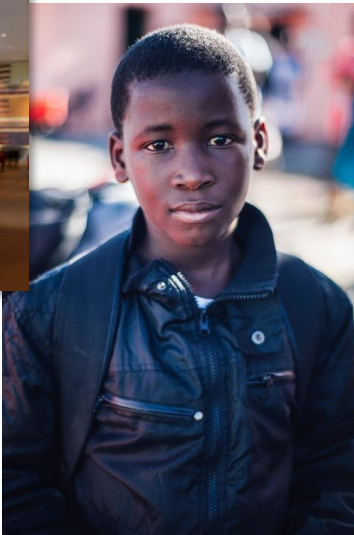




NEW YORK STATE HPV VACCINATION ACTION PLAN 2018 - 2023



August 2019



www.nyshpv.org

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EXECUTIVE SUMMARY

The purpose of the New York State (NYS) HPV Coalition Action Plan is to provide a road map for increasing human papillomavirus (HPV) vaccine uptake across the state. The NYS HPV Coalition, which was launched in 2017, is an action team associated with the NYS Cancer Consortium. Coalition subcommittees (Provider Education and Public Education) work with a wide range of partners to advance the group's goals (www.nyshpv.org).

Each year, there are more than 14 million new HPV infections in the United States, half of which occur in individuals between the ages of 15 and 24 years. As a result, nearly 34,000 cases of HPV-associated genitourinary and oropharyngeal cancers are diagnosed annually in this country (CDC).

Despite the availability of a safe and effective vaccine to prevent HPV infection and its complications, a large proportion of adolescents have not been immunized against HPV. In NYS, 71.5% of adolescents have received at least one dose of HPV vaccine, while only 55.7% of adolescents have completed the vaccine series (2016 NIS-Teen). State registry data suggest HPV completion rates are considerably lower, especially in certain upstate rural communities and areas of lower Hudson Valley.

There are many barriers to adolescent HPV vaccine uptake. A strong recommendation from the medical provider is the single best predictor of HPV vaccination acceptance. Studies show that presumptive statements—which are brief statements that assume parents are ready to vaccinate—are more effective in improving HPV vaccination rates than conversing with parents in an open-ended discussion. Providers are encouraged to use a bundled approach by recommending the HPV vaccine in the “same way, same day” as other recommended adolescent vaccines. When asked, providers should answer parents' questions and use motivational techniques to counsel vaccine hesitant parents or patients, stressing the importance of the vaccine in preventing 6 different cancers.

The New York State HPV Coalition Action Plan

Goals:

1. Prioritize increasing adolescent vaccination rates, specifically targeting girls and boys ages 11-12 years
2. Increase awareness of the importance of HPV vaccination for cancer prevention by targeting providers, medical office/practice teams, and parents
3. Implement evidence-based interventions focused on increasing vaccination rates, such as patient/member reminders, provider alerts, provider education, standing orders, reducing barriers to HPV vaccination, and provider feedback.

Objective: to increase HPV vaccine series completion rates to 80% among NYS adolescents ages 13-17 years by 2023.

Year 1 Priorities and Results: 2018

- Assessment
- Coalition and team building
- Planning
- Identify and apply for funding

Years 2-3 Priorities and Results: 2019 – 2020

- Funding - *Received a two-year NYS Health Foundation grant to conduct QI efforts with providers, health plans, and school-based health centers for promotion and implementation of evidence-based initiatives*
- Intensify provider and parent education
- Promote large health system changes

Years 4-5 Priorities: 2021 – 2023

- Increase program and media resources
- Increase policy education efforts and changes
- Performance Improvement Plan Option for Medicaid Managed Care
- Data/Surveillance - parental hesitancy or support, provider recommendation

HPV Vaccination Action Plan Purpose and Background

The purpose of the NYS HPV Coalition Action Plan is to provide a road map for increasing human papillomavirus (HPV) vaccine uptake across the state. Although there is already substantial activity occurring throughout NYS to promote HPV vaccination, working together we hope to amplify and accelerate those interventions. This resource can be used to guide your own HPV work and to advance state and regional collaborations to reduce HPV-related infections and disease.

NYS HPV Coalition

Mission: To increase HPV vaccination rates and decrease HPV-related disease in NYS through education, coordination, advocacy, and leadership.

Objective: to increase HPV vaccination rates to 80% among 13 to 17-year-old adolescents in NYS by 2023.

History and Structure:

The NYS HPV Coalition, which was launched in 2017, is an action team associated with the NYS Cancer Consortium. Coalition subcommittees (Provider Education and Public Education) work with a wide range of partners to advance the mission with oversight by a steering committee, comprised of the following 15 state and regional health organizations. To sign up as a general member for quarterly updates and to participate on subcommittees go to www.nyshpv.org

- Academic Pediatric Association
- American Cancer Society/ACS Cancer Action Network
- American Congress of Obstetricians and Gynecologists, District II
- American Academy of Pediatrics, NYS
- Community Health Care Association of NYS
- Medical Society of the State of New York
- New York Presbyterian/Columbia University
- New York State Academy of Family Physicians
- New York State Association of County Health Officials
- New York State Cancer Consortium
- New York State Department of Health
- New York Health Plan Association
- New York State Public Health Association
- New York City Department of Health and Mental Hygiene
- Roswell Park Comprehensive Cancer Center



**New York State
HPV Coalition**
Working to Prevent HPV Cancers

National HPV Vaccination Roundtable

The National HPV Vaccination Roundtable, established by the American Cancer Society (ACS) and the Centers for Disease Control and Prevention (CDC) in 2014, is a national coalition of public, private and voluntary organizations, as well as individuals dedicated to reducing the incidence of and mortality from HPV cancers in the U.S. through coordinated leadership and strategic planning. The goal of the HPV Roundtable is to reduce the number of HPV cancers and cervical precancerous lesions as well as non-cancer outcomes through (1) increased frequency and strength of clinician recommendations for HPV vaccine, (2) decreased missed opportunities for HPV vaccine administration, and (3) increased HPV vaccination rates at national and states levels, with a focus on girls and boys ages 11-12 years. Roundtable efforts include promoting and supporting state level HPV vaccination partnerships such as the NYS HPV Coalition.

HPV Vaccination Guidelines

The [Advisory Committee on Immunization Practices \(ACIP\)](#), a CDC committee, provides guidance regarding the use of vaccines and related agents for control of vaccine-preventable diseases in the civilian population of the United States. In 2006, ACIP recommended the administration of HPV vaccination to protect girls against HPV infection. This recommendation was expanded to include vaccination of boys in 2009. Currently, ACIP recommends the routine administration of the nine valent HPV vaccine to adolescents, starting at age 11-12 years, in a 2 dose series (0 and 6-12 months). Adolescents who receive the first dose of HPV vaccine on or after their 15th birthday should receive 3 doses of vaccine (0, 1-2, and 6 months). In 2018 the vaccine was approved by the Food and Drug Administration (FDA) for people 9-45 years of age.

HPV vaccine and cancer prevention: how to protect our adolescents

HPV is the most common sexually transmitted infection in the US. Each year, nationwide, there are over 14 million new HPV infections, half of which occur in individuals between the ages of 15 and 24 years. As a result, nearly 34,000 cases of HPV-associated genitourinary and oropharyngeal cancers are diagnosed annually in this country.ⁱ HPV is transmitted by skin-to-skin contact and does not require bodily fluid contact, making condom-use an inadequate form of prevention.

Despite the availability of a safe and effective vaccine to prevent HPV

infection and its complications, a large proportion of adolescents have not been immunized against HPV. Nationally, in 2017, nearly 66 percent of adolescents aged 13-17 years initiated the vaccine series, but only 49 percent of adolescents received all the recommended doses for series completion. While HPV vaccination rates appear to be increasing among both boys and girls, vaccine series completion rates remain far below those of the other adolescent vaccines (Figure 1).

FIGURE 1. Estimated vaccination coverage with selected vaccines and doses* among adolescents aged 13–17 years, by survey year – National Immunization Survey–Teen (NIS-Teen), United States, 2006–2016[†]

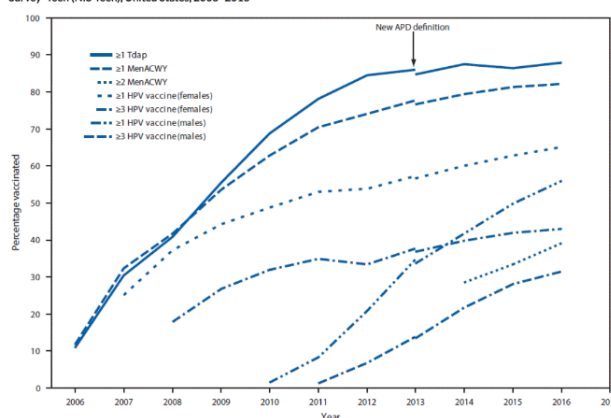


Figure 1

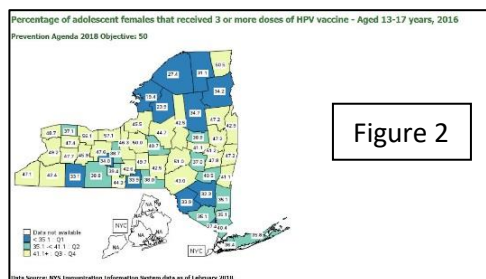


Figure 2

In NYS, CDC reports that 71.5% of adolescents have received at least one dose of HPV vaccine, while only 55.7% of adolescents have completed the vaccine series. While NYS county level data is limited, more rural areas, particularly in the North Country (Jefferson, St. Lawrence, Essex, Hamilton, Lewis, and Franklin Counties) have the lowest vaccination rates in the state. This is consistent with

nationwide data showing HPV vaccine initiation rates to be 11 percentage points lower in rural areas compared to urban areas.ⁱⁱ The Southern Tier (Yates, Allegany, and Tioga) and lower Hudson Valley (Rockland, Sullivan, and Ulster) are notable for low HPV vaccine coverage compared to other counties in the state (Figure 2).ⁱⁱⁱ In New York City, the up to date vaccination rate for adolescents 13 to 17 years of age was 61% in 2015. However, the Borough of Staten Island has the lowest HPV vaccine coverage rates in the city. There

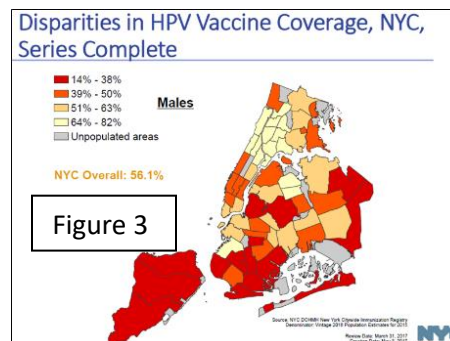


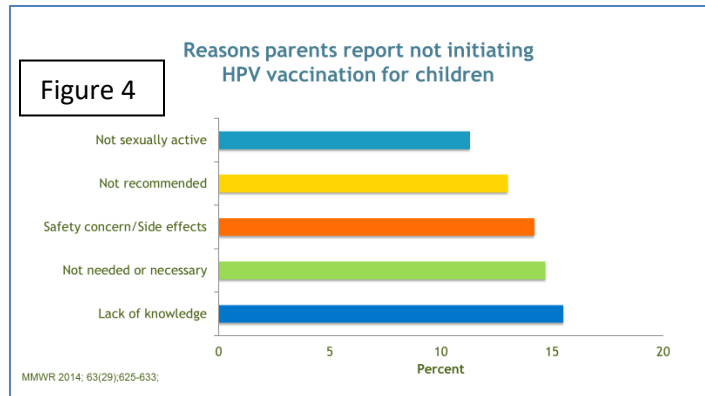
Figure 3

are also several pockets of low coverage in Brooklyn and Queens (See Appendices and (Figure 3).

Barriers to HPV Vaccination

There are many barriers to adolescent HPV vaccine uptake. A strong vaccine recommendation from the medical provider is the single best predictor of HPV vaccination. The 2014 NIS-Teen data show that nearly 15% of parents who refused the HPV vaccine for their child stated that not receiving a vaccine recommendation from their child’s provider was one of the top reasons for their refusal.^{iv} Other common reasons cited by parents for HPV

vaccine refusal include their lack of knowledge about the vaccine, their concerns about vaccine safety, the belief that their child does not need the vaccine, and the belief that their child is not at risk for acquiring infection (Figure 4).^v



Unfortunately, unlike the other adolescent vaccines, there is a discrepancy between parents and their providers regarding the HPV vaccine. (Figure 5) Provider communication with parents is key to educating them about the HPV

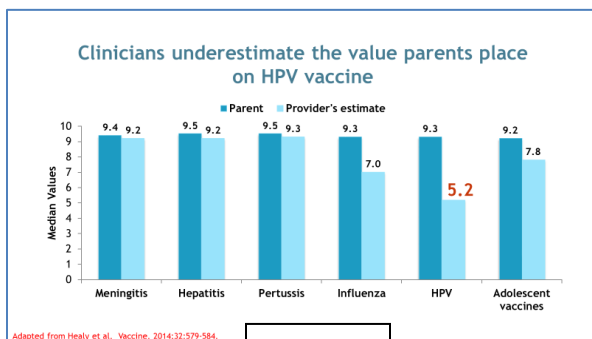


Figure 5

vaccine and overcoming vaccine hesitancy, yet many providers admit to not recommending the HPV vaccine to all eligible adolescents. Why are so many primary care providers failing to make a strong, effective recommendation about HPV vaccine? Reasons for this include providers overestimating parental HPV vaccine hesitancy and underestimating the value that parents place on the HPV vaccine compared to other adolescent vaccines such as those that prevent pertussis and meningococcal infections.^{vi}

Evidence-based Interventions to Increase HPV Vaccination in Clinical Settings^{vii}

Provider Recommendation is the number one reason parents choose to vaccinate their children. Studies show that presumptive statements—which are brief statements that assume parents are ready to vaccinate—are more effective in improving HPV vaccination rates than conversing with parents in an open-ended discussion. CDC encourages that you also use a bundled approach by recommending the HPV vaccine in the “**same way, same day**” that you recommend other adolescent vaccines. When asked, answer parents’ questions and use motivational techniques to counsel vaccine hesitant parents or patients, stressing the importance of the vaccine in preventing 6 different cancers. See the CDC tip sheet called, “Talking to Parents About HPV Vaccine”^{viii} and the World Health Organization HPV training module^{ix} for more information.

“Now that your son/daughter is 11, he/she is due for vaccinations to help protect against meningitis, HPV-related cancers, pertussis, and flu. We’ll give those shots during today’s visit.”

Electronic Medical Record (EMR) Alerts, Provider Prompts, Reminders, and Immunization Information Systems. One of the most important ways for providers to increase vaccination rates in their practices is to use every opportunity to administer vaccinations that are due. When patients come in for any type of medical visit (well-child, sick-child,

or chronic care visits), check to see if they are due for vaccinations. Collaborate with your health information technology colleagues, office manager, and fellow providers to establish effective strategies, such as:

- create provider prompts for when vaccinations are due or late;
- establish EMR alerts for all eligible patients and set reminders in your EMR system for the second dose;
- develop a system to consistently call and send postcards to patients who are due for vaccinations;
- link to your state’s immunization registry to pull down/upload current vaccination records;
- review patient reminder and recall systems and consider how to optimize them using text messaging, mail, email, and/or phone calls for missed vaccination visits.

Standing Orders. If your practice endorses standing orders, make sure they are being used. In many cases, patients can receive the vaccination before the provider even enters the room.

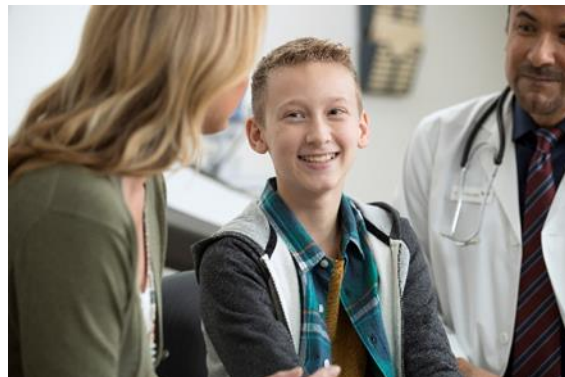
Changing culture of promoting immunizations. Develop a practice culture that is supportive of immunizations to protect every patient. Empower every member of the team to become an HPV vaccine champion. A team-based approach is crucial for making effective and lasting system changes. Provide opportunities for vaccination-only visits or extended hours for vaccinations.

Overview of select efforts in place to increase HPV vaccine uptake in New York State

The **American Academy of Pediatrics** has funded **NYS AAP Chapter 1** to participate in the Hub and Spoke Initiative for the third consecutive year. The goal of this program is for participating pediatric practices to develop and implement a quality improvement program, with systems-based policy changes, to result in sustainable increases in practice-specific adolescent HPV vaccination rates. In the first two years of participation, a total of 13 practices from AAP NY Chapter 1 (Upstate NY) participated in this program and have increased HPV vaccine initiation and completion rates in this cohort by over 10% from baseline. In February 2019, we recruited 10 new practices from the chapter to learn about the QI processes, measures, and analysis as well as interventions to improve practice-wide vaccination rates. Each of these practices will determine baseline vaccine initiation and completion rates, develop and implement systematic interventions, and track results of these changes every month for the next 6 months.

The **National Immunization Partnership (NIPA)** with the **Academic Pediatric Association (APA)** is a large-scale, Quality Improvement Learning Collaborative designed to prioritize HPV vaccination at every adolescent visit. The global aim for this project is to improve HPV vaccine initiation and series completion rates in participating sites around the country by 10% from baseline to the end of the project. Participants receive training in QI methodology and implement evidence-based practice changes to increase immunization rates and reduce missed opportunities for HPV vaccine administration. Through webinars, feedback reports, and guidance, sites will progress towards communicating strong HPV vaccination recommendations and achieving improved coverage rates.

The **Centers for Disease Control and Prevention (CDC)**’s **Assessment, Feedback, Incentives, and eXchange (AFIX)** program is a research-supported QI program where AFIX reviewers work collaboratively with medical providers to incorporate evidence-based immunization practices and increase vaccination rates of children and adolescents at the practice level. The New York State Department of Health, Bureau of Immunization administers the AFIX program in conjunction with local health departments (LHDs) across the state. LHD staff serve as AFIX reviewers and meet with medical providers in their community. During an AFIX visit, immunization records of all age appropriate patients are assessed as well as immunization delivery practices. Immunization records can usually be extracted from data in the New York State



Immunization Information System (NYSIIS). Feedback is given to providers and their staff members with recommendations for strategies to improve immunization service delivery.

NYSDOH and University of North Carolina– Enhanced AFIX projects - The Department of Health Behavior at the University of North Carolina (UNC) Chapel Hill through a cooperative agreement from the CDC launched a study, titled “Impact of AFIX and Physician-to-Physician (P2P) Engagement on HPV Vaccination in Primary Care: An RCT”. The study will evaluate the impact of HPV-vaccination focused AFIX and physician-to-physician remote education on HPV vaccine initiation in primary care clinics. New York State AFIX reviewers in three counties (Erie, Monroe, and Westchester) deliver AFIX with additional UNC study HPV vaccination focused materials. UNC study staff deliver the P2P and control group activities. The study is anticipated to be completed the summer of 2020.

Community Cancer Prevention in Action (CPiA) is a New York State Department of Health program supporting local cancer prevention and risk reduction interventions using a policy, systems and environmental (PSE) change approach. CPiA engages community champions to educate and provide resources and promote systems change interventions that address key areas of cancer prevention, including promoting the HPV vaccine. Four program contractors that serve 12 counties in central and Northern NYS with relatively low HPV vaccination rates are conducting education interventions for adolescents, health care providers and parents to promote an increase in HPV vaccination.

New York City Department of Health and Mental Hygiene (NYC DOHMH) – NYC DOHMH implements AFIX for about 25% of clinical practices that participate in the Vaccines for Children (VFC) program. Through a CDC-funded project aimed at improving adolescent HPV vaccination rates, NYC DOHMH conducted clinician-to-clinician enhanced AFIX visits at 200 practices with low adolescent coverage (less than 40% coverage for 1 Tdap: 1 MenACWY: 2/3 HPV series completion [1:1:2/3] series) and high patient volume (25 or more patients). One full-time public health nurse and 2 part-time consultant pediatricians with HPV expertise led the clinician-to-clinician visits between July 2017 and August 2018. During the visit, DOHMH clinicians met with providers to review practice-level adolescent immunization reports (based on Citywide Immunization Registry (CIR) data), discuss adolescent vaccination policies/procedures, and distribute an HPV toolkit, which includes parent- and provider specific materials, and other education resources. They also demonstrated the CIR web-based user interface for providers, the Online Registry, which offers access to patient immunization records and tools which can be used as part of QI efforts to increase HPV vaccination, including clinical decision support, reminder/recall tools, letter mailings, and standard/custom text-based messaging. NYC DOHMH is also conducting education and outreach to immunization providers and updating resources for the public on HPV. NYC DOHMH has conducted large scale provider education through grand rounds and webinars for over 25 different health care organizations. It also sends out immunization quarterly report cards to all 1,700 pediatric immunizing providers, two of which include adolescent coverage for the 1:1:2/3 series. Percentile rankings and immunization coverage distribution charts are included in these reports so that providers can compare themselves to other NYC practices. Additionally, the public-facing NYC DOHMH webpage on HPV disease and vaccination is in the process of being updated with the most recent HPV information and will include more adolescent-facing language (<https://www1.nyc.gov/site/doh/providers/resources/public-health-action-kits-hpv.page>).

The Office of School Health (OSH), a joint program of the NYC Department of Health and Mental Hygiene and Department of Education, has received a grant to implement a school-based HPV vaccination program in select NYC public schools. The goal of the project is to implement a comprehensive vaccination program in 80 school-based health centers (SBHCs), 10 school-based reproductive health program sites, and 5 sites with school nursing offices over a three-year period. The program will combine school-based HPV vaccination with a large-scale awareness campaign as well as training for providers, school staff and leadership/administration. The combination of increased access to vaccination along with education and advocacy will increase HPV vaccination rates among public school students where the program is being offered. In addition, we anticipate an indirect increase in HPV immunization rates in NYC due to increased awareness.

The New York State HPV Coalition Plan

Goals

1. Prioritize increasing adolescent vaccination rates, specifically targeting girls and boys ages 11-12 years
2. Increase awareness of the importance of HPV vaccination for cancer prevention by targeting providers, medical office/practice teams, and parents
3. Implement evidence-based interventions focused on increasing vaccination rates, such as patient/member reminders, provider alerts, provider education, standing orders, reducing barriers to HPV vaccination, and provider feedback.

Objective

To increase HPV vaccine series completion rates to 80% among NYS adolescents ages 13-17 years by 2023. Current HPV vaccine completion rates are 55.7% per the 2016 NIS-Teen data. This objective is aligned with the NYS Comprehensive Cancer Control Plan and the NYS Public Health Improvement plan/NYS Prevention Agenda.

New York State HPV Coalition Priorities 2018 - 2023

Year 1 Priorities: 2018

- Assessment
- Coalition and team building
- Planning
- Identify and apply for funding

Years 2-3 Priorities: 2019 – 2020

- Funding
- Intensify provider and parent education
- Promote large system changes (e.g., health plans, NYS Office of Health Insurance Programs)
- Promotion and implementation of evidence-based initiatives

Years 4-5 Priorities: 2021 – 2023

- Increase program and media resources
- Increase policy education efforts and changes
- Performance Improvement Plan Option for Medicaid Managed Care
- Data/Surveillance - parental hesitancy or support, provider recommendation

NYS HPV Coalition Planning Priority and Results (2018)

At the inaugural meeting of the NYS HPV Coalition in September 2017 a SWOT analysis was completed by the 15 Steering Committee members to inform future planning.

Strengths	Weaknesses
<ul style="list-style-type: none"> • Collaboration with county health departments • Support in NYS legislature • Strong NYS and NYC DOHs and FQHCs • Involved cancer centers /strong academic centers • Progressive attitude towards health and vaccination • Diverse NYS population/diverse approaches • Vaccine registries/good data systems • Significant momentum with this issue • Collaboration with providers and specialty groups • ACS' ability to work with many stakeholders and organizational neutrality • Many media opportunities • Involvement of managed care/quality metrics 	<ul style="list-style-type: none"> • Limited resources for HPV communication • Competing priorities for funding • Lack of involvement by some stakeholders • Lack of consistency regarding verbiage and approach among providers Provider (broadly speaking) knowledge deficits and misinformation regarding HPV and HPV-related cancers • Practices use many different EMR systems

Opportunities	Threats
<ul style="list-style-type: none"> • New 2 dose HPV guidelines • Growing interest and focus on HPV • HPV HEDIS measures • School nurses and colleges • NYS law: Minor ability to consent • Potential for dental and pharmacy involvement • Private purchase of vaccines • Educational curriculum • Insurance regulations 	<ul style="list-style-type: none"> • Anti-vaccination movement, alternative facts, and their use of social media • Current state of uncertainty around federal healthcare system • Future federal funding • Providers’ limited time and energy • Complacency on the part of parents that enough other kids are vaccinated (e.g. herd immunity)

In April 2018, the Steering Committee convened a day of strategic planning exercises to prioritize the activities that the Steering Committee believes will help us achieve our top 2 priorities: educating healthcare providers and parents of adolescents to reduce barriers to HPV vaccination. The group identified the following priorities:

Provider Strategies	<ul style="list-style-type: none"> • Work with health plans to incentivize providers to achieve increased vaccination rates • Comprehensive campaign targeting providers and office staff (consistent messages with multi-faceted strategies aimed at providers) • Create a simple provider tool kit • Incentives to provider practices, including Maintenance of Certification (MOC) credits • Practice report cards and other types of provider feedback • Regional Provider Summits with CMEs • Peer to peer online CME activities
Parent Strategies	<ul style="list-style-type: none"> • Media Campaigns <ul style="list-style-type: none"> ○ Social media ○ Billboards ○ TV radio ○ Provider champions ○ Videos • Work with Specialty Providers (e.g., Dentists) <ul style="list-style-type: none"> ○ Dental Society, Dental Hygienist Association, oral health groups ○ Health Plans – Incentives to parents who have their children vaccinated ○ Local immunization coalitions • Partner with organizations that serve or reach parents / grandparents <ul style="list-style-type: none"> ○ Schools – leadership, nurses, health teachers ○ PTA ○ School Nurse Association ○ Community Centers ○ Libraries ○ Work with afterschool association ○ Faith Communities ○ Cooperative Extensions ○ Community forums/educational sessions w/pediatricians, oncologists, and survivors ○ Train Parent Champions

NYS HPV Environmental Scan

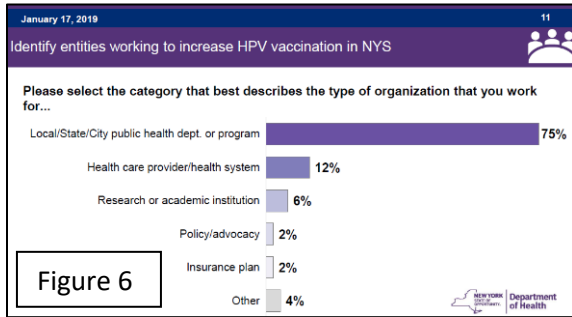
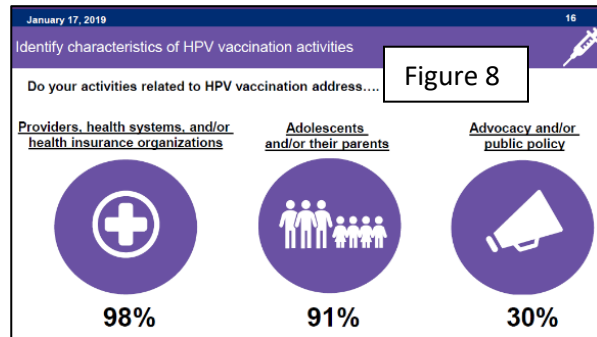
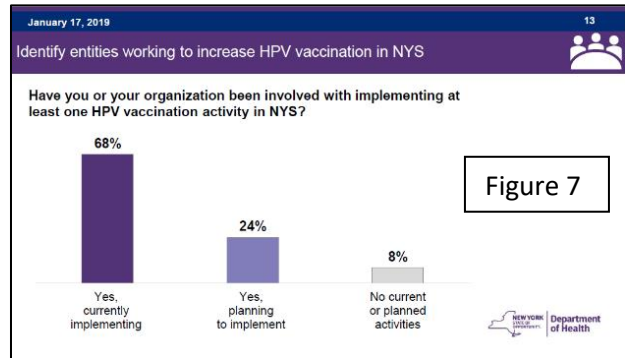


Figure 6

currently implementing or planning to implement at least one HPV vaccination activity in NYS, represent local health departments (Figure 6). Among respondents, 92% reported “currently conducting activities” promoting HPV vaccination or reported “planning to implement” (Figure 7). The most commonly implemented strategies include providing printed, culturally appropriate educational materials to parents and/or adolescents and providing professional education to providers to increase knowledge or change attitudes about HPV vaccination. Barriers related to parent/adolescent knowledge or perceptions and health care provider knowledge or communication are experienced much more frequently than barriers related to cost or logistics of HPV vaccination administration and office or health systems.

In 2018, at the request of the NYS HPV Coalition, the NYS Department of Health conducted a statewide environmental scan focused on a wide variety of entities potentially involved in the promotion of HPV vaccination. Of the 174 stakeholders who received the survey, 52 responded for a 30% response rate.

Results: Most survey respondents (75%) represented local, state, city or health departments. Additionally, most entities



To achieve an 80% coverage rate, respondents suggested that the Coalition collaborate to reduce missed clinical opportunities in recommendation and administration of the HPV vaccine by (1) training health care providers and staff to address knowledge and communication gaps and (2) implementing incentive programs. To increase acceptance of HPV vaccine, respondents suggested the Coalition should focus on educating parents and/or patients to address knowledge or perceptions through

media. Respondents also identified opportunities for the Coalition to maximize access to HPV vaccination services such as advocating for a school mandate. These data suggest that NYS has gaps in mass media education campaigns aimed at parents and a lack of policy efforts at state and local levels related to increasing HPV vaccination (figure 8).

NYS HPV Coalition Planning Priorities and Results (2019 – 2020)

- Secure funding to support activities
- Intensify provider and parent education
- Promote large system changes (e.g., health plans, NYS Office of Health Insurance Programs)
- Promote and implement evidence-based initiatives

In late 2018, an initial funding proposal was submitted by the Coalition to the New York State Health Foundation (NYSHF) Special Project Fund. Subsequent submission of a revised application was successful in March 2019 for funding to begin in April 2019. The following projects are part of the NYSHF funding which will continue through March 2021:

A. Provider Peer Education Quality Improvement Project

- **Objective 1.** By March 2021, at least 120 pediatricians and family physicians across NYS will have attended a continuing medical education (CME) session regarding HPV vaccine and the use of the “Steps to Increasing HPV Vaccination” guide (Steps Guide).
- **Objective 2.** By March 2021, at least 60 pediatric and family medicine practices across NYS will receive peer education training, as part of a QI initiative, to implement policy changes incorporating the strategies from the Steps Guide.
- **Objective 3.** By March 2021, at least 40 participating practices will have implemented at least one HPV vaccine-related policy change and will have increased their HPV vaccine completion rates by at least 10% compared to their baseline rates.

The NYS HPV Coalition will implement a provider education program to address gaps in knowledge, attitudes, and practices and provide QI tools needed to develop and implement systematic policy changes to increase HPV vaccine uptake.

NYS clinical champions will present at a minimum of 4 state and regional conferences, sponsored by the American Academy of Pediatrics (AAP), and the Academy of Family Physicians (AFP) to reach over 120 providers. These sessions will focus on HPV vaccine importance, strategies to delivering a strong vaccine recommendation, and systematic interventions to improve practice-specific HPV vaccination rates, as supported by the Steps Guide and nationally recognized recommendations. Providers attending this session will receive CME credit.

A recent AAP-sponsored QI program resulted in increases in practice-specific HPV vaccination rates of over 10 percentage points. Using this model, the AAP NYS chapter 1 and NYS chapters 2 and 3, and AFP will each host two 6-month long QI programs to improve practice-based HPV vaccine policies. At least 60 practices will be enrolled in this initiative by the local chapter of their medical association and at the CME sessions. Providers completing this QI project will receive Maintenance of Certification (MOC) Part 4 credit.

For the QI initiative, each recruited practice will designate a provider to be a QI champion for the program. These practice representatives will attend an off-site project initiation session. This training, led by HPV



clinical champions, will include education on QI methods, tools, and measures, and HPV vaccine-related policy changes. These changes include the use of reminder-recall systems, standing orders, immunization record review at each visit, and delivery of a strong vaccine recommendation. The providers will also receive an in-depth review of the program process including chart review, QI data aggregator (QIDA) website for data entry and analysis, run chart interpretation, team discussions of data, and tracking of new policy changes.

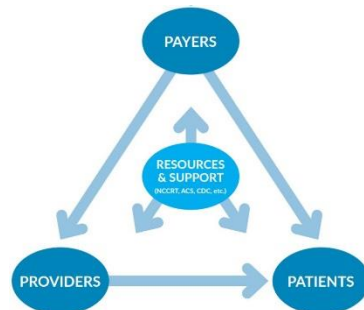
The trained providers will then review the QI material with the providers and staff in their practice. Each practice will perform monthly chart reviews (20 charts/cycle), record the data into QIDA which will track HPV vaccine completion and missed vaccination opportunities, print and discuss run charts with the practice staff, and implement or modify an HPV vaccination policy to facilitate HPV vaccine uptake within the office. The monthly cycle of data collection and team meetings will continue for 6 months, by which time the practice should have established at least one HPV vaccine-related policy. The clinical champions will contact the project champions at 3 and 6 months to discuss successes and obstacles to policy implementation and will be available as coaches throughout the program. Follow-up rates will be obtained 12 months after program entry to document sustainability in results.

B. Health Plan Quality Improvement Project

- **Objective 1:** By March 31, 2021, at least 4 NYS health plans will have agreed to initiate a QI process to increase their HPV vaccination rates.
- **Objective 2:** By March 31, 2021, at least 3 NYS health plans will have reported implementing at least 1 system change that increases vaccination rates, including but not limited to, adding HPV vaccination to its value-based care program, tracking and reporting vaccination rates, provider feedback, systematic provider education, and technical assistance for office policy and practice change.
- **Objective 3:** 2021 quality data will show that at least 2 NYS health plans have increased their HPV vaccination rates by at least 5% from baseline in 2019.

Payers play a major role in improving quality medical care by influencing how healthcare is practiced. ACS Staff and Coalition Champions will meet with health plan Medical Directors and Quality Improvement representatives across NY to establish ongoing partnerships focused on increasing HPV vaccinations.

The Healthcare Effectiveness Data and Information Set (HEDIS) and Quality Assurance Reporting Requirements (QARR) are used in New York to measure plan performance on their quality of care. HPV vaccination rate is now included as a HEDIS/QARR measure. This presents a new opportunity to engage health plan staff dedicated to improving quality measures across the plan’s insurance products.



The NYS HPV Coalition will work with the NY Health Plan Association and others on the coalition to meet with health plan leadership. ACS, as a leader of the National HPV Roundtable, the NYS HPV Coalition, and a credible source of cancer information, in collaboration with clinical champions on our board, offers a qualified source of best practices, evidence-based tools, and resources to help health plans increase their vaccination rates. The Coalition will document agreements regarding plan willingness to partner on QI initiatives and to track their activities and outcomes related to the project. ACS will then organize a train-the-trainer session, aimed at QI and Provider Relations staff for Medicaid Managed Care and commercial product lines. The session will review the role of HPV vaccination in disease prevention, the development of systematic practice-based interventions and policies to increase HPV vaccine uptake, such as the delivery of a strong provider vaccine recommendation and the use of data to track improvement in vaccination rates. Clinical and Health System “Action Guides” created by the National HPV Roundtable and tailored to various types of providers will be provided to health

plan staff along with the Steps Guide to assist practices in improving vaccination rates. ACS and Coalition clinical champions will provide ongoing support and guidance to promote training implementation and technical assistance to network provider practices. QI team representatives from different health plans will also meet to support one another in an ongoing collaborative sponsored by the Coalition.

In preparing for the possibility of grant funding, the NYS HPV Coalition has convened a NYS HPV Health Plan Workgroup led by the American Cancer Society, which includes representatives from eight health plans as well as the NYS and NYC Departments of Health. Initial proposed activities of the collaborative workgroup include:

- Collaborative letter that will be sent to targeted pediatricians and family physicians promoting the presumptive recommendation and other key strategies to increase HPV vaccination.
- CME Webinar that health plans could promote to their QI teams and providers.
- Present evidence-based strategies to the clinical leadership of the NYS Health Plan Association member plans.
- Share the HPV Roundtable Action Guide for Large Health Systems and for providers with QI teams to inform their planning.
- Encourage all health plans to make HPV vaccination a priority among the quality measures by: creating a team, developing a plan, educating leadership, changing the culture and avoiding missed opportunities.
- Establish routine data discovery of their members around HPV vaccination rates
- Work together to advocate to State and New York City policy makers to increase HPV education resources and to create a statewide media campaign promoting HPV vaccination

Additional provider-focused interventions

Practice Report Card

A report card will be created that the Coalition and its members, the NYS Department of Health, and local health departments can share with vaccinating providers to show the HPV vaccination rate of their practice, the trend, and how it compares to county and state HPV immunization rates. The Practice Report Card, which was modeled after the existing New York City HPV vaccination report card, will be implemented on a quarterly basis in the rest of the state. An HPV Vaccination Tool Kit will be developed as a companion educational piece to provide communication and office strategies for providers to maximize vaccination completion rates and offer tear off educational and reminder sheet for parents.

New York City Regional Committee

Several provider-focused strategies have been identified to pursue in NYC over time. These will be accomplished using task groups.

- Develop standardized PowerPoint presentations for specific clinical audiences
- Create an HPV Summit Series to begin in Staten Island followed by Brooklyn
- Webinars- following the Summit, possibly on areas of interest identified at the Summit
- Annual Grand Rounds – Identify speakers and health system champions for large health systems

C. School Based Health Center and Parent Engagement Project

- **Objective 1:** By March 31, 2021, at least 30 NYS SBHCs will have completed the SBHC HPV Vaccination Guide CME Module

- **Objective 2:** By March 31, 2021, at least 15 NYS SBHCs will have implemented a practice or policy recommended in the SBHC HPV Vaccination Guide.
- **Objective 3:** By March 31, 2021, at least 12 SBHCs will have increased their vaccine completion rates by at least 5% from baseline in 2019.

The NYS HPV Coalition, in partnership with the NY School Based Health Alliance (SBHA), convened a workgroup of SBHC experts to discuss and prioritize interventions to increase HPV vaccination between students enrolled in the SBHC as well as those attending schools with a SBHC but receiving primary care elsewhere. The Coalition drafted a Guide for School Based Health Centers to Increase HPV Vaccination” The completed “Guide” will be tailored to SBHC Chief Medical Officers, providers, nurses and office staff. The Guide will address key issues related to parental consent policy development, office practices and system change to maximize HPV vaccination and reduce missed opportunities. The Guide will also have a focus on interventions to educate and engage parents through carefully selected channels. The Guide will be disseminated widely via the annual conference of the SBHA, the Community Health Center Association of New York State (CHCANYS), and the NYS HPV Coalition Steering Committee. A webinar will be developed to highlight key elements of the Guide.



The New York City Regional Committee of the Coalition is pursuing additional activities related to School Based Health Centers:

- Disseminate and support the Coalition’s HPV Vaccination Guide for SBHCs using “book club” sessions.
- Send out self-consent guidelines to all pediatric and family medicine providers and SBHC providers
- SBHC provider survey to assess needs related to administering HPV vaccination and reducing missed opportunities
- Utilizing general consent in SBHCs – present to SBHC providers
- Identify school administration and leadership who will advocate for HPV vaccination
- SBHC provider and staff education: webinars, in-person presentations, provision of resources
- Use peer educators

Additional Parent-Focused Interventions

NYS Dental Association Partnership

The New York State HPV Coalition is collaborating with the NYS Dental Association to educate dentists across the state about the importance of HPV vaccination and provide recommended messages to use with parents of middle school children.

Partnering with other organizations that reach parents

- NYS Cancer Consortium has offered mini-grants to organizations to present the film – “Someone You Love” and have a facilitated discussion.

New York City Regional Committee

Several parent, adolescent and community-targeted strategies will be worked on over time. Interventions will be accomplished using task groups to tackle one activity at a time.

- Youth health education via peers and mentoring
- Parental education for boys with a focus on educating about HPV-associated head and neck cancers
- Power Point for Champions- Develop a standardized slide deck for HPV Champions to present when speaking to the community
- Summer Afterschool Program Workshops
- Establish partnerships with religious and leaders of CBOs to help them educate their congregations.
- Reach out to NYC Department of Education to establish a possible partnership with Coalition. The priority of this effort will include understanding the current state of education on HPV within the NYC school system and working with the PTA at schools within community districts with low vaccination rates.
- Develop a HPV briefing for NYC and State officials
- Establish contacts with respective community boards for further public education
- Participate in and support regional community education events related to HPV outreach and access. First event to be organized by Caleb Feet Foundation in 2019
- Develop a plan to address HPV education and outreach within the LGBTQ community by working with local researchers, universities, and organizations

NYS HPV Coalition Planning Priorities: 2021 – 2023

- Increase program and media resources dedicated to HPV vaccination in New York
- Initiating a Performance Improvement Plan Option for Medicaid Managed Care plans
- Starting the collection of parental hesitancy and provider recommendation data on HPV vaccination through state surveillance systems
- New York City Task Groups will continue to implement provider and community-focused activities listed above.
- Increase policy efforts and changes
- Explore policies that organizations could coalesce around and support such as:
 - ❖ Increase funding for programs and campaigns that encourage vaccination
 - ❖ Increase access to vaccinations (e.g. pharmacist administration, facilitated parental consent)
 - ❖ Require vaccination for enrollment in school
- More specific planning for years 4 and 5 will be determined over the next few years including forming additional clinical partnerships and community collaborations. Updates and revisions to this plan will be made at the end of each year.

Measuring Progress

Overall progress will be measured toward the statewide objective (80% of adolescents ages 13-17 being up to date with HPV vaccination) using the NIS-Teen data set. In 2017, the NIS-Teen data for NYS found that 53.6% of both girls and boys were up to date for HPV vaccination.^x

Other indicators of progress at the State and local level will be assessed using analyses of State and City registry data (NYSIIS and CIR respectively). Programmatic evaluation will be important to determine if what was planned took place as expected and to assess the impact of those interventions.

Provider Peer Education project - The CME component of this program will be evaluated with attendance logs, pre- and post- education questionnaires regarding knowledge, attitudes, and practices, and session evaluations to address program acceptability. The QI component of this program will be evaluated by the numbers of providers engaged in the initiative, the number of medical practices with at least one HPV vaccine-related policy change and

the rates of practice or provider-specific adolescent HPV vaccine initiation and completion to measure practice change. Based on the AAP HPV pilot, we hypothesize that at least 80 practices will have improved their HPV vaccination rates by more than 10% over the course of two years.

Health Plan QI Project - The plans will be asked to complete a brief survey to help evaluate the project. An annual electronic survey will be developed and administered to facilitate the tracking of health plan activities, policy or system changes related to improving HPV vaccination as well as vaccination rates. To assess and validate self-reported health plan vaccination rates, we will use the quality data reported by the NYS Department of Health's Office of Health Insurance Programs.



SBHC and Parent Engagement Project - The engaged SBHCs in NYS will complete a survey, created by the NYS HPV Coalition, detailing their implementation of the recommended practices in the SBHC Guide, parent engagement by the SBHC/school, and any measurable changes in HPV coverage among both students enrolled in the SBHC and school-wide coverage since the release of the Best Practice Guide.

References

ⁱ Centers for Disease Control and Prevention. Accessed 3/15/19

<https://www.cdc.gov/cancer/hpv/statistics/cases.htm>

ⁱⁱ Centers for Disease Control and Prevention. Accessed 3/15/19 <https://www.cdc.gov/hpv/hcp/vacc-coverage/index.html>

ⁱⁱⁱ New York State Department of Health. Accessed 12/18/2018

https://webbi1.health.ny.gov/SASStoredProcess/guest?_program=/EBI/PHIG/apps/dashboard/pa_dashboard&p=g_m&ind_id=pa31_0

^{iv} Centers for Disease Control and Prevention. MMWR 2014; 63(29):625-633;

^v Thompson, E. L., Rosen, B. L., Vamos, C. A., Kadono, M., & Daley, E. M. (2017). Human papillomavirus vaccination: What are the reasons for non-vaccination among US adolescents? *Journal of Adolescent Health*, 61(3), 288-293.

^{vi} Healy et al. *Vaccine*. 2014;32:579-584

^{vii} National HPV Vaccination Roundtable. "Cancer Prevention Through HPV Vaccination in Your Practice: An Action Guide for Physicians, Physician Assistants, and Nurse Practitioners" V 1. February 2018.

^{viii} Centers for Disease Control and Prevention. "Talking to Parents about HPV Vaccine". Accessed 12/18/2018

<https://www.cdc.gov/hpv/hcp/for-hcp-tipsheet-hpv.pdf>

^{ix} World Health Organization. Conversations to build trust in vaccination: A training module for health workers. Accessed 12.18.18

http://www.who.int/immunization/programmes_systems/TrainingModule_ConversationGuide_final.pptx

^x Centers for Disease Control and Prevention. Accessed 3/28/19:

<https://www.cdc.gov/mmwr/volumes/67/wr/mm6733a1.htm>



Appendices

Appendix 1

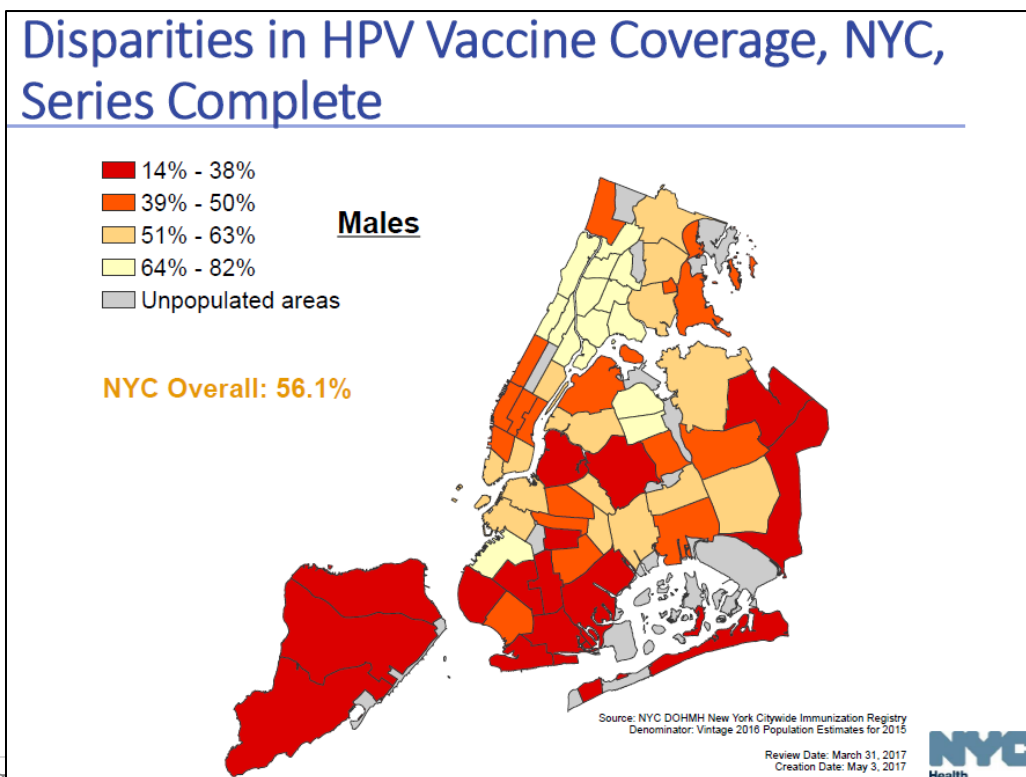
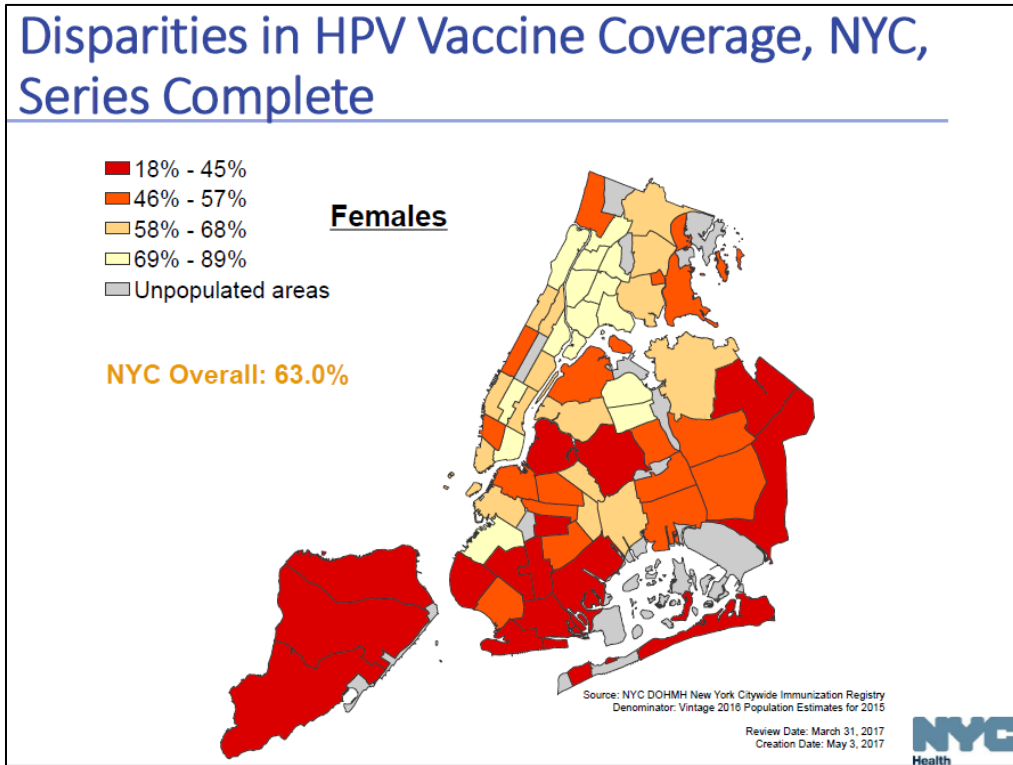
Number of HPV-Associated and HPV-Attributable Cancer Cases per Year

Cancer site	Average number of cancers per year in sites where HPV is often found (HPV-associated cancers)	Percentage probably caused by any HPV type ^a	Number probably caused by any HPV type ^a
Cervix	11,866	91%	10,751
Vagina	846	75%	635
Vulva	3,934	69%	2,707
Penis	1,269	63%	803
Anus ^b	6,530	91%	5,957
Female	4,333	93%	4,008
Male	2,197	89%	1,949
Oropharynx	18,226	70%	12,885
Female	3,412	63%	2,160
Male	14,814	72%	10,725
TOTAL	42,671	79%	33,737
Female	24,391	83%	20,260
Male	18,280	74%	13,477

^aHPV types detected in genotyping study; most were high-risk HPV types known to cause cancer (Saraiya M et al. [U.S. assessment of HPV types in cancers: implications for current and 9-valent HPV vaccines](#). *Journal of the National Cancer Institute* 2015;107:djv086).

^bIncludes anal and rectal squamous cell carcinomas.

Data are from population-based cancer registries participating in CDC's National Program of Cancer Registries (NPCR) and/or the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) Program for 2011 to 2015, covering 100% of the U.S. population.



Appendix III

Logic Model for NYS HPV Coalition Grant Funded Projects (2019 – 2021)

Project	Inputs	Activities	Outputs	Intermediate Outcomes	Long Term Outcomes
Peer Education/ CME	Staffing and admin Clinical Champions, CMEs, Training materials, promotion via host orgs, travel reimbursement, speaker stipend	Training of Providers at State/Reg. Conferences or Summits, Webinars	# of providers that have been trained on strategies to improve adolescent HPV vaccination rates	Increase in the # of parents and young people who receive a provider recommendation for HPV Vaccination Increase in % of adolescents receiving the recommended doses of HPV Vaccinations	Reduction in HPV related cancers and other HPV related diseases
Peer Ed/ MOC IV	Medical specialty admin, Clinical Champions, CMEs, education materials, travel reimbursement, speaker stipend	Training of providers on how to develop and implement a practice-wide QI program to increase HPV vaccination rates Site or skype based technical assistance with provider and office staff	# of providers that have received training on the development of QI program # of providers actively implementing a practice-wide QI program to improve HPV vaccination rates	Increase in the # of parents and young people who receive a provider recommendation for HPV Vaccination Increase in % of adolescents receiving the recommended doses of HPV Vaccinations	Reduction in HPV related cancers and other HPV related diseases

<p>Health Plan QI Project</p>	<p>Clinical Champions, ACS staff, provider education materials, travel reimbursement, plan survey</p>	<p>ACS and Clinical Champions meet with health plan Medical Director and/or QI staff to promote HPV QI</p> <p>Follow up with appropriate materials and guidance</p> <p>Convene and manage a health plan workgroup</p> <p>Develop and administer a plan survey</p>	<p># of plans that initiate an HPV QI process</p> <p># plans that utilize the HPV Ed. materials</p> <p># of health plans that add HPV to VBC/P4P or other system change</p>	<p>Increase in the # of parents and young people who receive a provider recommendation for HPV Vaccination</p> <p>Increase in % of adolescents receiving the recommended doses of HPV Vaccinations</p>	<p>Reduction in HPV related cancers and other HPV related diseases</p>
<p>School Based Health Ctr HPV Vaccination Guide and CME Module</p>	<p>writing SBHC HPV Guide SBHC HPV Guide, document designer, printing, postage, training, travel reimbursement, partners, champions, CMEs, surveys</p>	<p>Develop HPV Guide with SBHC experts</p> <p>Create CME module and PowerPoint</p> <p>Promote Guide via conferences and webinars</p> <p>Review Guide with SBHCs</p> <p>Offer CMEs to SBHCs</p> <p>Offer intensive TA sessions for 6 months</p>	<p># of SBHCs that have been part of a SBHC Guide Education session</p> <p># of SBHC providers who receive CMEs</p> <p># of SBHCs that participate in TA sessions</p> <p># of SBHCs that adopt one or more recommended practices</p>	<p>Increase in # of schools that promote HPV vaccination</p> <p>Increase in % of adolescents receiving the recommended doses of HPV vaccinations</p>	<p>Reduction in HPV related cancers and other HPV related diseases</p>