HPV Vaccine and North Dakota HPV Immunization Rates

Human Papillomavirus (HPV)

What is human papillomavirus (HPV)?

- HPV is the most common sexually transmitted infection.
- There are more than 40 types of HPV that cause different related conditions and can infect both men and women.
- Disease infects the genital area, mouth and throat.

How is it transmitted?

- Genital contact, oral sex and genital-to-genital contact
- Condoms do not completely protect against the transmission of HPV.
- Can be passed between both straight and same-sex partners even when the infected person has no signs or symptoms
- A person can have HPV even if it has been years since they had contact with an infected person
- Most people infected with HPV are unaware that they have contracted the disease or that they are passing it on to other partners
- In very rare instances a pregnant woman with genital HPV can pass the infection to her baby during delivery which can result in the baby developing Recurrent Respiratory Papillomatosis (RRP)

About 20 million Americans (approximately 15% of the population) are currently infected with HPV and about 6 million more are affected each year

There is currently no known medical cure for the virus once contracted, there are instances where the body can fight and clear the infection

- There are over 40 types of HPV infection
- Certain symptoms can be managed
  - Genital warts caused by HPV can be treated with medication
  - Future outbreaks of genital warts can be prevented using medication
  - Warts in the throat from RRP can be treated with medication and surgery, usually multiple surgeries over a period of a few years

HPV and Cancer:

- Cervical Cancer – this is the most common HPV associate cancer and almost all cervical cancer is caused by HPV
  - 2nd leading cause of cancer deaths of women in the world
  - In the US, about 11,000 women get cervical cancer every year and about 4,000 are expected to die from it
- Vulvar Cancer – about 50% of this type of cancer is related to HPV infection
- Vaginal Cancer – about 65% of this type of cancer is related to HPV infection
- Penile Cancer – about 35% of this type of cancer is related to HPV infection
- Anal Cancer – about 90% of this type of cancer is related to HPV infection
- Oropharyngeal Cancer (cancer of the mouth and throat) – about 60% of this type of cancer is related to HPV infection

References:
http://www.cdc.gov/std/hpv/default.htm
http://www.cdc.gov/std/HPV/STDFact-HPV-vaccine-hcp.htm
HPV VACCINE

- In June 2006, the Food and Drug Administration (FDA) licensed quadrivalent human papillomavirus vaccine (HPV4) for use in females aged 9 through 26 years for prevention of genital warts caused by HPV types 6 and 11, 16, and 18-related outcomes.
  - Brand name of HPV4 = Gardasil
- In October 2009, the FDA licensed HPV4 for use in males aged 9 through 26 years.
- Also in October 2009, bivalent human papillomavirus vaccine (HPV2), which contains HPV types 16 and 18, was licensed by the FDA for use in females aged 10 through 26 years.
  - Brand name of HPV2 = Cervarix

Reference: [http://www.cdc.gov/hpv/vaccine.html](http://www.cdc.gov/hpv/vaccine.html)

HPV VACCINE AND CANCER PREVENTION

- HPV types 16 and 18 cause:
  - Approximately 70% of all cervical cancers in women
  - All most all anal cancer in both men and women
  - 40% of penile cancers in men
  - 25 – 35% of all oropharyngeal cancers in men and women
- In North Dakota, men are more likely to contract this type of cancer than women.

References:

HPV VACCINE AND CANCER PREVENTION

- In 2011, cancer was the leading cause of death of North Dakota residents with approximately 3,400 residents newly diagnosed with cancer and 1,400 cancer-related deaths each year.
- Cervical cancer had the third highest percent of late-stage cancer diagnoses in the state.
- Cancer survival rates are higher when diagnosed early; late-stage diagnosis can lead to an increased chance of mortality.

North Dakota Division of Vital Records, 2011; ND Cancer Registry, 2010

VACCINE CONTINUED...

- In 2006, after HPV4 was licensed, the Advisory Committee on Immunization Practices (ACIP) recommended routine vaccination of females with HPV4 vaccine at age 11 or 12 years and catch-up vaccination for females aged 15 through 26 years.
  - It is important for male and female adolescents to get vaccinated before the onset of sexual activity to ensure protection before the possibility of disease exposure.
- In late 2009, ACIP provided guidance that HPV4 may be given to males aged 9 through 26 years but they did not recommend HPV4 for routine use in males.
- In October 2011, the ACIP reviewed recently available data and concluded that HPV4 should be recommended for routine use in males aged 11 or 12 years with three doses of HPV4 vaccine to prevent HPV infection and HPV-related disease.

References: [http://www.cdc.gov/hpv/vaccine.html](http://www.cdc.gov/hpv/vaccine.html)

HPV VACCINATION SCHEDULE

<table>
<thead>
<tr>
<th>Minimum Age</th>
<th>Maximum Age</th>
<th>Dose 1 to Dose 2</th>
<th>Dose 2 to Dose 3</th>
</tr>
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<tbody>
<tr>
<td>9 years</td>
<td>26 years</td>
<td>administer 1st dose 1 - 2 months after first dose</td>
<td>administer 3rd dose 12 weeks after second dose and 6 months (24 weeks) after first dose</td>
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*HPV vaccine series can be started at 8 years of age, however, the ACIP recommended age for vaccination is 11 – 12 years for both males and females.
**Vaccine series must be started and should be completed before the age of 26. However, if the series was started before the patient turned 26 but was not completed, the final dose(s) can still be administered after their 26th birthday.
The ACIP recommends catch-up vaccination for women 13 – 26 years of age and for men 13 – 25 years of age.

References: [http://www.cdc.gov/hpv/vaccine.html](http://www.cdc.gov/hpv/vaccine.html)
VACCINE CONTINUED...

- The ACIP recommended age for HPV vaccination coincides with the recommended age for other adolescent vaccines: Tdap (tetanus, diphtheria and acellular pertussis) and MCV4 (meningococcal conjugate vaccine) although the rate of vaccination for HPV is much lower than both Tdap and MCV4.

2011 Rates for the United States

**MYTHS AND MISCONCEPTIONS**

**Myth 1: People know about HPV vaccine and if they want it, they will ask for it.**

- Research has shown that approximately 60% of parents have no prior knowledge of HPV vaccine.
- Educational studies have indicated that 75% of parents report an increase in knowledge of HPV as well as an increase in vaccine acceptance after having been given just one page fact sheet about HPV.
- Physician recommendation also has a great impact on parental acceptance of HPV vaccine and therefore influence overall vaccination rates. Parents are more likely to vaccinate their children against HPV if it is suggested and supported by their physician.
- Consistency amongst all staff in a provider office is also important so that parents are not getting mixed messages, which leads to confusion.

**Vaccine continued...**

- North Dakota participates in the Vaccines For Children (VFC) federal entitlement program which provides free vaccines for children who are 18 years of age and younger and who are un-insured, under-insured, on Medicaid and/or are American Indian.
- Public and Private providers need to enroll in the VFC program with the NDSHIF Immunization Program each year in order to be eligible to receive and administer VFC vaccines.
- Enrolled providers are visited by members of the Immunization Program to ensure that they are in compliance with the storage, handling and administration of VFC vaccine.
- The North Dakota Immunization Program has an adult VFC program for HPV vaccine.
  - Adults age 18 – 26 who would normally no longer be able to receive VFC vaccine can acquire this under the program if they are un-insured or underinsured.
  - Parental/guardian consent is required when vaccinating children under the age of 18. However, kids 14 years and older can received Hepatitis B and HPV vaccine without parental consent.

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**MYTHS AND MISCONCEPTIONS**

**Myth 2: The vaccine is not safe.**

- Prior to the FDA licensing the vaccines, nearly 60,000 men and women were studied to ensure the vaccines safety and both the FDA and CDC monitor vaccine safety continually after licensure.
- Fainting and redness and swelling at the injection site are the two most common side effects of this vaccine. Having the patient sit or lie down for 15 minutes after getting the shot can help decrease the incidence of fainting. Mild fever is also a fairly common side effect but is not a cause for concern.
- Recently published research looked at ER visits and hospitalizations for 60 days following vaccination. More than 200 categories of illness were reviewed and in almost all cases, the condition existed prior to the patient receiving the vaccine and that getting HPV vaccine did not increase the likelihood of developing lupus, rheumatoid arthritis, multiple sclerosis or Type I diabetes.
- Of the 14 deaths that were recorded among girls and women in the study the causes, including car accidents, congenital heart problems, suicide, lupus and pneumonia were not linked to the vaccine.

**MYTHS AND MISCONCEPTIONS**

**Myth 3: The vaccine is not safe.**

- Studies of HPV4 conducted using both males and females age 16 – 26 years of age, showed nearly 100% vaccine efficacy in preventing cervical, vulvar and vaginal pre-cancers and genital warts caused by the types of HPV in the vaccines in women and 90% efficacy in preventing genital warts and 75% efficacy in preventing anal pre-cancers in men.

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**MYTHS CONTINUED...**

**Myth 4: The vaccine doesn’t really work.**

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MYTHS CONTINUED...

Myth 5: Males don’t need to be vaccinated against HPV because they can’t get cervical cancer.

Although male cancers related to HPV infection are less common than female cancers, the strains of HPV the vaccine protects against can still help in the prevention of male (400 male HPV related cases annually), anal (1,500 male HPV related cases annually) and oropharyngeal (5,600 male HPV related cases annually) cancers.

Males can contract HPV the same way females can contract it and can pass the disease on to future sexual partners with no knowledge of having the disease – vaccinating males helps increase the protection of others against associated cancers.

References:

MYTHS CONTINUED...

Myth 6: Males and females who are already sexually active will not benefit from this vaccine.

Because HPV vaccine protects against more than 1 type of HPV, individuals who may have been exposed to any strain of HPV through sexual activity can still benefit from the vaccine’s protection against other strains of the disease.

Efficacy studies have shown that in females already infected with HPV, over 90% still developed antibodies.

HPV IMMUNIZATION RATES IN NORTH DAKOTA

HPV RATES

11 – 12 year old adolescents

13 – 15 year old adolescents

16 – 18 year old adolescents

RATES CONTINUED...
The National Immunization Survey (NIS) is a random-digit-dialing survey conducted yearly by the CDC. The survey estimates the number of vaccines received for children, teenagers, and adults at both a national and state level. HPV data was collected starting in 2008 and is only available for females 13 – 17 years of age.

**INCORRECTING RATES**

- **Use** all opportunities to get your patient’s caught up on all required and recommended vaccinations when they are in the office, regardless of the original nature of the visit.
- **Schedule** appointments for patient’s to get the next vaccine in a series before they leave their current visit.
- **Consistency** with vaccine recommendations amongst all staff in the provider office.

**Educational Materials**

- Information about HPV disease and vaccination as well as vaccine information statements for patients and providers can be found on the CDC website at: [http://www.cdc.gov/hpv/vaccine.html](http://www.cdc.gov/hpv/vaccine.html) [http://www.cdc.gov/std/hpv/default.htm](http://www.cdc.gov/std/hpv/default.htm) [http://www.cdc.gov/vaccines/pubs/vis/default.htm](http://www.cdc.gov/vaccines/pubs/vis/default.htm)
- Print materials for patients (adults and teens) can be found at: [http://www.cdc.gov/vaccines/vpd-vac/hpv/default.htm#patient](http://www.cdc.gov/vaccines/vpd-vac/hpv/default.htm#patient) print materials include one-page fact sheets with great information for patients.

**INCREASING RATES CONTINUED…**

- Community Preventive Services Task Force recommended activities.
  - This task force has put together a community guide with 13 different community based activities that can be used to increase vaccination rates.
  - **Home visits**
  - **Reducing out-of-pocket expenses**
  - **Vaccination programs in schools, child care centers and WIC programs**
  - **Client or family incentives**
  - **Use of reminder/recall systems** – the NDIIS has reminder/recall functionality.
  - **Vaccination requirements for school and child care** – North Dakota does have these types of requirements. Visit the immunization program web site for more information: [http://www.ndhealth.gov/Immunize/Schools-ChildCare/](http://www.ndhealth.gov/Immunize/Schools-ChildCare/)

Visit their website for more information about all of their activities. [http://thecommunityguide.org/vaccines/universally/index.html](http://thecommunityguide.org/vaccines/universally/index.html)

**REFERENCES**

7. CDC Cancer Data, 2010.