

# MINNESOTA

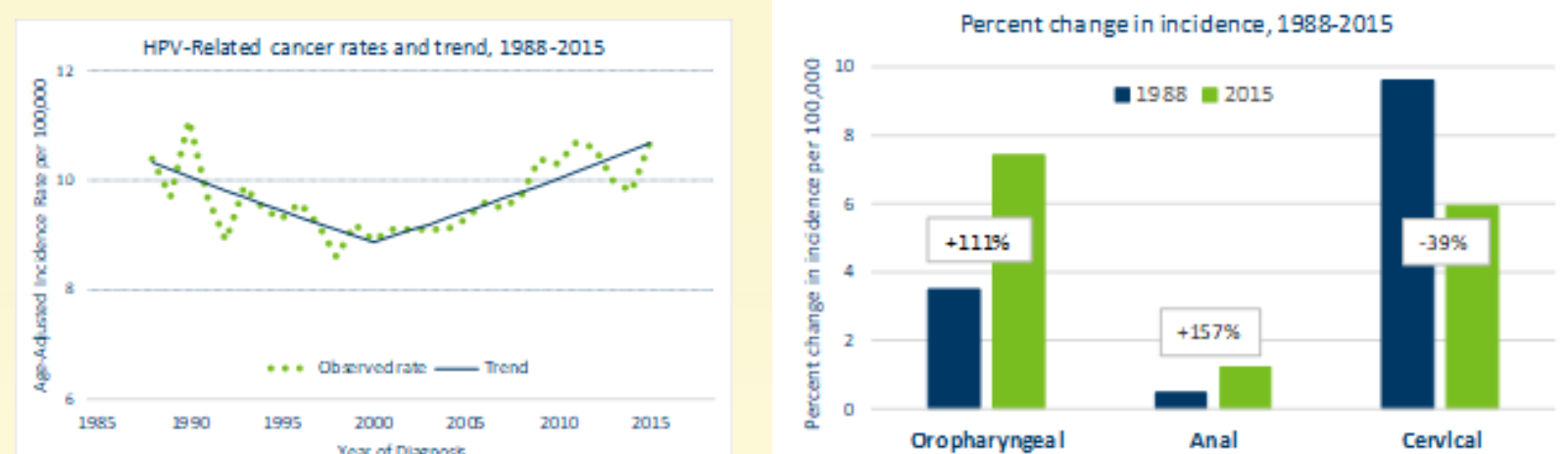
## Minnesota Cancer Reporting System (MCRS); Judy Punyko, PhD

### Data on the Burden of HPV-associated Cancer in Minnesota Inform Programs to Increase HPV Vaccination Coverage

# NATIONAL PROGRAM OF CANCER REGISTRIES SUCCESS STORY

**SUMMARY:** With the development of safe, effective vaccines for certain high-risk human papilloma viruses (HPV), primary prevention of at least some types of HPV-associated cancers is possible. However, vaccination uptake has been slow and vaccination coverage for adolescents aged 13-17 is well below the Healthy People 2020 objective of 80%. HPV vaccine promotion activities that emphasize cancer prevention are ongoing at the national, state, and local levels. In Minnesota, state and local public health, the provider and health system communities, and the American Cancer Society Minnesota Chapter are collaborating to promote HPV vaccination through parent and provider education initiatives. The Minnesota Cancer Reporting System (MCRS) supports these efforts by developing and disseminating summaries describing the cancer burden of HPV-associated cancers in Minnesota, and providing consultation and technical assistance as requested.

**CHALLENGE:** Human papilloma virus (HPV) is a common sexually transmitted infection. More than 90 percent of sexually active men and 80 percent of sexually active women will be infected in their lifetime (1). Around 50 percent of HPV infections involve certain high-risk HPV viruses, which can cause cancer. Although the body usually clears most HPV infections, persistent infection with high-risk viruses can cause changes in cells that lead to cancer. These HPV-associated cancers include specific (histologic) types of cervical, vaginal, vulvar, penile, anal, rectal, and oropharyngeal cancers. In Minnesota, approximately 3% of all cancers diagnosed in women and 2% of all cancers diagnosed in men are HPV-associated cancers. Since 2000, the overall incidence of HPV-associated cancers has increased primarily because of increases in the incidence of anal and oropharyngeal (male) cancers. More recent trends show that oropharyngeal cancer has replaced cervical cancer as the most common HPV-associated cancer diagnosed in the United States, as well as in Minnesota. These increases stand in stark contrast to the substantial decreases in cervical cancer incidence and mortality observed since the development of the Pap test to screen for cervical cancer. Currently, there are no screening guidelines for the early detection and treatment of other HPV-associated cancers (2).



With the development of safe, effective vaccines against HPV infection, primary prevention of at least some HPV-associated cancers is now possible. Recent research in countries with rapid update of the vaccine has confirmed that immunizing youth before they initiate intimate sexual behaviors prevents the transmission of HPV by reducing the population prevalence of targeted, high-risk viruses and increasing herd immunity (3). In 2006, the U.S. FDA approved HPV vaccination for boys and girls aged 11-12, but compared with other recommended vaccines, HPV-vaccine uptake has been notably slow (4). Results from the 2016 National Immunization Survey for teens aged 13-17 years, found that only 60 percent of adolescents received at least one dose and 43 percent of adolescents completed the HPV vaccination series (see table below). The survey also showed that vaccination coverage is between 10 and 15 percentage points lower for boys than for girls. The coverage of Minnesota's adolescents follows similar patterns.

HPV vaccination coverage among adolescents aged 13-17 years, United States<sup>^</sup> and Minnesota<sup>\*</sup>

	Percent at least 1 dose (95% CI)	Percent complete coverage (95% CI)
U.S. Boys <sup>^</sup>	56.0% (54.3-57.5)	37.5% (35.8-39.2)
U.S. Girls <sup>^</sup>	65.1% (63.3-66.8)	49.5 (47.6-51.4)
Overall United States <sup>^</sup>	60.4% (59.2-61.6)	43.4% (42.1-44.7)
MN Boys, 2018 <sup>*</sup>	54.7%	35.9%
MN Girls, 2018 <sup>*</sup>	61.0%	43.5%
Overall MN, 2018 <sup>*</sup>	57.3%	39.3%

Sources:

<sup>^</sup>National Immunization Survey – Teen, United States 2016 (4)

<sup>\*</sup>Minnesota Department of Health, Minnesota Immunization Information Connection (MIIC), 2018 (5)

**SOLUTION:** The proportion of females aged 13 through 15 years in the United States with complete HPV vaccine coverage falls well below the Healthy People 2020 objective of 80 percent. Low vaccination rates represent a missed opportunity for potentially preventing multiple HPV-associated cancers in the future (6). To increase vaccination rates, the Centers for Disease Control and Prevention (CDC), American Cancer Society (ACS), and various professional provider associations are collaborating to actively promote HPV vaccination through parent and provider education initiatives conducted nationwide that emphasize the value of cancer promotion. In Minnesota, staff from the Minnesota Department of Health Vaccine Preventable Disease Section, Comprehensive Cancer Control Program, and the Minnesota Cancer Reporting System, as well as the American Cancer Society Minnesota Chapter, the Minnesota Cancer Alliance, and the University of Minnesota are working together on several projects to achieve this objective. In addition, The Minnesota Cancer Plan included increasing HPV vaccination as one of its objectives (7).

**RESULTS:** Three HPV-vaccine promotion activities are ongoing in Minnesota, as outlined in the table below. Using MCRS data in these activities is key to reinforcing the message that HPV-associated cancers are a public health problem at both the state and national levels.

Program or Project	Goal(s)/MCRS Data Use
(1) Enhanced Assessment, Feedback, Incentives, eXchange (AFIX) continuous quality improvement to identify immunization practice areas of improvement	<ul style="list-style-type: none"> <li>Goal: Increase HPV vaccination rates in Minnesota</li> <li>Partners: Minnesota Department of Health Vaccine Preventable Disease Section, CDC</li> <li>MCRS Data Use: MCRS data was included in presentations to 35 individual clinics and 2 large multi-clinic visits that reached 19 clinics. In 2019, visits to 42 clinics are planned.</li> </ul>
(2) CDC-funded HPV Action Plan	<ul style="list-style-type: none"> <li>Goal: Increase HPV vaccination rates in Minnesota</li> <li>Partners: Minnesota Department of Health Vaccine Preventable Disease Section, Comprehensive Cancer Control Program, MCRS; ACS; University of Minnesota Division of Epidemiology and Community Health; and CDC</li> <li>MCRS Data Use (proposed): Use MCRS data on the burden of HPV-associated cancers to help inform development of the action plan.</li> </ul>
(3) Training and education of ACS staff, volunteers, and partners	<ul style="list-style-type: none"> <li>Goal: Training and continuing education</li> <li>Partners: state and local American Cancer Society, Minnesota Chapter, and state and local providers and health systems.</li> <li>MCRS Data Use: MCRS Facts &amp; Figures on HPV-Associated Cancers (8) was a key reference in the local launch of the national ACS Mission HPV Cancer Free Campaign. Data and graphs were included in orientation to nearly 100 ACS Minnesota employees, ACS volunteer leaders, and a presentation to over 100 employees at Primewest Health, one of Minnesota's health insurance companies. In 2018, MCRS statistics were also used as resources in three conferences: Minnesota Community Health Conference, the Many Faces of Health conference, and the Minnesota Got Your Shots conference.</li> </ul>

**SUSTAINING SUCCESS:** To sustain success and meet the Healthy People 2020 objective for HPV-vaccination in Minnesota, collaboration, coordination and communication between national, state, and local partners in public health, the provider community, and ACS can continue. Program and training evaluation can be performed routinely, and modifications in these activities made based on the feedback from participants. Finally, MCRS staff can provide updated summaries on the cancer burden from HPV-associated cancers, as well as be available to provide technical assistance and consultation when questions arise about communicating cancer statistics to lay and professional audiences.

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