

# Human Papillomavirus (HPV) Disease and HPV Vaccination Rates in Wisconsin

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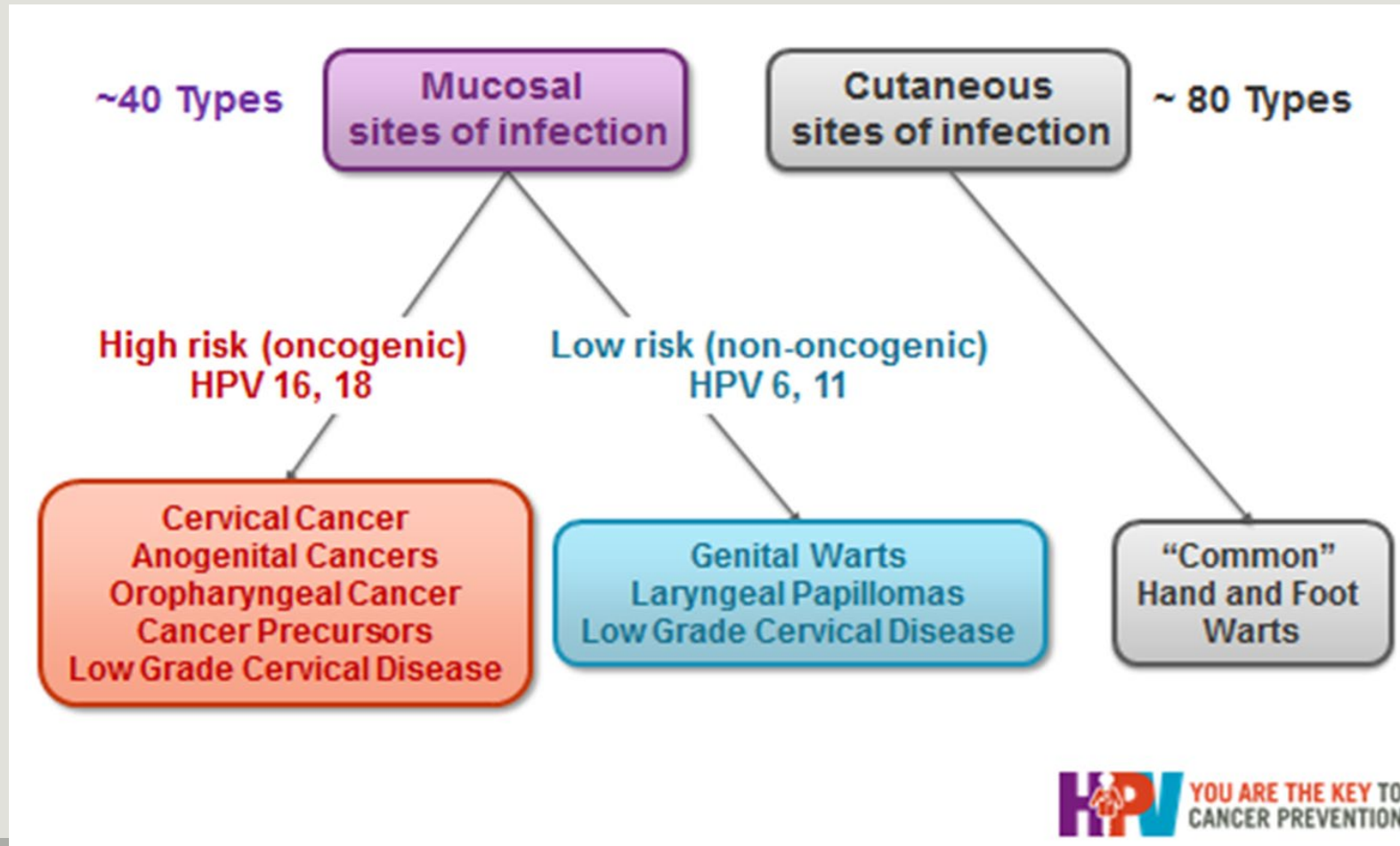
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# HPV Infections Are Common

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- HPVs are small, double-stranded DNA viruses.
- Over 120 types identified: high risk (oncogenic) and low risk (non-oncogenic).
- HPV infections are the most common sexually transmitted infections in the United States.

# HPV Types and Disease Association



# HPV transmission

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Modes of transmission include:

- Direct contact with an infected person
- Can occur during any type of intimate sexual contact (including non-penetrative sexual activity)
- Nonsexual transmission of genital HPV rare: woman to newborn infant at birth

• Accelerating HPV Vaccine Uptake: Urgency for Action to Prevent Cancer. A Report to the President of the United States from the President's Cancer Panel. Bethesda, MD: National Cancer Institute; 2014.

• CDC Pink Book 2015. Shew ML, et al. J Infect Dis 2013;207:1012-1015. Hariri S, et al. J Infect Dis 2011;204:566-572

# HPV Can Cause Serious Health Issues

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- Many people are able to clear HPV infection.
- However, if not cleared, clinical manifestations can include:
  - genital warts
  - recurrent respiratory papillomatosis (RRP)
  - cervical cancer precursors (cervical intraepithelial neoplasia = CIN)
  - cancer (cervical, anal, vaginal, vulvar, penile, and oropharyngeal)
- At this point there is no way to determine who will develop clinical manifestations, therefore **everyone** should be vaccinated.

# HPV Causes Six Types of Cancer

## HPV causes six types of cancer.

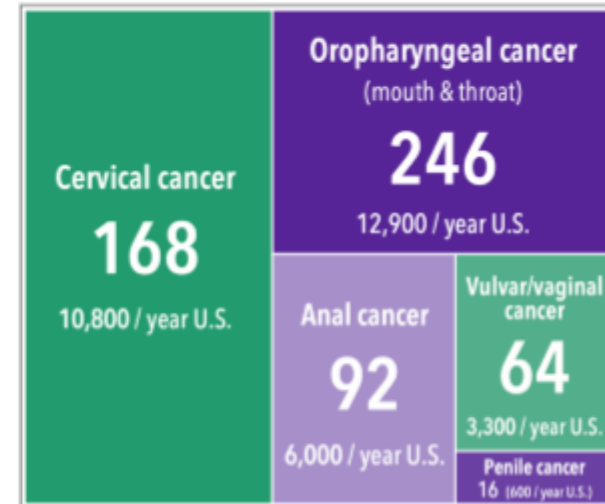
Almost 600 Wisconsinites are diagnosed with HPV-attributable cancers each year.

**That's a dozen new cancer cases in Wisconsin every week.**

Across the United States, HPV caused **32,500 new cancer diagnoses** in 2017.

The HPV vaccine can **prevent** these cancers.

HPV-caused cancers in Wisconsin per year

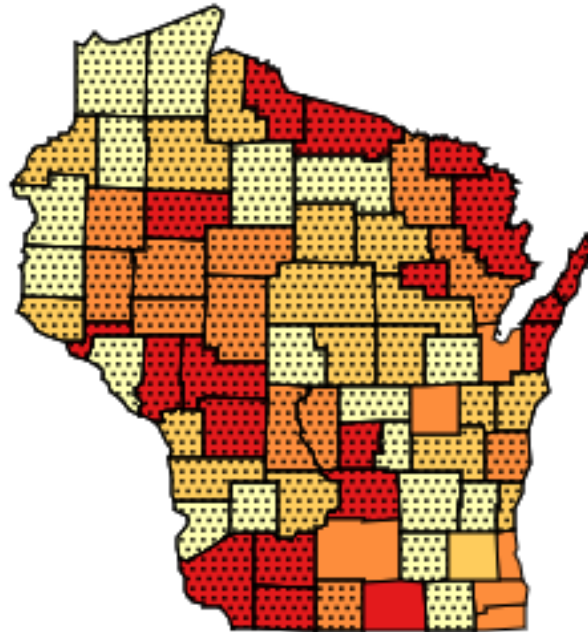
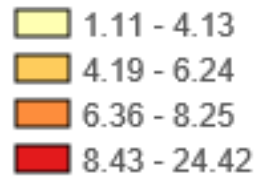


Annual averages from 2011-2015

# Cervical Cancer

Age-Adjusted Invasive Cancer Incidence Rates in Wisconsin  
Cervix Uteri, 2012 - 2016  
By County  
Age-Adjusted to the 2000 U.S. Standard Million Population

Wisconsin Rate: 6.56 / per 100,000



All rates per 100,000.  
Data accessed October 9, 2019. Based on data released Mar 2019.  
© 2019 Wisconsin Cancer Reporting System.

# Cervical cancer Incidence 2012-2016

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	Incidence (per 100k)	Mortality (per 100k)	Late stage dx (%)
All	6.56	1.64	48.5
White	6.13	1.52	48.8
African American	11.88	4.00	48.5
Hispanic	8.4	1.8	N/A



# Cervical Cancer Incidence Rates

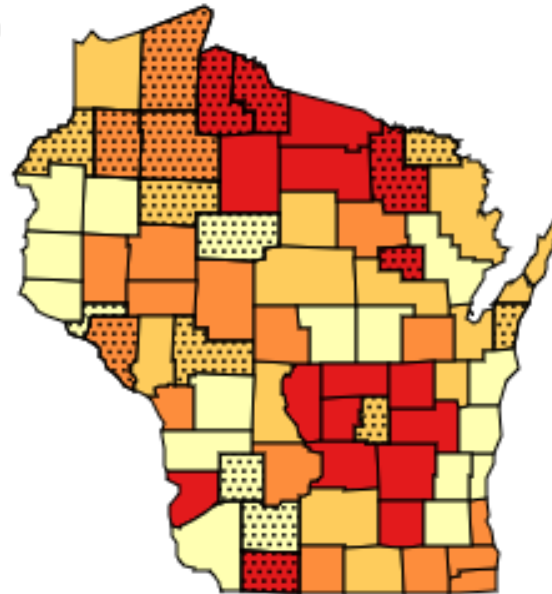
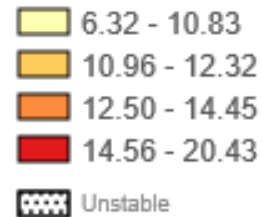
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Race/Ethnicity	Information	
	Cancer Incidence	Cancer Incidence Rate
White	821	6.1
African American	101	<b>11.9</b>
American Indian/Alaska Native	17	<b>12.1</b>
Asian/Pacific Islander	32	<b>11.6</b>
Hispanic	53	8.4

# Oropharyngeal Cancer

Age-Adjusted Invasive Cancer Incidence Rates in Wisconsin  
Oral Cavity and Pharynx, 2012 - 2016  
By County  
Age-Adjusted to the 2000 U.S. Standard Million Population

Wisconsin Rate: 12.16 / per 100,000



All rates per 100,000.  
Data accessed November 4, 2019. Based on data released Mar 2019.  
© 2019 Wisconsin Cancer Reporting System.

# Oropharyngeal Cancer Incidence Rates

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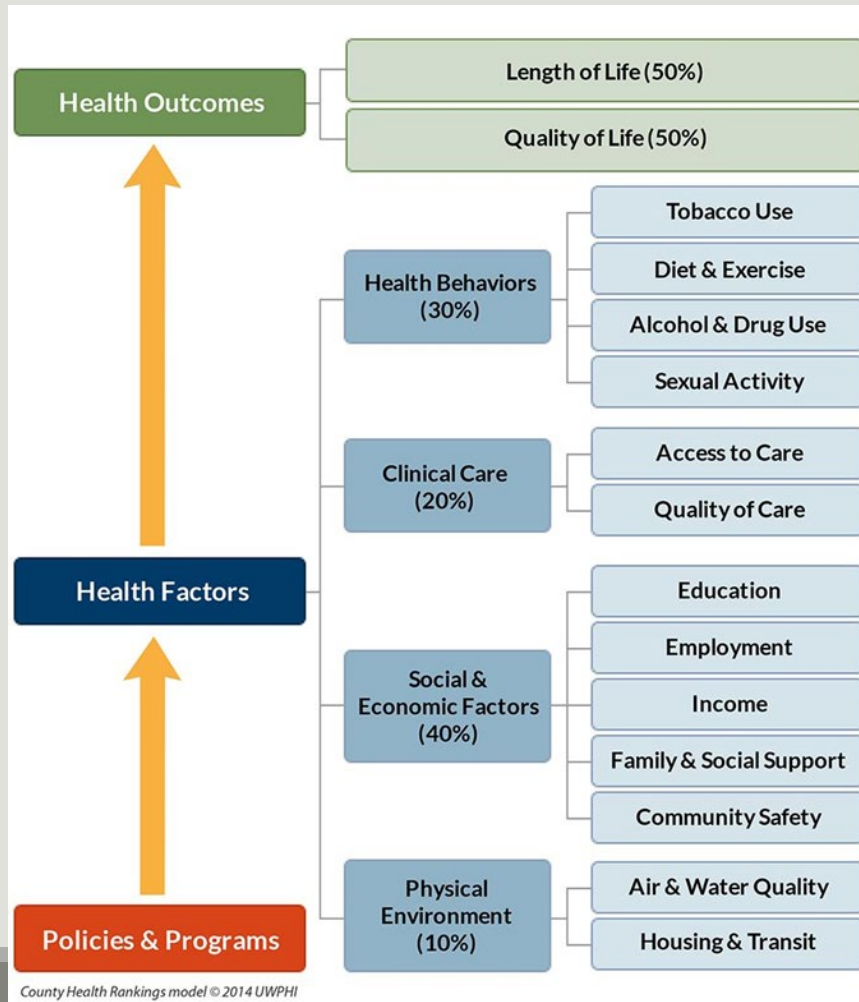
Race/Ethnicity	Information	
	Cancer Incidence	Cancer Incidence Rate
White	4021	12.1
African American	169	11.0
American Indian/Alaska Native	42	<b>13.6</b>
Asian/Pacific Islander	45	8.8
Hispanic	51	5.4

# Oropharyngeal Cancer -Male vs Female

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Sex	Information	
	Cancer Incidence	Cancer Incidence Rate
Male	3032	<b>17.8</b>
Female	1269	7.0

# HPV-Associated Cancers Vary by Race



**Social determinants** of health are conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.

# HPV Vaccination Can Help Prevent 6 Types of Cancer

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# The HPV Vaccine is Safe

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- The HPV vaccine is very safe.
- Like any vaccine, it can cause side effects like pain, swelling or redness where the shot was given.
- There have been over 100 million doses distributed in the U.S. and it is backed by over 10 years of monitoring and research.
- It is made from one protein from the virus, and is not infectious, so it *cannot* cause HPV infection or cancer.

# Gardasil9<sup>®</sup> Protects Against 9 HPV Types

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- Licensed in 2014
- Replaced the 4-valent vaccine, which had been in use since 2006.
- Contains HPV types 16 and 18 (high risk) and types 6, 11, 31, 33, 45, 52, 58 (low risk)



# ACIP Recommends Vaccinating Ages 9-26

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- Vaccine licensed for **males and females** ages 9 through 26 years.
- Routinely recommended for all males and females at 11 to 12 years of age, with catch-up through age 26 years.
- The age at first vaccination, spacing of doses, and risk factors determine whether a person should follow the two- or three-dose vaccine schedule.

# Two Dose HPV Vaccine Schedule

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- Given at 0, 6-12 months
  - Persons initiating vaccination before age 15
  - HPV vaccine can be administered beginning at age 9
    - For children with history of sexual abuse or assault, administer HPV vaccine beginning at age 9 years.

# HPV Vaccine Schedule

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- Three Dose (0,1-2, and 6 months)
  - Persons initiating vaccination at age 15 years and older
  - Men who have sex with men through age 26 years who have not received any HPV vaccine
  - Immunocompromised persons, including those with human immunodeficiency virus (HIV) infection, regardless of age at vaccine initiation.
  - Certain individuals aged 27 through 45 years may benefit from vaccination \*\*\*

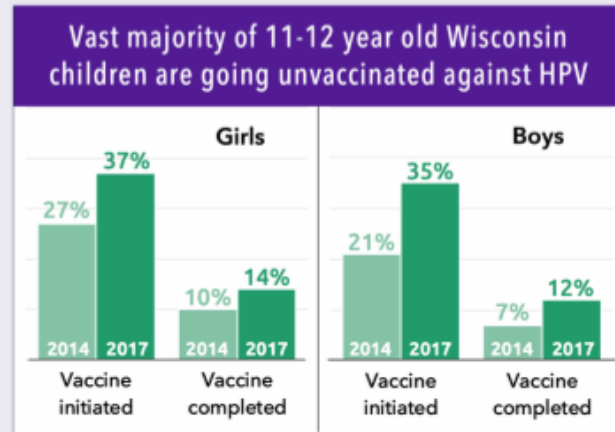
# Why is 11-12 the Recommended Age?

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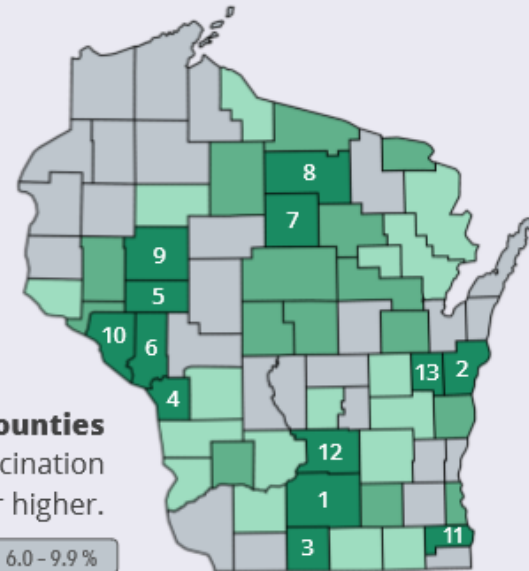
- Antibody response in 11-15 years of age is greater than in 16 -26 years of age
- Greater impact if given universally before any sexual activity
- Adolescents are already scheduled for an immunization visit at age 11 to 12 years of age for Tdap and MCV4
- Vaccine is well tolerated
- Prevents Cancer –Prevention is key

# HPV Vaccination Status in Wisconsin

# A Majority of Children are Still at Risk

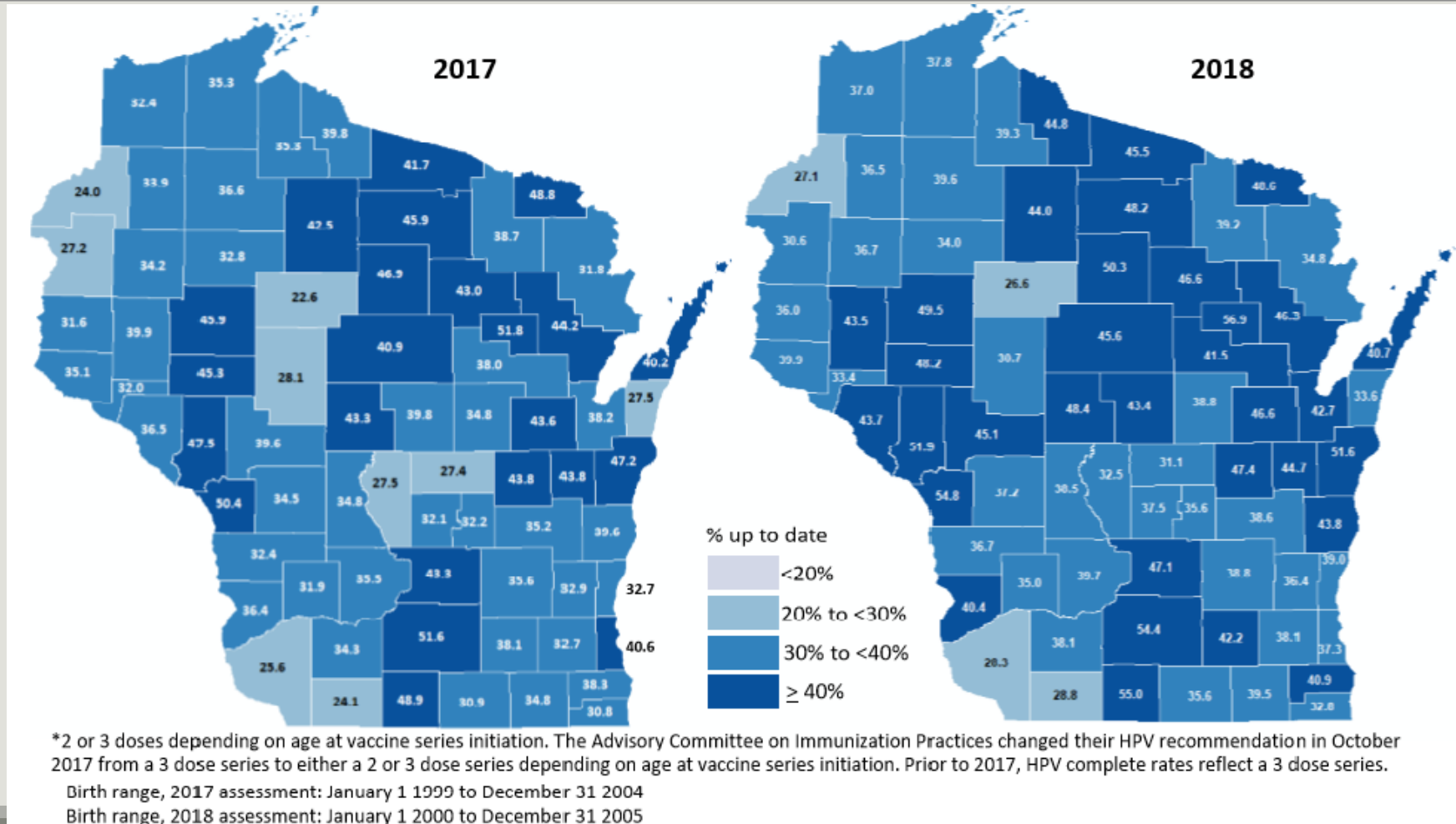


Though Wisconsin's HPV vaccination rates are slowly improving, we are falling dramatically short of the state's goal of **80% vaccination completion by 2020.**



**Only 13 of Wisconsin's 72 counties** have an 11-12 year old vaccination completion rate of 15 percent or higher.

# HPV Completion Vaccination Rates (Ages 13-18)



# HPV Vaccination is Preventing Cancer-Causing Infections

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HPV infections and cervical precancers have dropped significantly since the vaccine has been in use.

- Among young adult women, infections with HPV types that cause most HPV cancers and genital warts have dropped 71 percent.
- Among vaccinated women, the percentage of cervical precancers caused by the HPV types most often linked to cervical cancer has dropped by 40 percent.



# HPV Vaccine is Cancer Prevention

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## Recommendations

The CDC recommends girls and boys be vaccinated for HPV at **ages 11 or 12** to protect against cancers caused by the virus.

If initiated at age 11 or 12, **two vaccine doses** are recommended, 6-12 months apart.

If initiated at age 15 or older, **three vaccine doses** are recommended.

## Why it's so important

The HPV vaccine is **cancer prevention**.

Although cervical cancer is the most well-known link to HPV, the virus also causes approximately **20,000 non-cervical cancers every year** in the U.S., including throat, anal, vaginal, and penile cancers.

Of the HPV-attributable cancers, **only cervical cancer is routinely screened for**. Therefore, preventing infections that can lead to other cancers is a priority.

# Action Items

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- Focus on the message that HPV Vaccine is Cancer Prevention
- Routinely monitor your HPV immunization rates and share with staff
- Same Way Same Day
  - Offer all vaccines of the adolescent platform in a routine bundle
  - You can say, “Now that your son is 11, he is due for vaccinations today to help protect him from meningitis, HPV cancers, and whooping cough. Do you have any questions?”
- Learn How to answer parent’s questions and concerns
  - See resource: <https://www.cdc.gov/hpv/hcp/for-hcp-tipsheet-hpv.pdf>

# Action Items

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- Participate in Immunization Quality Improvement for Providers(IQIP) services provided by Wisconsin Immunization Program
- Advocate for gender neutral vaccination
  - Both males and females benefit from HPV vaccine
- Remove the stigma
  - Talk about how you were vaccinated, vaccinated your child, etc...
  - Normalize HPV vaccination
- Focus on cancer prevention, not sex

# Questions?

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Please contact me with any questions:

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For resources and factsheets see: <https://wicancer.org/resources/>

# Cancer Council Member Spotlight

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- Marshfield Clinic
- Advocate Aurora Health

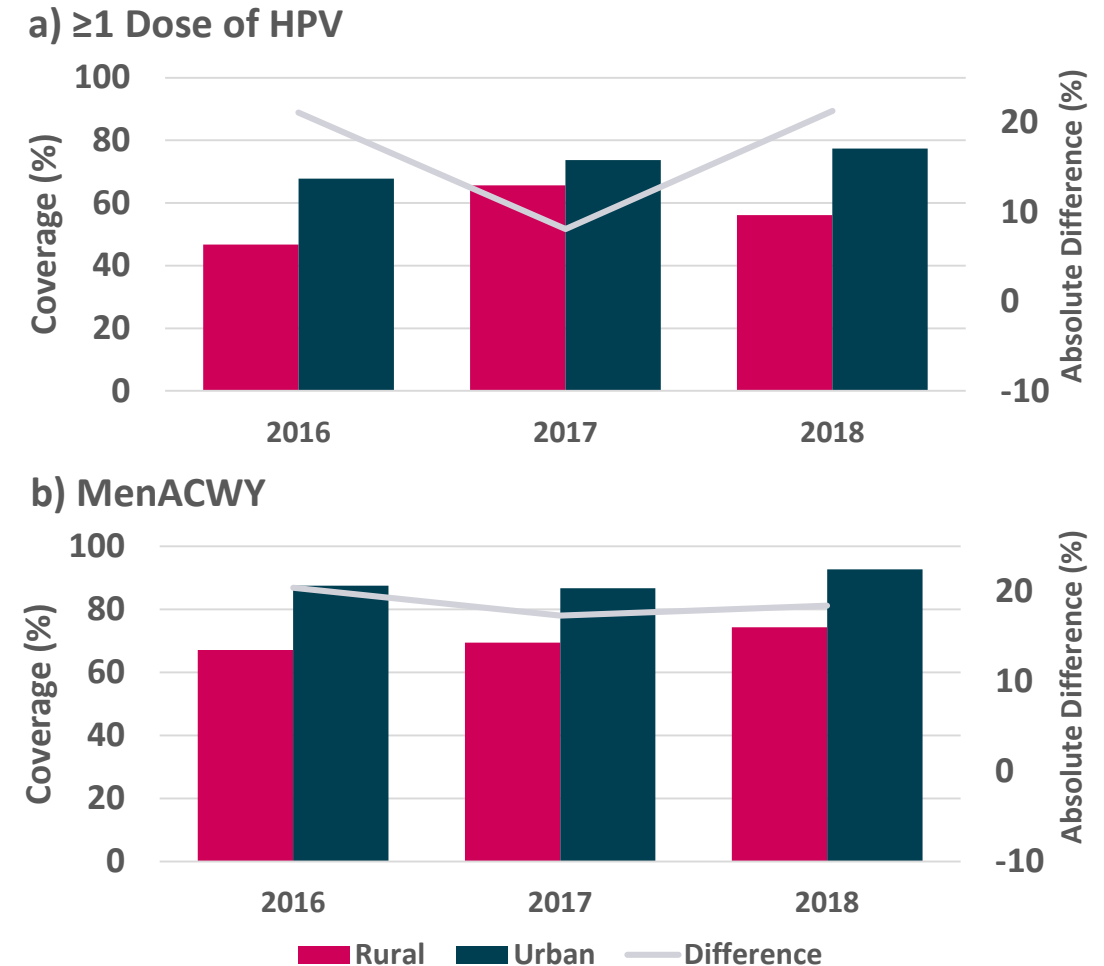
# Adolescent Immunizations in the Midwest, Eliminating Disparities (AIMED)

CDC official title (U01IP001093): Understanding and Addressing the Disparity in Vaccination Coverage Among U.S. Adolescents Living in Rural Versus Urban Areas



# Background

- HPV vaccine uptake suboptimal  
69.8% in WI (Healthy People 2020 goal 80%)
- Clear differences in HPV and MenACWY vaccine coverage between adolescents in rural and urban WI  
~20+% lower in rural vs urban areas
- Marshfield Clinic Health System serves predominantly rural population in North-Central WI



Estimated coverage of a)  $\geq 1$  dose of HPV vaccine and b) MenACWY among adolescents aged 13-17 years in rural and urban Wisconsin, National Immunization Survey – Teen, 2016-2018



# Project Overview

**3 year, multi-component collaboration with investigators at:**

- **Marshfield Clinic Research Institute**
- **Minnesota Department of Health**
- **Wisconsin Department of Health Services**
- **Centers for Disease Control and Prevention**



**Years 1-2: Survey parents of adolescents and adolescent primary care providers in rural and urban areas of Minnesota and Wisconsin**

**Years 2-3: Use survey results to develop, implement, and evaluate an intervention in the Marshfield Clinic Health System**





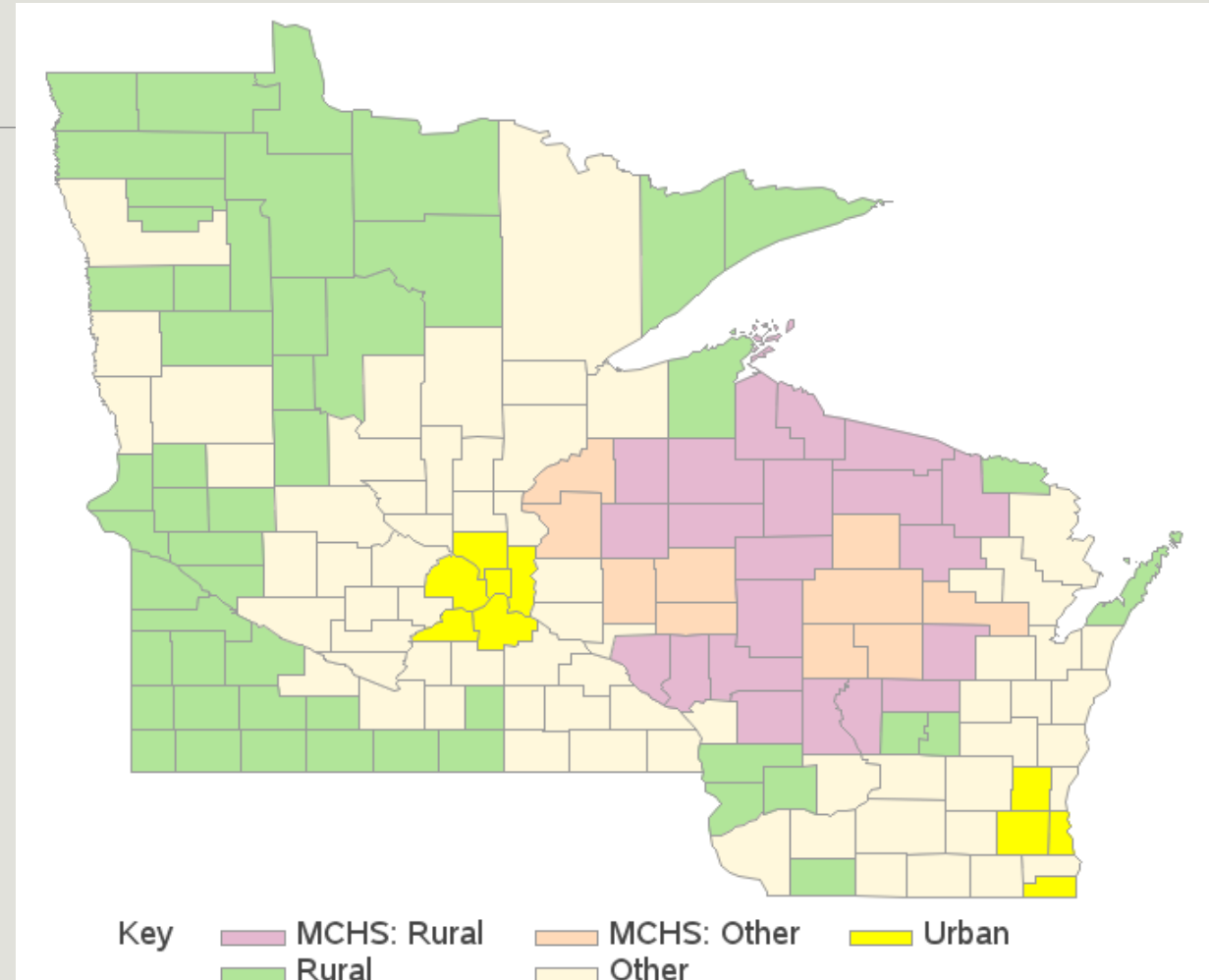
## Current Status

**Provider survey complete; analysis in progress**

**Parent survey near complete; analysis pending**

**Planning stages for intervention; aim to implement Spring 2020**

**Preliminary results will be presented at the National Immunization Conference May 2020**



# HPV Education Lessons Milwaukee Public Schools Community Education and Outreach Model



We are  AdvocateAuroraHealth™

Aurora Cancer Care  
Presented by: Cathy Schulz, APNP  
Jennifer Jarvey Balistreri, MS

# Context: Started in 2016 and still running



Needs Assessment analysis and Theory of Change created with a multidisciplinary team including: Two Physicians (Surgical Oncology), a Nurse Practitioner, a Registered Nurse, Public Health team members and a Community Development team member.

**Hypothesis | Providing HPV Education to children ages 13-17 within an urban population can impact: The self-reported HPV vaccination rate, increased knowledge of HPV contraction and impact decision on safe sex behaviors.**

Our HPV education program is presented to freshmen high school health class students. There is a lecture and Q+A portion in our approach. Students are also given the opportunity to write down questions and ask them anonymously to relieve them from peer judgements or bullying.

The main audience is within the urban setting, yet progressing into rural school districts as well.

# Program Evolution

- 1) We ensure the education program is up to date with the most recent CDC stats/facts (for HPV and STIs in general)
- 2) We have students evaluate our sessions EVERY time
- 3) As myths and perceptions are reported, we continue to address these in classes and with other clinical staff
- 4) High School Health Teachers have asked us to include safe relationships and other STIs
- 5) Connected to HPV Roundtables, Immunize Milwaukee and STI coalitions in Milwaukee, as well as WI Comprehensive Cancer Control Program
- 6) Connect with Merck for Gardasil updates
- 7) Program has been nationally recognized with American Society of Clinical Oncology as a best practice program
- 8) Continue to partner on internal pediatrician and family practice quality measures

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