



Guard Ur Self: HPV and Immunization Education

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Objectives- Pharmacists

1. Review ACIP updates in general immunizations
2. Define common terms used in vaccination history
3. Describe the significance of the HPV and the HPV vaccine
4. Determine trends/rates of HPV and clinical information regarding the HPV vaccination
5. Describe the Guard Ur Self Initiative

Objectives- Technicians

1. Review ACIP updates in general immunizations
2. Define basic terms used in vaccination history
3. Define what HPV consists of and the HPV vaccine
4. Determine trends of HPV and the HPV vaccination rates in New Mexico
5. Describe the Guard Ur Self Initiative

General Immunization Information

Our Immune System and Infections

- When germs, such as bacteria or viruses, invade the body, they attack and multiply.
 - Infection
- Two major types of blood cells
 - Red blood cells
 - White blood cells
- White blood cells
 - B-lymphocytes- produce antibodies
 - T-lymphocytes- attack cells that have already been infected
 - Macrophages- swallow and digest germs and dead or dying cells
- First time you are exposed to germ vs. second or third exposure (long term memory)

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Herd Immunity – Protect Others

- Vaccination doesn't just protect you!
 - It also helps to protect other individuals around you
- There are some people who may not be able to get vaccines
 - Immunocompromised patients (cancer)
 - Babies younger than 6 months
 - Kids and adults with certain allergies (eg. eggs, etc)

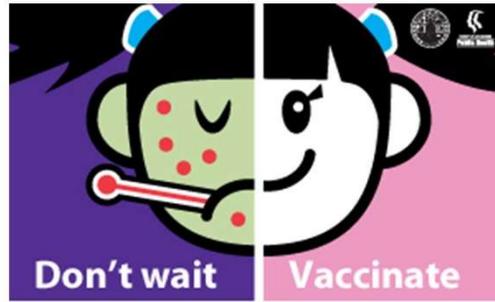


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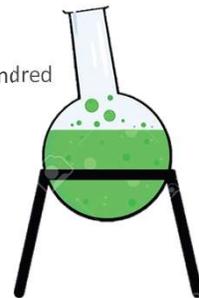
Vaccines

- Vaccines mimic an infection/germ producing immune system response
 - Antibodies
 - T-lymphocytes
- Vaccines activate your immune system to produce the protective response
 - Live-attenuated vaccines
 - Inactivated vaccines
 - Whole
 - Fractional
 - Protein-based
 - Polysaccharide-based
- Review Question: How soon does a vaccine provide protection after administration?



Vaccine Safety and Development

- The U.S. FDA ensures:
 - Safety
 - Efficacy
 - Availability
- Clinical Trials
 - Phase 1 – safety 20 to 100 healthy volunteers
 - Phase 2 – short-term side effects and dose related to immune response involving several hundred volunteers
 - Phase 3 – hundreds or thousands of volunteers
 - Post marketing – VAERS



Understanding Thimerosal and Mercury

- Originally used in vaccines as preservative to prevent dangerous growth of bacteria and germs within the vials that contain and store vaccines given to patients
 - Multi-dose vials
- Thimerosal is the only form of mercury that has even been used in vaccines
 - 1999- FDA sent a letter to all licensed manufacturers of vaccines requesting their plans to remove thimerosal from U.S. licensed vaccines, not due to proven risk, but to reduce infant exposure and adult concern
- All vaccines routinely recommended for children 6 years of age and younger in the U.S. are available in formulations that do not contain thimerosal.
 - Some forms of flu vaccine (multi-dose) contain small amounts of thimerosal

Vaccines and Autism

- 1 in 4 U.S. parents believe some vaccines cause autism in healthy children
- CDC- There is no link between vaccines and autism
- There have been multiple studies by the Centers for Disease Control and Prevention that state there is no link between receiving vaccines and developing autism
 - No links have been found between any vaccine ingredients and autism
- Benefits of vaccines far out weigh the risks

The infographic is titled "The science facts about AUTISM AND VACCINES" and features a syringe illustration at the top. Below the title, a yellow banner asks "WHAT STARTED THE RUMORS?". A circular portrait of Dr. Andrew Wakefield is shown next to the year "1998" and a paperclip icon. A text box states: "Lancet published a paper by Dr. Andrew Wakefield, a dramatic study that found a connection between autism and vaccines". An arrow points to a section titled "The Study Had Some Problems" which lists four issues with corresponding icons: a bar chart with a red slash for "Not based on statistics", a checklist with a red slash for "No control group", a network of blue nodes for "It relied on people's memories", and a glowing lightbulb with question marks for "Made vague conclusions that weren't statistically valid".

The science facts about
AUTISM AND VACCINES

WHAT STARTED THE RUMORS?

1998

The Study Had Some Problems

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Not based on statistics

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HPV Education

HPV Background

- Human papillomavirus
- HPV is the most common sexually transmitted infection
 - Nearly 80 million people—about 1 in 4—are currently infected in the United States
- About 14 million people, including teens, become infected with HPV each year
- Most HPV infections are asymptomatic but some infections can cause cervical, vaginal, and vulvar cancers in women; penile cancer in men; and anal cancer, cancer of the back of the throat (oropharynx), and genital warts in both men and women
- HPV 16 and 18 cause about 66% of cervical cancers and the majority of other HPV-attributable cancers in the United States
- HPV 6 and 11 cause anogenital warts

HPV Vaccine

- Since January 2017, only the 9-valent HPV vaccine is available in the United States (GARDASIL®9)
 - GARDASIL®9 covers HPV strains 6, 11, 16, 18, 31, 33, 45, 52, and 58
 - GARDASIL® and Cevaxix® are no longer available
- CDC continues to recommend routine vaccination for girls and boys at age 11 or 12 years however the vaccination series can be started at age 9 years
- The HPV vaccine is recommend for females up to age 26 and for males up to age 21
 - Recommended to extend the vaccination period up to 26 years old for men who have sex with men and for immunocompromised men (e.g., HIV infection), if not vaccinated previously



GARDASIL®9

- Inactivated vaccine based on virus-like particles (recombinant HPV proteins) manufactured by Merck
- 0.5-mL suspension for injection as a single-dose vial and prefilled syringe.
- Contraindications: Hypersensitivity, including severe allergic reactions to yeast (a vaccine component), or after a previous dose of GARDASIL®9 or GARDASIL®.
- HPV vaccines should not be given to pregnant women
 - If a woman becomes pregnant after starting the series, wait until after pregnancy to finish any remaining HPV doses
 - Call the pregnancy registry 1-800-986-8999
- GARDASIL®9 does not eliminate the necessity for women to continue to undergo recommended cervical cancer screening.
- GARDASIL®9 has not been demonstrated to provide protection against disease from vaccine HPV types to which a person has previously been exposed through sexual activity.

GARDASIL®9



SIGN UP FOR THE VACCINE
REMINDER PROGRAM TO GET
REMINDERS ABOUT YOUR
VACCINE APPOINTMENTS



TO SIGN UP
TEXT G9 TO 69866

HPV Vaccine Schedule

Population	Recommended # of HPV Vaccine Dose	Recommended Interval Between Doses
Persons initiating HPV vaccination at ages 9 through 14 years, except immunocompromised persons	2	0, 6–12 months
Persons initiating HPV vaccination at ages 15 through 26 years and immunocompromised persons initiating HPV vaccination at ages 9 through 26 years	3	0, 1–2, 6 months

GARDASIL®9 can be used to complete any series started with either of the other two previously available vaccines

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HPV Vaccine Safety

- Studies
 - 9-valent HPV vaccine was studied in more than 15,000 males and females
 - Quadrivalent HPV vaccine was studied in more than 29,000 males and females
 - Bivalent HPV vaccine was studied in more than 30,000 females
 - Each HPV vaccine was found to be safe and effective.
- The most common side effects are pain, redness, or swelling in the arm where the shot was given; dizziness, fainting, nausea, and headache
 - Side effects are more common in females

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Why Vaccinate So Young?

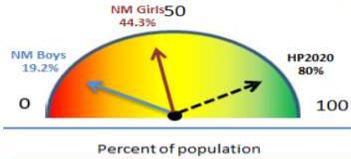
- Vaccination at a young age ensures immunity before becoming sexually active
- The HPV vaccine has also been found to produce a more robust immune response during the preteen years
- Older teens are less likely to get health check-ups than preteens

HPV Vaccine Myths

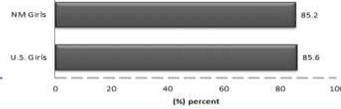
- Promiscuity
 - There is no evidence that receiving an HPV vaccine leads to promiscuity. Studies have shown that those who receive the vaccines do not go on to have sex earlier than those who do not receive the vaccines, nor do they engage in more sexual activity once they became sexually active.
- Infertility
 - There is no data available to suggest that getting HPV vaccine will have an effect on future fertility. However, women who develop cervical cancer could require treatment that would limit their ability to have children.

HPV In New Mexico

HPV Vaccination Rates & Missed Opportunities (13-17 yrs; NIS-Teen 2013)



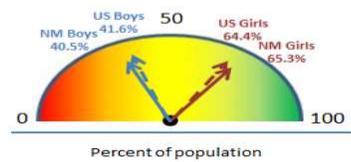
Percent of Unvaccinated Girls with Missed Opportunities



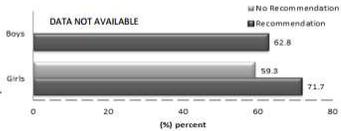
Healthy People 2020:

Goal is 80% HPV vaccine (3 shots) coverage for boys and girls by age 13-15 years

Prevalence of Provider Recommendations (13-17 yrs; NIS-Teen 2013)



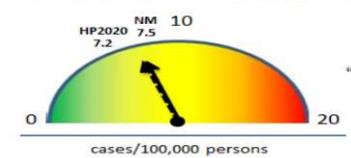
Vaccine Coverage by Receipt of Provider Recommendation



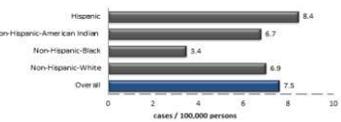
A strong provider recommendation is the most effective method for encouraging HPV vaccination

HPV In New Mexico

Cervical Cancer – New Cases per Year (USCS 2007-2011)

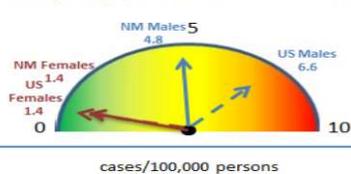


Cervical Cancer Incidence Rate by Race/Ethnicity

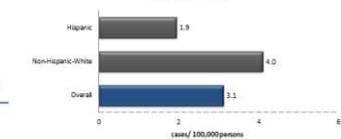


81% of new cases of cervical cancer could be prevented by HPV vaccination

Oropharyngeal Cancer – New Cases per Year (USCS 2007-2011)



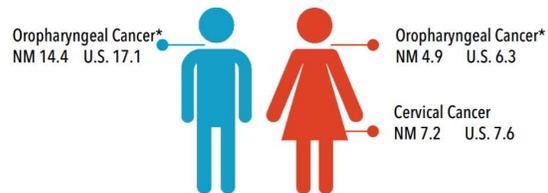
Oropharyngeal Cancer Incidence Rate by Race/Ethnicity



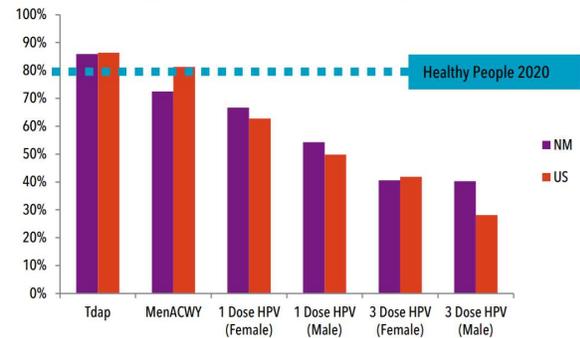
Racial/Ethnic minorities and low-income individuals suffer poorer HPV cancer outcomes

HPV In New Mexico

State vs. U.S. HPV-Associated Cancer Incidence per 100,000 Population (2009-2013)²



HPV, Tdap and MenACWY Vaccination Coverage among Adolescents 13-17 Years (2015)³



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Guard Ur Self

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Guard Ur Self: Our Mission

As a student-pharmacist run initiative, Guard Ur Self is our vision to improve community knowledge and access to HPV education. We aspire to reach kids throughout the New Mexico community, providing them with the self-empowering tools to participate in their own health care. With the social stigma that can often be associated with HPV and the available vaccinations, we hope to provide interactive experiences to children, as well as their caregivers, in hopes to provide them with resources to make the most informed health care decisions possible. Education is our short-term goal, however we see the potential to continue to expand in future years as a sustainable initiative within our organization.



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Jeopardy

JEOPARDY!

<https://jeopardylabs.com/play/hpv-and-immunizations>

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