation. CA Cancer J Clin. 2020 Jul;70(4):274-280
Article collection: HPV Vaccination Starting at Age 9 (tandfonline.com)

The Science is Clear: The Path to Cervical Cancer Elimination is Possible

The Science is Clear – the path to cervical cancer elimination is possible.

Elimination is Possible: Modeling Data from 78 LMICs



PREVENT GLOBAL HPV CANCERS

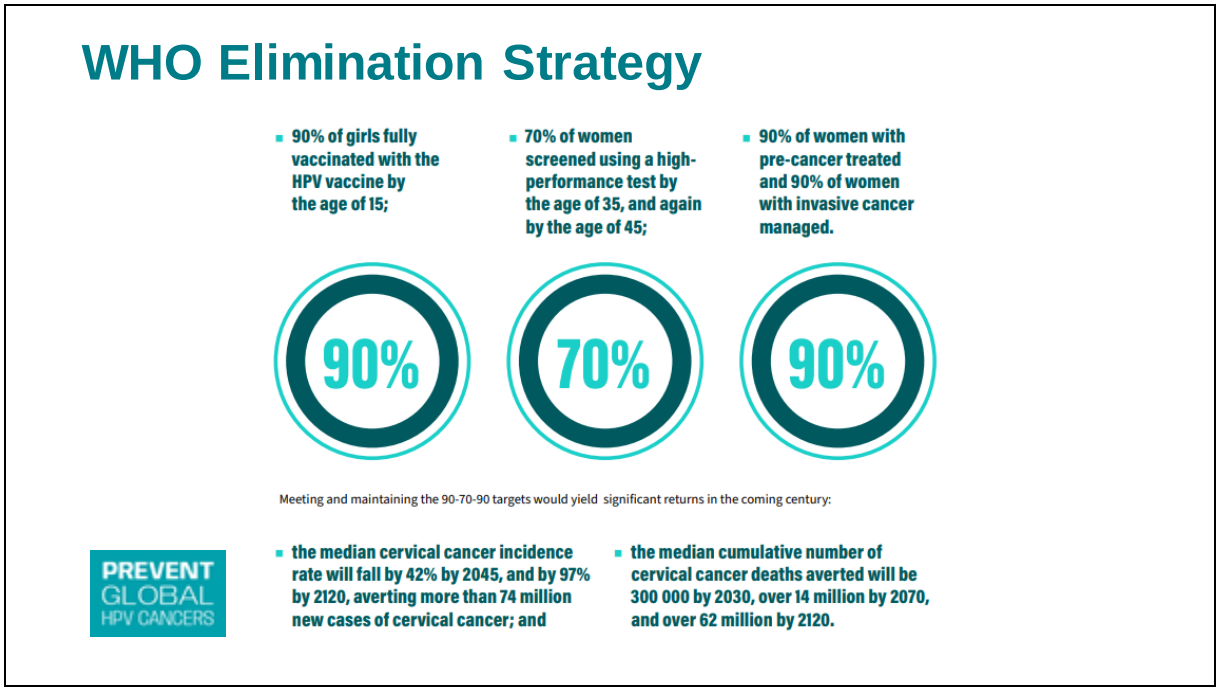
The Lancet 2020 395591-603DOI: (10.1016/S0140-6736(20)30157-4)

- Graph shows age-standardised cervical cancer mortality over time for all 78 LMICs
- Vaccination shoes long-tern incidence reduction
- Screening and treatment contribute to faster mortality reduction
- Three streams in synergy

Background Notes on Graph:
The solid lines represent the median outcome of the three models; the shading represents the range of model outputs. HPV=human papillomavirus. LMICs=low-income and lower-middle-income countries. S0=status quo (no scale-up of vaccination, screening or treatment). S1=female-only vaccination at 9 years with multi-age cohort catch-up to age 14 years in 2020. S2=female-only vaccination and once-lifetime HPV testing at age 35 years with cancer treatment scale-up. S3=female-only vaccination and twice-lifetime HPV testing at age 35 years and 45 years with cancer treatment scale-up. Supplementary S4=female-only vaccination at 9 years with extended multi-age cohort catch-up to age 25 years in 2020. Supplementary S5=female and male vaccination at age 9 years with multi-age cohort catch-up to age 14 years in 2020. All scenarios assume the use of a broad-spectrum HPV vaccine with protection against seven oncogenic types.

Link to original article: Mortality impact of achieving WHO cervical cancer elimination targets: a comparative modelling analysis in 78 low-income and lower-middle-income

countries - The Lancet



- As we already discussed the WHO Elimination Strategy lays out clear targets toward cervical cancer elimination.
- 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.

Source:
230519-ccei-brochure.pdf (who.int)

"This is a historic moment for global health. It marks the **first time** that the world has committed to **eliminating a cancer"**

– Dr Tedros Adhanom Ghebreyesus, WHO Director-General
17 November 2020

Photo: Business Wire

- **"This is a historic moment for global health. It marks the first time that the world has committed to eliminating a cancer"**
- 230519-ccei-brochure.pdf (who.int)

Questions about Module 1?

BREAK

https://youtu.be/Vcc7k1x8SxY?si=wx0mXteIBl9C67Xm


PREVENT
GLOBAL
HPV CANCERS
Module 2:
Strategies to Effectively Communicate about HPV Vaccination with Parents
Models used for illustrative purposes only.

Module 2 Outline

- Parent Beliefs
- Making a Recommendation
- Answering Common Questions from Parents

PREVENT GLOBAL HPV CANCERS

Today we will cover:

- Parent Beliefs
- Making a Recommendation
- Answering Common Questions from Parents

- Use the video of Dr. Swaminathan or replace with quote or video from your organisational leadership OR delete slide before presenting.
- Length: 1 min 29 seconds, link is on slide or here.

https://www.youtube.com/watch?embeds_widget_referrer=https%3A%2F%2Famericancancer.sharepoint.com%2F&embeds_euri=https%3A%2F%2Fpowerpoint.officeapps.live.com%2F&embeds_origin=https%3A%2F%2Fpowerpoint.officeapps.live.com&source_ve_path=Mjg2NjQsMTY0NTAz&feature=emb_share&v=_suv0WYRd3E

Reflection after video

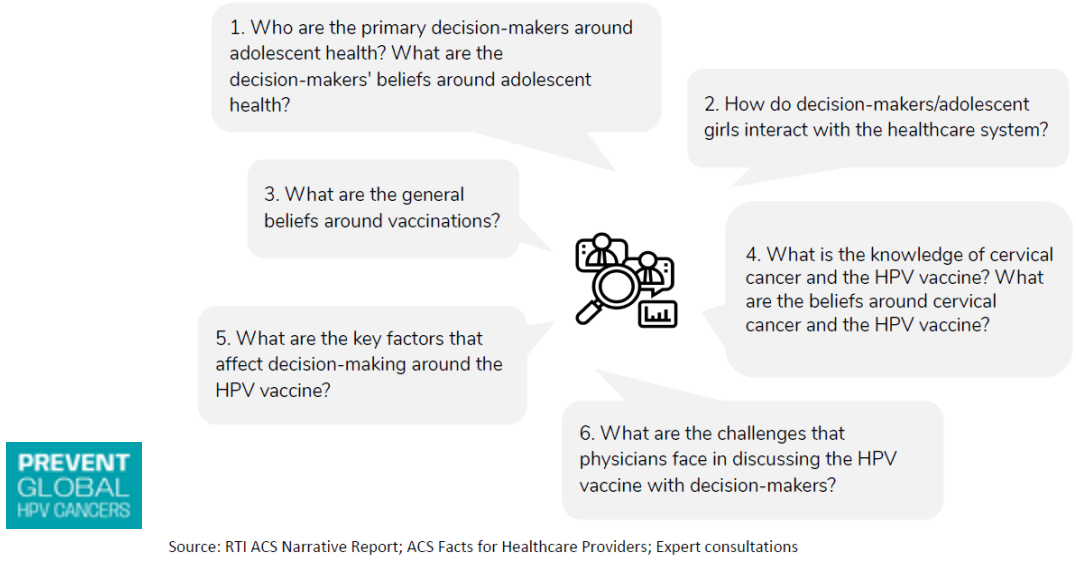
- As Dr. Swaminathan said, it is our duty to explain to parents why it is essential to vaccinate their daughters against HPV.
- Our training today will focus on how to communicate briefly and effectively with parents about the HPV vaccine.

Parent Beliefs

- We know that for the age range for the vaccination 9 – 14 the girls themselves are not often making the decision.
- Instead a majority of decision makers are parents of adolescent girls; some decision makers also include grandmothers, aunts and uncles.
- It is important to understand general parent beliefs and concerns regarding HPV vaccination.
- in-depth interviews were conducted with parents in India to understand awareness of the HPV vaccine and cervical cancer as well as major concerns and sources of information for decision-making.

Reference:
https://preventglobalhpvcancers.org/wp-content/uploads/2023/03/Overcoming-Barriers-to-HPV-Vaccination-Among-Physicians-in-India-Final-Research-Report.pdf

Research questions



Source: RTI ACS Narrative Report; ACS Facts for Healthcare Providers; Expert consultations

- A qualitative study was conducted in West Bengal with parents, adolescents, teachers, physicians and other stakeholders to understand knowledge, beliefs, attitudes around Cervical Cancer, the HPV vaccine, and practices and decisions around it.
- A total of 97 interviews were completed.

Reference:
https://preventglobalhpvcancers.org/wp-content/uploads/2023/03/Overcoming-Barriers-to-HPV-Vaccination-Among-Physicians-in-India-Final-Research-Report.pdf

Parents' Beliefs about Health & Vaccination

- Want their children to be healthy in the future and free from diseases
- Believe that vaccines keep children healthy and prevent diseases
- Consider vaccines to be safe and beneficial to their child's health

PREVENT GLOBAL HPV CANCERS

"Vaccines are quite important. There is no other alternative means to prevent diseases."
Mother, Howrah

- Parents want their children to be healthy in the future and free from diseases
- Parents believe that vaccines keep children healthy and prevent diseases
- Parents consider vaccines to be safe and beneficial to their child's health
- Vaccines saved 3.5 million lives were saved in India during the COVID pandemic. Trust in vaccines is high

Reference:
https://preventglobalhpvcancers.org/wp-content/uploads/2023/03/Overcoming-Barriers-to-HPV-Vaccination-Among-Physicians-in-India-Final-Research-Report.pdf

Parents' Awareness of Cervical Cancer & HPV Vaccination

Parents are largely unaware of:

- Cervical health and cervical cancer
- HPV vaccine, its benefits, and link to preventing cervical cancer
- How HPV spreads

PREVENT GLOBAL HPV CANCERS

> *"I have only heard the name cancer and nothing else. We don't have any idea how many types of cancer there are"*
> *Father, Kolkata*

Interviews with parents found that most were:

1. Unaware of cervical cancer
2. Unaware of HPV vaccine, its benefits and link to preventing cervical cancer
3. Unaware as to how girls or women contract HPV

Reference:
https://preventglobalhpvcancers.org/wp-content/uploads/2023/03/Overcoming-Barriers-to-HPV-Vaccination-Among-Physicians-in-India-Final-Research-Report.pdf

Parents Trust Doctors

"**The position of the doctor is after god**. Only doctors can cure us. They are very caring and answer all our questions."
–Mother, Kolkata

"When the doctor tells me something related to my child's health, **I trust him.** Since he is attentive to my queries and doubts, it helps increase my trust in him. We go to the doctor to cure our diseases, and **it is the doctor that heals us**. So, we have to rely on the doctor and the opinion of the doctor must be given importance."
– Father, Howrah

PREVENT GLOBAL HPV CANCERS

- As doctors, parents place a high degree of trust in our recommendation. It is our responsibility to recommend the HPV vaccine to help parents protect their daughters from cervical cancer
- "The position of the doctor is after god. Only doctors can cure us. They are very caring and answer all our questions." – Mother, Kolkata
- "When the doctor tells me something related to my child's health, I trust him. Since he is attentive to my queries and doubts, it helps increase my trust in him. We go to the doctor to cure our diseases, and it is the doctor that heals us. So, we have to rely on the doctor and the opinion of the doctor must be given importance."
- We have a great responsibility to provide parents clear recommendations and fact-based information for their questions.

Reference:
https://preventglobalhpvcancers.org/wp-content/uploads/2023/03/Overcoming-Barriers-to-HPV-Vaccination-Among-Physicians-in-India-Final-Research-Report.pdf

YOUR RECOMMENDATION MATTERS

As a doctor, your recommendation matters.

Doctor Recommendations Matter

Parents consider healthcare providers the **most credible source** of information on HPV vaccination.

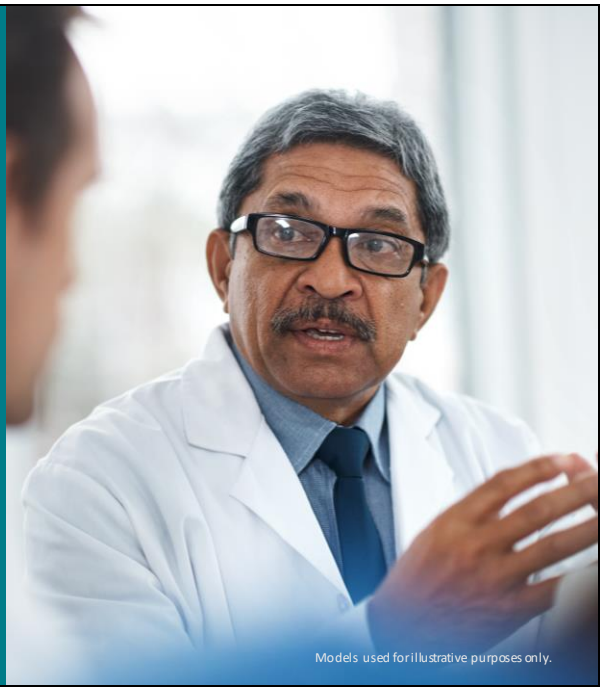
PREVENT GLOBAL HPV CANCERS

- Research conducted in India found that parents consider healthcare providers the **most credible sources** for information on HPV vaccination.

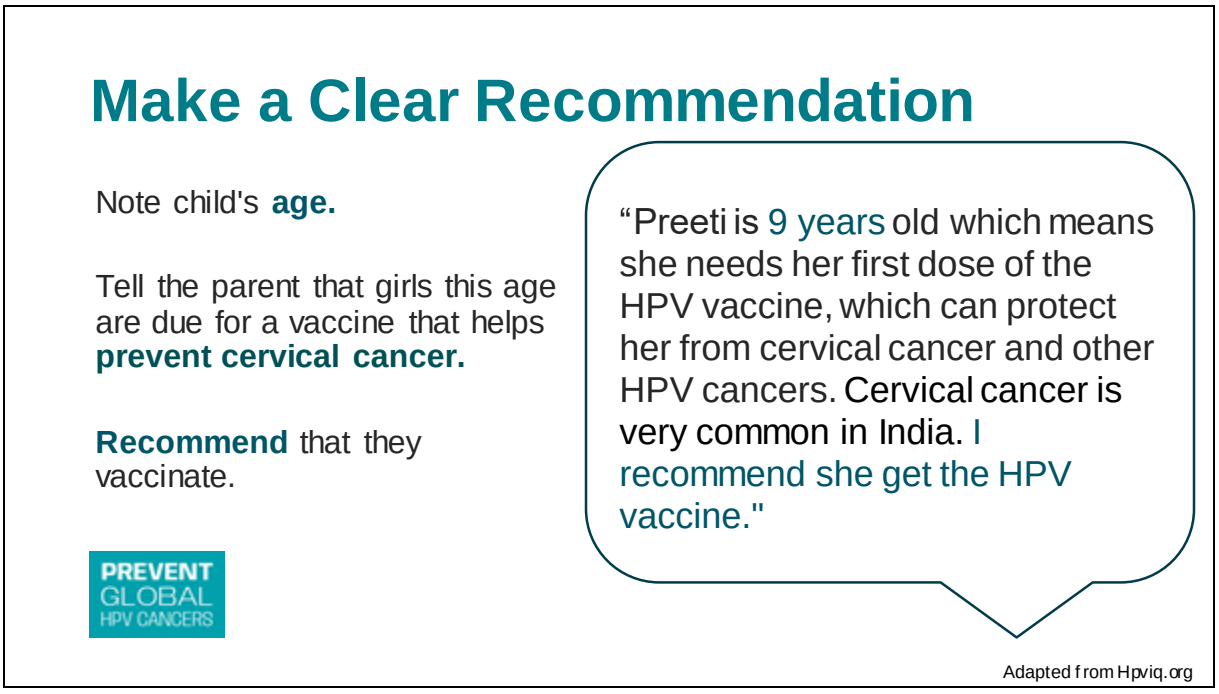
Reference:

Physicians Research Report: https://preventglobalhpvcancers.org/wp-content/uploads/2023/03/Overcoming-Barriers-to-HPV-Vaccination-Among-Physicians-in-India-Final-Research-Report.pdf

MAKING A STRONG RECOMMENDATION



Now that we've covered that HPV vaccination is the best source of cervical cancer prevention and the importance parents place on doctors. we'll cover how to make a strong recommendation.



- Once you've established that the patient is between 9 – 14 and has not received the HPV vaccine or completed the series, make a clear recommendation.
- Note the child's age, let them know that all girls at this age are due for a vaccine that helps prevent cervical cancer. Recommend that they vaccinate.
- An example might be: "Preeti is 9 years old which means she needs her first dose of the HPV vaccine, which can protect her from cervical cancer and other HPV cancers. Cervical cancer is very common in India. I recommend she get the HPV vaccine."

Reference:
National Cancer Institute. Cancer Prevention Message Is Key for HPV Vaccination Discussions with Parents [Internet]. 2018 . Available from:
https://www.cdc.gov/hpv/hcp/answering-questions.html
https://www.hpviq.org/

Connect

If a parent **hesitates or has a question.**

Show the parent you are listening. Restate what they are saying.

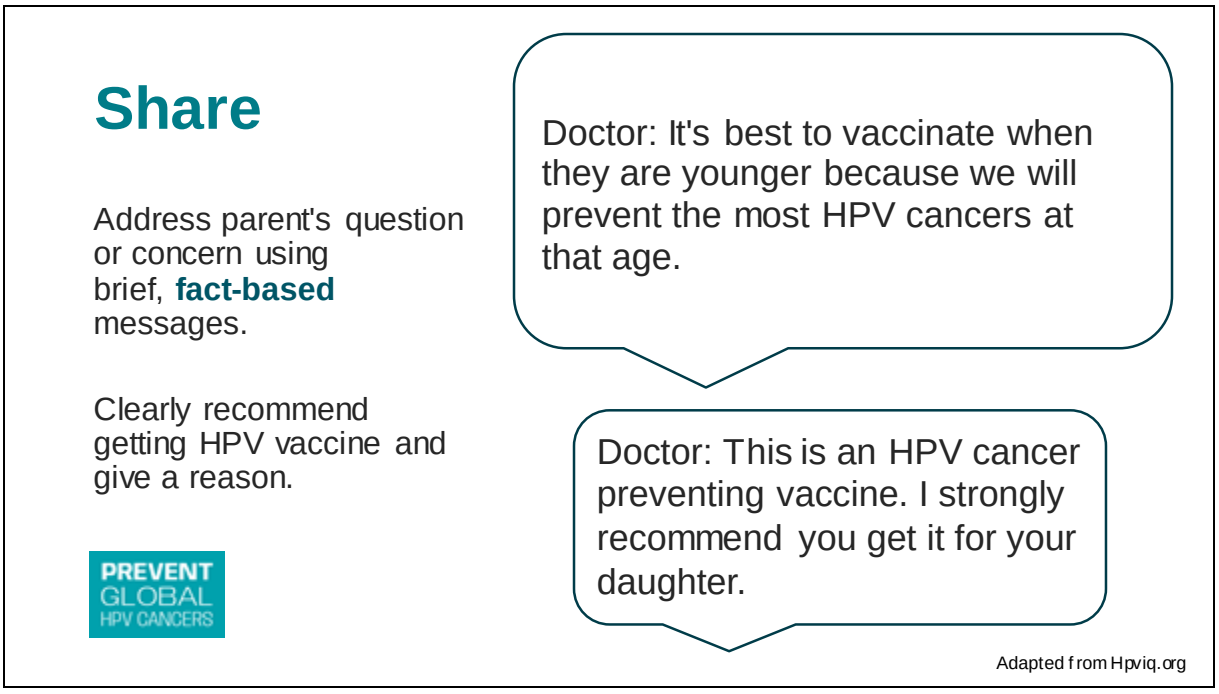
Parent: Does she really need it so young?

Doctor: So, you are wondering why she needs it at this age?

PREVENT GLOBAL HPV CANCERS

Adapted from Hpviq.org

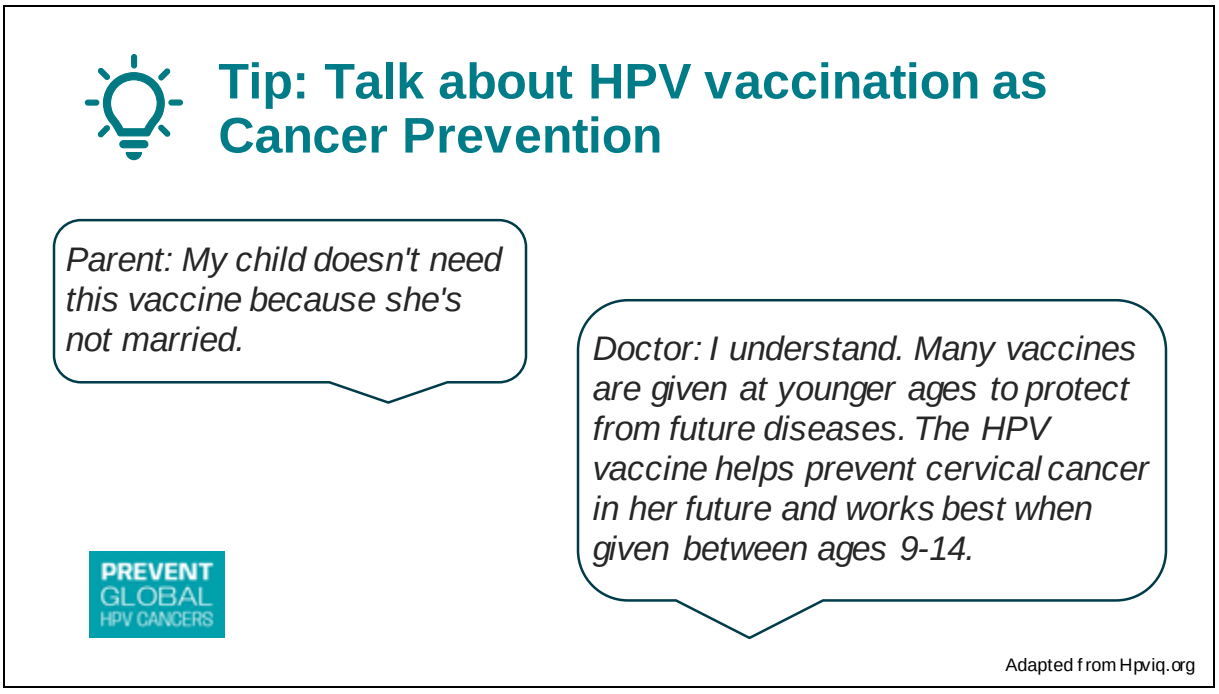
- If a parent hesitates or has a question, don't worry, they are most likely just looking for you to reassure them.
- Show the parent you are listening. Restate what they are saying to make sure you have understood them.



- Address the parent's concern using a fact-based message
- Follow-up by clearly recommending they get the HPV vaccine

References

- Goleman MJ, Dolce M, Morack J. Acad Pediatr. 2018;18:769-775
- St Sauver, et al. Prev Med. 2016;89:327-333
- Biancarelli et al. J Pediatr. 2020;217:92-97
- Falcaro M, Castañon A, Ndlela B, Checchi M, Soldan K, Lopez-Bernal J,et al .The effects of the national HPV vaccination programme in England, UK, on cervical cancer and grade 3 cervical intraepithelial neoplasia incidence: a register-based observational study. Lancet. 2021 ;398(10316):2084-2092. Available from.https://pubmed.ncbi.nlm.nih.gov/34741816/



Tip:

- Always focus on HPV vaccination as cancer prevention
- For example, if sex or marriage comes up, redirect the discussion to cancer prevention
- Example:
    - *Parent: My child doesn't need this vaccine because she's not married/having sex.*
    - *Doc: I understand. Vaccines are given at younger ages to protect from future diseases. The HPV vaccine is about preventing cervical cancer and works best when given between ages 9-14.*

Tip: Follow Up with parents who initially say no

If a parent declines, bring it up at the next visit.

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Adapted from Hpviq.org

Tip:

- Follow up with parents who initially say no
- It may take time for the parent to ultimately decide to vaccinate

PRACTICE

- It is important that we practice how we will make the recommendation

Sample recommendation: Age 9

"Preeti is 9 years old which means she's due for the HPV vaccine, which helps protect against cervical cancer and other cancers caused by HPV. I strongly recommend she get the HPV vaccine."

Sample recommendation: With screening

"Let's book an appointment for your cervical cancer screening. And is your daughter about 9 now? I recommend she get the HPV vaccine to help protect her from cervical cancer."

- These are 2 examples of how you might make HPV vaccination recommendations.

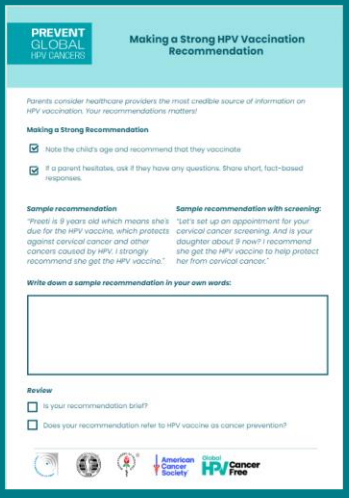
Reference:

- Brewer NT, Hall ME; Malo TL, Gilkey MB; Quinn B, Lathren C. Announcements Versus Conversations to Improve HPV Vaccination Coverage: A Randomized Trial. *Pediatrics* (2017) 139 (1): e20161764.Available from https://doi.org/10.1542/peds.2016-1764
- Centre for Social and Behavioural Change at Ashoka University. Overcoming Barriers to HPV Vaccination Among Physicians in India and related research for ACS. 2022. https://preventglobalhpvcancers.org/wp-content/uploads/2023/03/Overcoming-Barriers-to-HPV-Vaccination-Among-Physicians-in-India-Final-Research-Report.pdf

Let's practice.

Write down how you might make a recommendation in your own words.

Share your example with a partner or the group.


PREVENT GLOBAL HPV CANCERS

Making a Strong HPV Vaccination Recommendation

Parents consider healthcare providers the most credible source of information on HPV vaccination. Your recommendations matter!

Making a Strong Recommendation

- Note the child's age and recommend that they vaccinate
- If a parent hesitates, ask if they have any questions. Share short, fact-based responses.

Sample recommendation

"Preeti is 9 years old which means she's due for the HPV vaccine, which protects against cervical cancer and other cancers caused by HPV. I strongly recommend she get the HPV vaccine."

Sample recommendation with screening:

"Let's set up an appointment for your cervical cancer screening. And is your daughter about 9 now? I recommend she get the HPV vaccine to help protect her from cervical cancer."

Write down a sample recommendation in your own words:

Review

- Is your recommendation brief?
- Does your recommendation refer to HPV vaccine as cancer prevention?

American Cancer Society · Global HPV Cancer Free

- Let's practice
- Take a few minutes and write down how you would make a recommendation in your own words. You will now be put into a breakouts of 3 to practice giving your recommendation and getting feedback from your peers. You will be brought back to the main room after 6 minutes.

- Remember, Note child's **age.** Tell the parent that children this age are due for a vaccine that prevents cervical cancer. Recommend that they vaccinate today.
- Allow 1-2 minutes for the participants to write down a sample recommendation
- Ask them to turn to a partner and practice giving the recommendation.
    - In-Person: have participants turn to a partner and practice.
    - Virtual: have everyone write down on their own or in the chat how they would make a recommendation. Call on 1 or 2 participants to come off mute and practice.
- Have the partner give feedback. Did they cover age, cancer prevention and vaccinating today?
- Switch roles, practice and give feedback.
- You can use the handout in the link OR write down on any piece of paper or write a note on your phone.

Copy link to practice form into chat: https://preventglobalhpvcancers.org/wp-

content/uploads/2024/04/Recommendation-Review.pdf

Answering Parents' Questions

PREVENT GLOBAL HPV CANCERS

- Now we're going to practice answering parents' questions

Parents want information about:

- How to keep their children healthy and cancer-free
- Vaccine benefits and cost
- Vaccine side effects

> *"I lack information about it [HPV infection] as there is no one to guide us about this problem [cervical cancer]."*
> *Father, Howrah*

PREVENT GLOBAL HPV CANCERS

Interviews with parents in India identified the following concerns:

1. Keeping their children healthy and cancer-free
2. Vaccine costs
3. Vaccine side effects

Reference:

https://preventglobalhpvcancers.org/wp-content/uploads/2023/03/Overcoming-Barriers-to-HPV-Vaccination-Among-Physicians-in-India-Final-Research-Report.pdf

Common Questions & Sample Responses

If a parent asks questions or expresses a worry after your recommendation, you may start with asking them,

"What is your question/worry?"

Address parent's questions using the messages on the following slides as a starting point.

PREVENT GLOBAL HPV CANCERS

- As a reminder, make the recommendation and then wait.
- If the parent agrees to vaccinate – great! Move on with the visit and vaccinate.
- If a parent hesitates or asks a question after you make your recommendation you may start with asking them:
    - What is your main worry?
- Address parent's questions using the following messages as a starting point.

Safety & Side Effect Questions

We know safety is a common concern parents have. Let's review some questions you may get from parents.

Are HPV vaccines safe?

- ***Yes.*** *HPV vaccines are very safe, just like any other vaccine.*
- *Millions of children have safely received HPV vaccines in over 100 countries.*
- *These vaccines are the most studied vaccinations on the market and studies show that they are very safe.*

PREVENT GLOBAL HPV CANCERS

Post-licensure safety data is based on Cervarix and Gardasil vaccines. Clinical trial data from Cervavac (Serum Institute) appear to be in line with these findings

- A parent may ask you a version of "is the vaccine safe"
  - Sample response *Yes. The HPV vaccine is very safe. Millions of children have safely received the HPV vaccine in over 100 countries. These vaccines are the most studied vaccinations on the market and these studies show that it is very safe.*

Reference:

World Health Organization. Global Advisory Committee on Vaccine Safety, 2–3 December 2015 [Internet]. 2016 . Available from: https://www.who.int/publications-detail-redirect/who-wer9103-21-32
Phillips A, Patel C, Pillsbury A, Brotherton J, Macartney K. Safety of Human Papillomavirus Vaccines: An Updated Review. Drug Saf [Internet]. 2018 ;41(4):329–46. Available from: https://pubmed.ncbi.nlm.nih.gov/29280070/

Arbyn M, Xu L, Simoens C, Martin-Hirsch PP. Prophylactic vaccination against human papillomaviruses to prevent cervical cancer and its precursors. Cochrane Database of Systematic Reviews [Internet]. 2018;(5). Available from:

https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD009069.pub3/full

Does the HPV vaccine cause side effects?

- *HPV vaccine is a safe vaccine.*
- *As with any other injection, your child may have mild side effects, such as fever or redness at the site of injection.*
- *Very rarely a child can have an allergic reaction to any injection.*
- *As with all injections, we will keep your child seated for 10-15 minutes to prevent possibility of fainting.*

PREVENT GLOBAL HPV CANCERS

- A parent asks a version of "Does the HPV vaccine cause side effects?
- *A sample response:*
- *HPV vaccine is a safe vaccine.*
- *As with any other injection, your child may have mild side effects, such as fever or redness at the site of injection.*
- *Very rarely a child can have an allergic reaction to any injection.*
- *As with all injections, we will keep your child seated for 10-15 minutes to prevent possibility of fainting.*

Reference : Centers for Disease Control and Prevention. Answering Parents' Questions about HPV Vaccination

[Internet]. Available from: https://www.cdc.gov/vaccinesafety/vaccines/hpv-vaccine.html

Will HPV vaccination harm my daughter's fertility?

- *No, HPV vaccination does <u>not</u> cause fertility problems.*
- *Rather, HPV vaccination prevents most cervical precancer and cancer.*

PREVENT GLOBAL HPV CANCERS

- A parent may ask "Will HPV vaccination harm my daughter's fertility?"
- Sample response: No. *HPV vaccination does <u>not</u> cause fertility problems.*
- *Rather, HPV vaccination prevents most cervical precancer and cancer.*

Reference :

World Health Organization. Human papilloma virus vaccines and infertility: *Extract from GACVS meeting of 4-5 December 2019, published in the WHO Weekly Epidemiological Record of 24 January 2020. [Internet] Available from* https://www.who.int/groups/global-advisory-committee-on-vaccine-safety/topics/human-papillomavirus-vaccines/infertility

Bjorge, et al., 2016, Obstet Gynecol; Sadler, 2004, JAMA

Insinga, 2005, Pharmocoeconomics,

Yuill, 2023, Hum Vacc Immunother

A friend's daughter had a reaction to the vaccine. Should I be worried?

- *I can see how this might worry you.*
- *The HPV vaccine is very safe. As with any other vaccines, your child may have a mild fever or redness at the site of injection after the vaccination.*
- *As a doctor, it is sad to see a woman diagnosed every 5 minutes in India with cervical cancer which can be prevented through HPV vaccination.*

PREVENT GLOBAL HPV CANCERS

- A parent may ask a version of "A friend's daughter had a bad reaction to the vaccine. Should I be worried?
- *Sample response*
- *I can see how this would worry you.*
- *The HPV vaccine is very safe. As with any other vaccines, your child may have a mild fever or redness at the site of injection after the vaccination.*
- *As a doctor, it is sad to see a woman diagnosed every 5 minutes in India with cervical cancer which can be prevented through HPV vaccination.*

Reference:

- American Cancer Society. HPV Vaccine Facts [Internet]. Available from https://www.cancer.org/healthy/cancer-causes/infectious-agents/hpv/hpv-vaccine-

facts-and-fears.html

- NICPR ICMR. Cancer Statistics [Internet]. Available from: *http://cancerindia.org.in/cancer-statistics/*

- NTAGI. Minutes of the Meeting of the National Technical Advisory Group on Immunization (NTAGI) [Internet]. Available from https://main.mohfw.gov.in/sites/default/files/Approved%20Minutes%20of%20NTAGI%20meeting%20held%20on%20December%2019%202017.pdf

PRACTICE ANSWERING SAFETY QUESTIONS

With a partner role play:

- 1 person act as a parent with concerns, the other partners practice responding using short, fact-based messages.
- Take turns.

- Let's practice
- Ask participants to take turns acting as a parent and the other as a doctor (works in-person or if virtual move to breakout rooms for practice)
- After asking and answering a few safety questions switch roles, practice and give feedback.

- You will automatically be put into virtual groups of 3 to practice asking and answering questions on safety. You'll have 8 minutes to practice. You'll automatically be brought back to the big room.

Age Questions

- Let's move on to questions parents may have around the age at vaccination.

Why do they need it at this age?

- *Most vaccines are given at younger ages to protect from diseases in the future.*
- *HPV vaccination works best when given between ages 9 and 14 before chance of exposure.*
- *Research shows that on-time vaccination provides more protection from HPV cancers than late vaccination at older ages.*

PREVENT GLOBAL HPV CANCERS

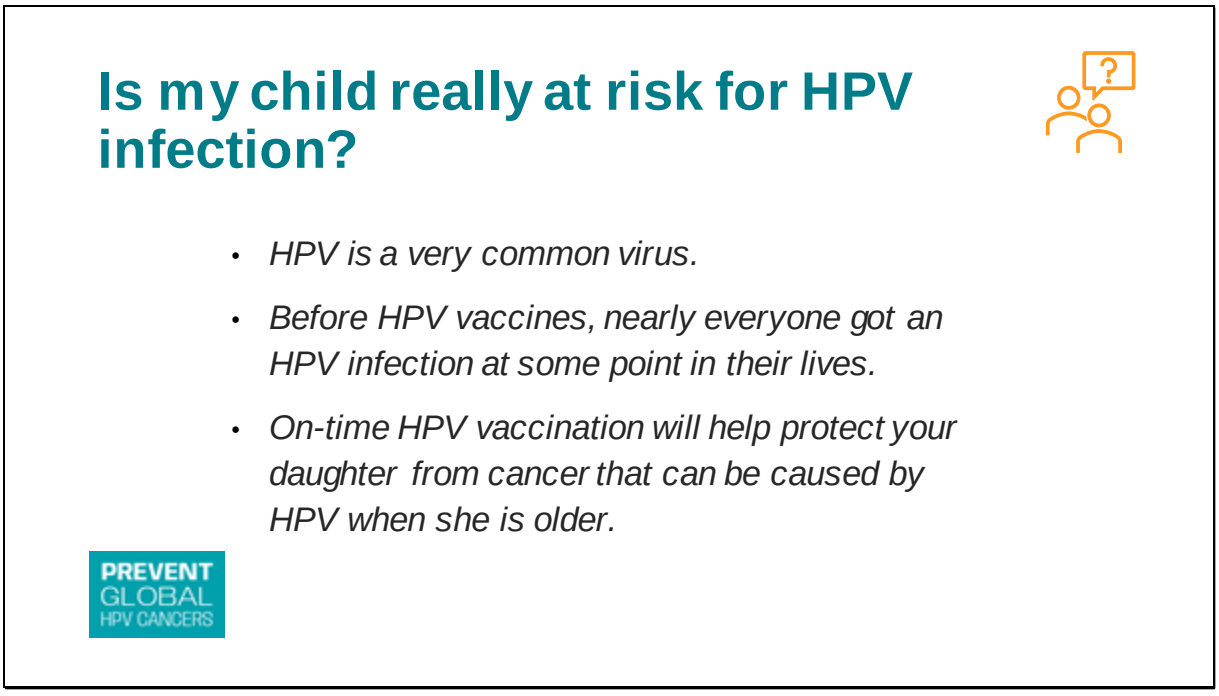
- A parent may ask "Why do they need it at this age?"

Sample response,

- *Most vaccines are given at younger ages to protect from diseases in the future.*
- *HPV vaccination works best when given between ages 9 and 14 before chance of exposure.*
- *Research shows that on-time vaccination provides more protection from HPV cancers than late vaccination at older ages.*

SOURCES:

- Falcaro M, Castañon A, Ndlela B, Checchi M, Soldan K, Lopez-Bernal J, et al. The effects of the national HPV vaccination programme in England, UK, on cervical cancer and grade 3 cervical intraepithelial neoplasia incidence: a register-based observational study. Lancet. 2021;398(10316):2084-2092. Available from https://pubmed.ncbi.nlm.nih.gov/34741816/
- WHO, Human papillomavirus vaccines: WHO position paper, May 2017 position paper [Internet}. Available from https://www.who.int/teams/immunization-vaccines-and-biologicals/policies/position-papers/human-papillomavirus-(hpv)



- **"Is my child really at risk for HPV infection?"**

Sample response,

- *HPV is a very common infection.*
- *Before HPV vaccines, nearly everyone got an HPV infection at some point in their lives.*
- *On-time HPV vaccination will help protect your daughter from cancer that can be caused by HPV when she is older.*

- SOURCES
  Lehtinen M, Lagheden C, Luostarinen T, Eriksson T, Apter D, Bly A, et al. Human papillomavirus vaccine efficacy against invasive, HPV-positive cancers: population-based follow-up of a cluster-randomised trial. BMJ Open. 2021 ;11(12):e050669. Available from .Human papillomavirus vaccine efficacy against invasive, HPV-positive cancers: population-based follow-up of a cluster-randomised trial - PubMed (nih.gov)

- National Cancer Institute, 2020. Large Study Confirms that HPV Vaccine Prevents Cervical Cancer. [Internet] Avaiable from https://www.cancer.gov/news-events/cancer-currents-blog/2020/hpv-vaccine-prevents-cervical-cancer-sweden-study

Can she not get the vaccine after marriage?

- *The HPV vaccine is recommended for all girls age 9 - 14 and is not based on marital status.*
- *All girls should get this vaccine before their 15th birthday to protect them from the most HPV cancers.*

PREVENT GLOBAL HPV CANCERS

- **"Can she not get the vaccine after marriage?"**
- Sample response "*The HPV vaccine is recommended for all girls age 9 - 14 and is not based on marital status.*
- *All girls should get this vaccine before their 15th birthday*."

SOURCES

- Lehtinen M, Lagheden C, Luostarinen T, Eriksson T, Apter D, Bly A, et al. Human papillomavirus vaccine efficacy against invasive, HPV-positive cancers: population-based follow-up of a cluster-randomised trial. BMJ Open. 2021 ;11(12):e050669. Available from .Human papillomavirus vaccine efficacy against invasive, HPV-positive cancers: population-based follow-up of a cluster-randomised trial - PubMed (nih.gov)
- National Cancer Institute, 2020. Large Study Confirms that HPV Vaccine Prevents Cervical Cancer. [Internet] Avaiable from https://www.cancer.gov/news-events/cancer-currents-blog/2020/hpv-vaccine-prevents-cervical-cancer-sweden-study

How long will the protection from HPV vaccine last?

- *The HPV vaccine provides long-lasting protection.*
- *There is enough evidence to suggest that immunity given by HPV vaccination lasts well into adulthood.*
- *There is no indication that the vaccine protection lessens with time. No booster is needed.*

PREVENT GLOBAL HPV CANCERS

How long will the HPV vaccine last?

- *The HPV vaccine provides long-lasting protection.*
- *There is enough evidence to suggest that immunity given by HPV vaccination lasts well into adulthood.*
- *There is no indication that the vaccine protection lessens with time.*

Breakout Session:

PRACTICE ANSWERING AGE QUESTIONS

With a partner role play:

- 1 person pretend to be a parent with concerns, the other partner practices responding using short, fact-based messages.
- Take turns.

Let's practice

- Ask participants to take turns acting as a parent and the other as doctor
  - In-Person: have participants practice with a partner
  - Virtual: take turns having participants come off mute and practice asking and answer questions
- After asking and answering a few age questions switch roles, practice and give fee

- You will automatically be put into virtual groups of 3 to practice asking and answering questions about age. You'll have 8 minutes to practice. You will automatically be brought back to the big room.

Additional Questions

- Let's move on to other questions that parents may have.

Can boys get the HPV vaccine?

- *Yes, the HPV vaccine can be given to both boys and girls to prevent HPV-related cancers as they grow older.*

PREVENT GLOBAL HPV CANCERS

- **Can boys get the HPV vaccine?**

  Yes, the HPV vaccine can be given to both boys and girls to prevent HPV-related cancers as they grow older.

Is there a cost to the vaccine?

- *Yes.*
- *Today the cost is ____ for the vaccine and ____ for delivery.*

If the cost is too expensive for parents, you can let them know that the government is considering adding HPV vaccination for girls age 9 – 14 to the Universal Immunisation Programme.

PREVENT GLOBAL HPV CANCERS

- **Is there a cost to the vaccine?**
- Input local costs.
- If the cost is too expensive for parents, you can let them know that the government is considering adding HPV vaccination for girls age 9 – 14 to the Universal Immunisation Programme.

Why does my child need the HPV vaccine?

- *HPV vaccination is important because it will protect your daughter from HPV infections that can cause cervical and four other types of cancer (throat, vagina, vulva, and anus) when she is older.*
- *On-time vaccination, between 9-14 years, provides the best protection.*

PREVENT GLOBAL HPV CANCERS

- **Why does my child need HPV vaccination?**
- *HPV vaccination is important because it will protect your daughter from HPV infections that can cause cervical and four other types of cancer (throat, vagina, vulva, and anus) when she is older.*
- *On-time vaccination, between 9-14 years, provides the best protection.*

What cancers are caused by HPV?

- *HPV, or human papillomavirus, is a common virus that can cause six types of cancer.*
- *In women, HPV can cause cervical, throat, anal, vaginal, and vulvar cancer.*
- *In men, HPV can cause throat, anal, and penile cancer.*

PREVENT GLOBAL HPV CANCERS

- **What cancers are caused by HPV?**
  - *HPV, or human papillomavirus, is a common virus that can cause six types of cancer.*
  - *In women, HPV can cause cervical, throat, anal, vaginal, and vulvar cancer.*
  - *In men, HPV can cause throat, anal, and penile cancer.*

Does HPV vaccination work?

- ***Yes**, HPV vaccination works very well.*
- *Studies have proven that the vaccines are effective at preventing cervical and other HPV cancers.*
- *HPV vaccination can prevent most cervical cancers.*

PREVENT GLOBAL HPV CANCERS

- A parent may ask "How do you know it works?"

Sample response

- ***Yes**, HPV vaccination works very well.*
- *Studies have proven that the vaccines are effective at preventing cervical and other HPV cancers.*
- *HPV vaccination can prevent most cervical cancers.*

Reference:

- Lehtinen M, Lagheden C, Luostarinen T, Eriksson T, Apter D, Bly A, et al. Human papillomavirus vaccine efficacy against invasive, HPV-positive cancers: population-based follow-up of a cluster-randomised trial. BMJ Open. 2021 ;11(12):e050669. Available from .Human papillomavirus vaccine efficacy against invasive, HPV-positive cancers: population-based follow-up of a cluster-randomised trial - PubMed (nih.gov)
- National Cancer Institute, 2020. Large Study Confirms that HPV Vaccine Prevents Cervical

Cancer. [Internet] Avaiable from https://www.cancer.gov/news-events/cancer-currents-blog/2020/hpv-vaccine-prevents-cervical-cancer-sweden-study

Would you give the HPV vaccine to your children?

- *Yes, my children (or grandchildren) got the HPV vaccine because it is very safe and it helps protect them from HPV cancers.*

OR

- *If I had children or grandchildren that were 9-14, I would get them vaccinated to help protect them from HPV cancers in the future.*

PREVENT GLOBAL HPV CANCERS

- **Would you give the HPV vaccine to your children?**

  - *Yes, my children (or grandchildren) got the HPV vaccine because it is considered very safe and it protects them from cancer.*

OR

  - *If I had children or grandchildren that were 9-14, I would get them vaccinated to help protect them from cancer in the future.*

Should there be a gap between HPV vaccination and other pre-teen and teen vaccines?

- *HPV vaccination may be safely administered along with Td/Tdap, flu as well as COVID-19 vaccine.*

PREVENT GLOBAL HPV CANCERS

- Should there be a gap between HPV vaccination and other pre-teen and teen vaccines?
- *HPV vaccination may be safely administered along with Td/Tdap, flu as well as COVID-19 vaccine.*

Summary

PREVENT GLOBAL HPV CANCERS

As we wrap up our time together let's review a few key points.

What We Know:

- HPV is very common
- HPV can cause 6 types of cancers
- HPV vaccine is safe
- HPV vaccine is effective
- Not enough kids are being protected

PREVENT GLOBAL HPV CANCERS

- HPV exposure is very common
- HPV can cause 6 types of cancers
- HPV vaccine is safe
- HPV vaccine is effective
- Not enough kids are being protected

Key Messages to Share with Parents

HPV vaccination is cervical cancer prevention	HPV vaccine is safe	HPV vaccine provides long-lasting protection	HPV vaccine works best when given on-time, between ages 9 and 14
			

PREVENT GLOBAL HPV CANCERS

Remember, key messages are the most important pieces of information about HPV vaccination that everyone should know.

- HPV vaccination is cervical cancer prevention.
- The HPV vaccine is safe.
- HPV vaccine provides long-lasting protection
- The HPV vaccine works best when given on-tome between ages 9 – 14 years old

Call to Action:

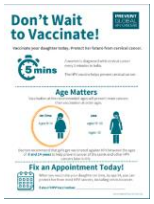
- ✓ **Be an HPV vaccination champion!**
  - **Review** resources and materials
  - **Share** resources with colleagues
- ✓ **Recommend HPV vaccine** to all 9 to 14-year-old girls**.**

PREVENT GLOBAL HPV CANCERS

- As we wrap up our time together we ask everyone to commit to:
- Be an HPV vaccination champion in your communities by:
  - Reviewing resources and materials on PreventGlobalHPVCancers.org
  - Share resources and information you learned today with your colleagues
  - Act on monthly prompt items sent by medical society office
- Recommend the HPV vaccine to all 9 to 14-year-old girls

Immediate Next Steps:

1. Select, print, and display your ***in-clinic poster***



2. Share ***Don't Wait to Vaccinate*** flier with parents

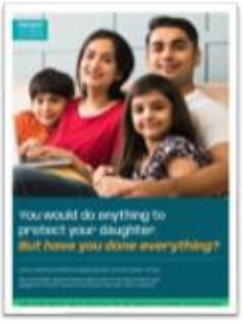
PREVENT GLOBAL HPV CANCERS

Link to posters, In-Clinic Poster - India - Prevent Global HPV Cancers
Link to Don't Wait to Vaccinate: Parent Handout: Don't Wait to Vaccinate - India - Prevent Global HPV Cancers

Questions about Module 2?

What questions do you have?

Resources



PREVENT GLOBAL HPV CANCERS

Find all resources on www.PreventGlobalHPVCancers.org
https://bit.ly/IndiaResources

- Many resources have been created in collaboration with physicians across India and are available to support you in recommending HPV vaccination.
- Just the Facts for HPV vaccination
- Counseling Parents
- Clinic Posters
- Parent handout and more

Find all these resources at **https://bit.ly/IndiaResources**

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to make sure that **no** girl grows up
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Thank You

Thank you for being HPV vaccine champions and helping create the first generation of Indian women free from cervical cancer!

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