

# Institutional strategic framework to increase HPV vaccination



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**MD Anderson**  
~~Cancer~~ Center  
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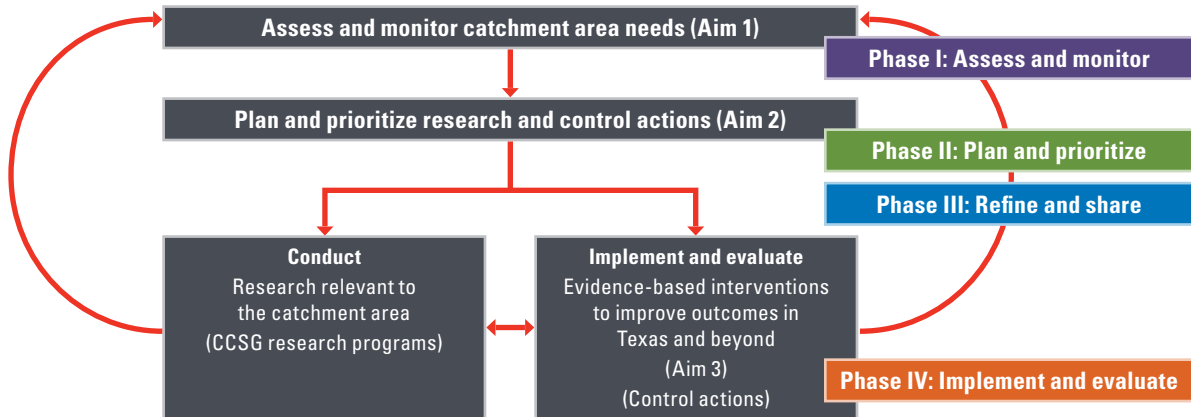
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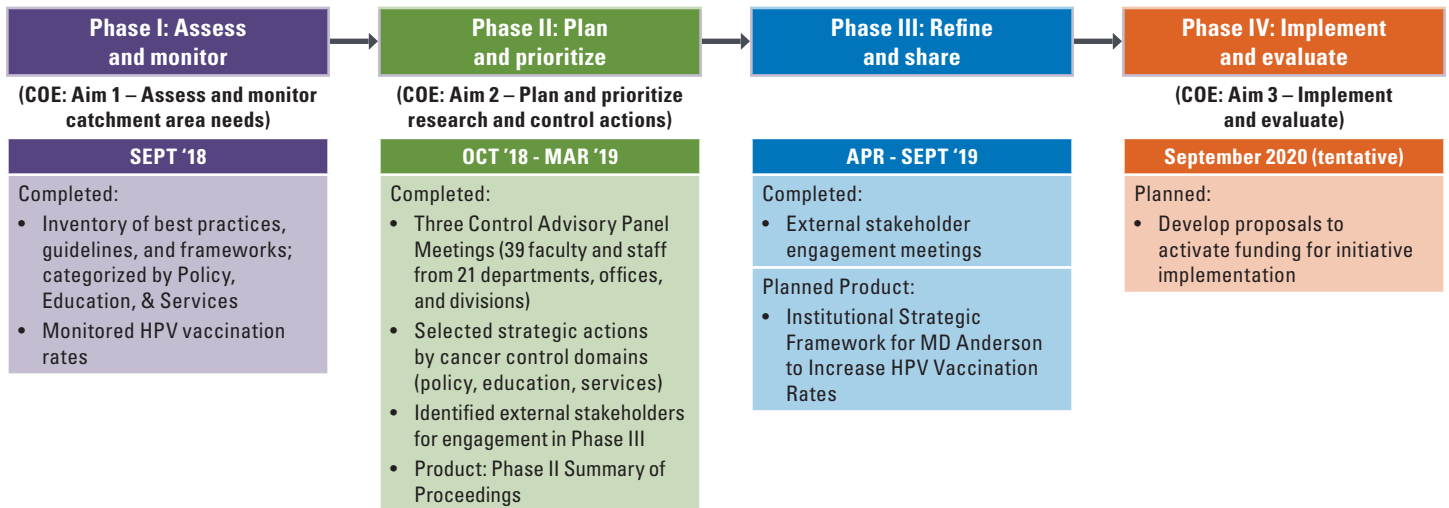
# Executive summary

A Planning Core Team was formed in September 2018, at the request of Peter Pisters, M.D., President, The University of Texas MD Anderson Cancer Center, to develop an institutional strategic framework (Framework) to increase HPV vaccination in Texas. The Planning Core Team’s aim was to develop and propose a Framework through a multi-phased approach that aligned with MD Anderson’s Community Outreach and Engagement (COE) Model. The COE model highlights key resources, relationships, and evidence-based actions taken in priority areas to reduce Texans’ cancer burden and associated risk factors.

## Applying MD Anderson’s COE model to HPV vaccination planning



The **multi-phased approach** consisted of four distinct phases with products designed to move the Planning Core Team from planning into project and initiative development and implementation.



During **Phase I: Assess and monitor**, best practices and recommended strategies were reviewed and compiled from HPV Vaccination for Cancer Prevention: Progress, Opportunities, and a Renewed Call to Action. A Report to the President of the United States from the Chair of the President’s Cancer Panel; Global Routine Immunization Strategies and Practices (GRISP): a companion document to the Global Vaccine Action Plan (GVAP); Centers for Disease Control and Prevention. CDC’s Strategic Framework for Global Immunization, 2016-2020; 2018 Texas Cancer Plan; A Statewide Call to Action for Cancer Research, Prevention and Control; and others.

In **Phase II: Plan and prioritize**, internal stakeholders serving on the Control Advisory Panel selected strategies from Phase I: Assess and monitor and organized them into the following MD Anderson cancer prevention and control domains.



**POLICY**

1. Encourage Incentives for Providers
2. Ensure Adequate Provider Reimbursement
3. Encourage Client or Family Incentives for Vaccination



**PUBLIC AND PROFESSIONAL EDUCATION**

4. Increase Provider Knowledge of HPV and HPV Vaccination
5. Increase Provider HPV Vaccination Communication Skills
6. Encourage Messages Targeting Parents



**COMMUNITY-BASED CLINICAL SERVICES**

7. Encourage the Implementation of Standing Orders
8. Champion Key System Supports
9. Facilitate Access to Vaccination

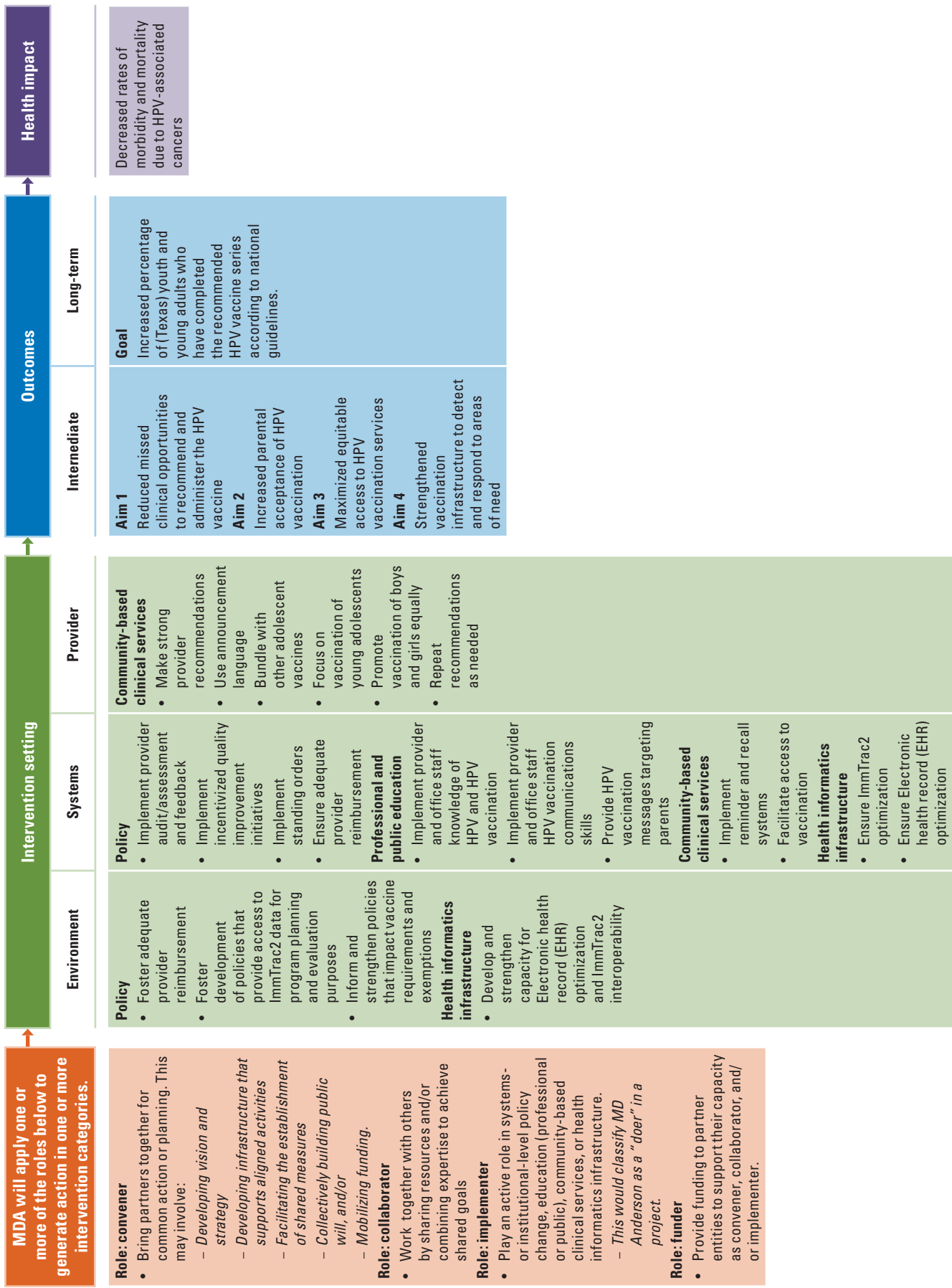
The Control Advisory Panel also explored the roles MD Anderson may take when carrying out activities within each of the selected strategic actions. External stakeholders from Phase III: Refine and share affirmed the roles that MD Anderson may carry out when designing and implementing interventions. The four roles are:

<b>Convener</b>	Bring partners together for common action or planning. This may involve developing a guiding vision and strategy, developing infrastructure that supports aligned activities, facilitating the establishment of shared measures, collectively building public will, and/or mobilizing funding.
<b>Collaborator</b>	Work together with others by sharing resources and/or combining expertise to achieve shared goals
<b>Implementer</b>	Play an active role in systems- or institutional-level policy change, education (professional or public), community-based clinical services or health informatics infrastructure. This would classify MD Anderson as a “doer” in a project.
<b>Funder</b>	Provide funding to partner entities to support their capacity as convener, collaborator, and/or implementer

The selected strategies and roles from Phase II: Plan and prioritize were shared with external stakeholders during **Phase III: Refine and share**. Input and feedback from external stakeholders guided the development of the Framework and its organization of domains, intervention settings, aims and an overarching goal. The results of which are outlined in the Framework document and are visualized in the **Institutional framework to increase HPV vaccination in Texas logic model**.

The development of the Framework marks the end of Phase III: Refine and Share. In the next phase, **Phase IV: Implement and evaluate**, faculty and staff will use the Framework and logic model to guide the development of the strategic actions into operational plans. The Core Planning Team will convene in 24-36 months to evaluate the Framework against the current evidence base and will edit as appropriate.

# Institutional framework to increase HPV vaccination in Texas logic model



## Background and charge

The association of human papillomavirus (HPV) with several types of cancers is well documented. Best understood is the causative role that certain HPV types play in the development of cervical cancer, but other cancers are associated with HPV including oropharyngeal, penile, anal, vaginal and vulvar cancers.

MD Anderson has almost 10 years of engagement and leadership in cancer prevention and control initiatives to promote awareness of HPV-associated cancers and to provide education about HPV vaccination for the public and health care professionals. Cancer prevention and control leaders have now been charged with building upon that history and relationships with key external stakeholders to develop an institutional strategic framework (Framework) for action that would result in a significant increase in HPV vaccination rates in Texas.

Our goals align with the 2018 Texas Cancer Plan: to increase the percentage of (Texas) youth and young adults who have completed the recommended HPV vaccine series according to national guidelines.

### Goals

	<b>Metric*</b>	<b>Texas baseline and data source**</b>	<b>Recommended 2023 Texas target*</b>
<b>Females</b>	% of females age 13-17 who are up-to-date with HPV vaccination series	47.8% (NIS-Teen, 2018)	60% (NIS-Teen)
<b>Males</b>	% of males age 13-17 who are up-to-date with HPV vaccination series	39.4% (NIS-Teen, 2018)	45% (NIS-Teen)

\*Texas Cancer Plan, 2018

\*\*Data Source: National Immunization Survey (NIS-TEEN) 2018, vaccination rates of 13-17 year olds)

The Planning Core Team developed this Framework through a multi-phased process that was aligned with MD Anderson's Community Outreach and Engagement (COE) Model. The multi-phased approach consisted of four distinct phases with products designed to move the Planning Core Team from planning into project and initiative development and implementation.

The Framework outlines selected areas for action for MD Anderson. These areas are the product of our internal selection and prioritization process in Phase II: Plan and Prioritize, and vetting of ideas with external stakeholders in Phase III: Refine and share (Appendix 1). Creating a framework allows the institution to develop a common set of definitions while establishing an operations and implementation structure. It also reinforces accountability.

The Framework is organized in a manner that aligns with common elements from CDC's *Strategic Framework for Global Immunization, 2016-2020*, HPV Vaccination for Cancer Prevention: Progress, Opportunities, and a Renewed Call to Action. A Report to the President of the United States from the Chair of the President's Cancer Panel (2018 Nov), and World Health Organization's *Global Routine Immunization Strategies and Practices (GRISP): a companion document to the Global Vaccine Action Plan (GVAP)*.

## Framework organization: domains and roles

### Domains

**Phase I: Assess and monitor** resulted in a compilation of evidence-based strategic actions that were then organized into the three domains of cancer prevention and control activity as defined by the institution’s cancer prevention and control efforts: policy (P), professional and public education (E), and community-based clinical services (S). As a result of Phase III: Refine and Share meetings with stakeholders, a fourth domain has been added: health informatics infrastructure (I).

In **Phase II: Plan and prioritize**, internal stakeholders reviewed the compilation of evidence-based strategic actions and then selected areas for action that, if acted upon by MD Anderson, would be expected to yield discernable results. They also explored the roles MD Anderson could occupy when carrying out activities within each of the selected strategic actions. During **Phase III: Refine and share**, external stakeholders affirmed the roles that MD Anderson may play to generate action within the three intervention settings and across the four cancer prevention and control domains.

### Roles

MD Anderson may take one or more of the following roles within one or more of the intervention settings.

<b>Convener</b>	Bring partners together for common action or planning. This may involve developing a guiding vision and strategy, developing infrastructure that supports aligned activities, facilitating the establishment of shared measures, collectively building public will, and/or mobilizing funding.
<b>Collaborator</b>	Work together with others by sharing resources and/or combining expertise to achieve shared goals.
<b>Implementer</b>	Play an active role in systems- or institutional-level policy change, education (professional or public), community-based clinical services or health informatics infrastructure. This would classify MD Anderson as a “doer” in a project.
<b>Funder</b>	Provide funding to partner entities to support their capacity as convener, collaborator and/or implementer.



“The Panel Chair emphasizes strongly that provider- and systems-level changes hold the greatest potential for eliminating missed clinical opportunities, normalizing HPV vaccination, and ensuring that U.S. adolescents and future generations are optimally protected from HPV cancers.”<sup>6</sup>

## Framework goals and aims

### Goal

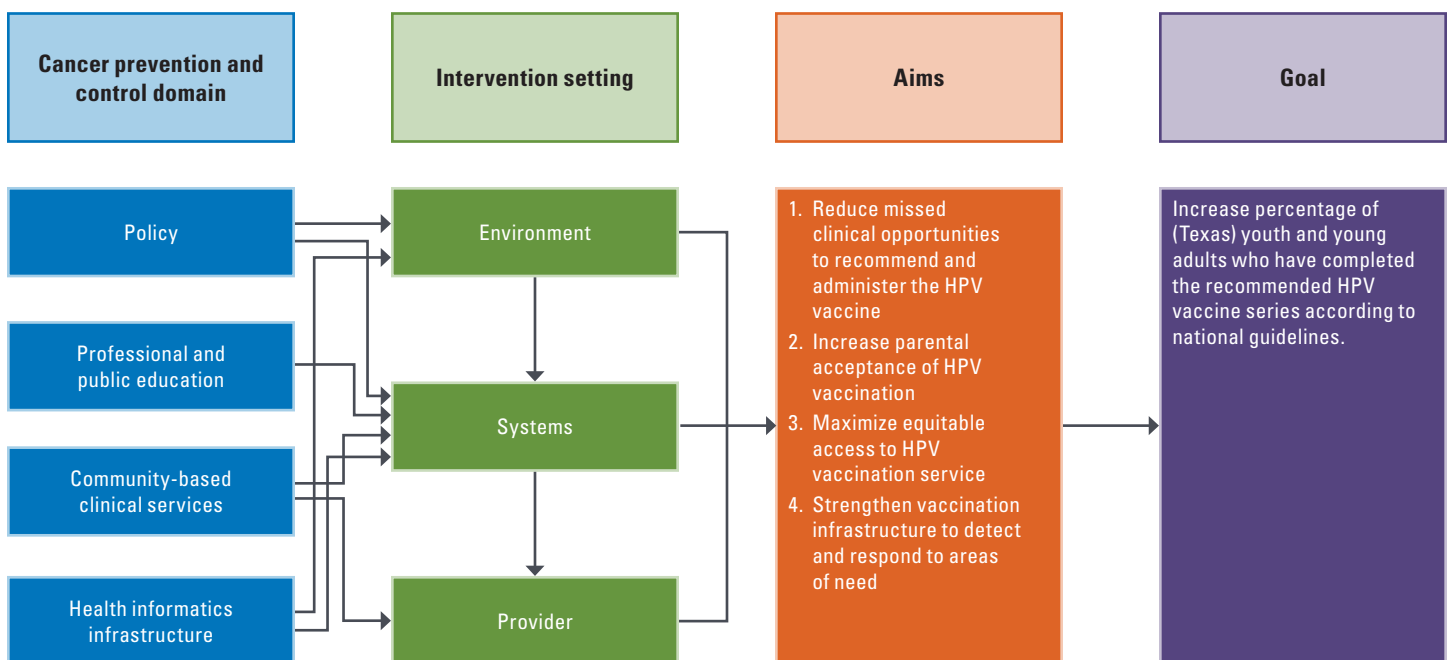
Increase percentage of (Texas) youth and young adults who have completed the recommended HPV vaccine series according to national guidelines.<sup>1</sup>

### Aims

1. Reduce missed clinical opportunities to recommend and administer the HPV vaccine
2. Increase parental acceptance of HPV vaccination
3. Maximize equitable access to HPV vaccination services
4. Strengthen vaccination infrastructure to detect and respond to areas of need

### Domain and setting matrix

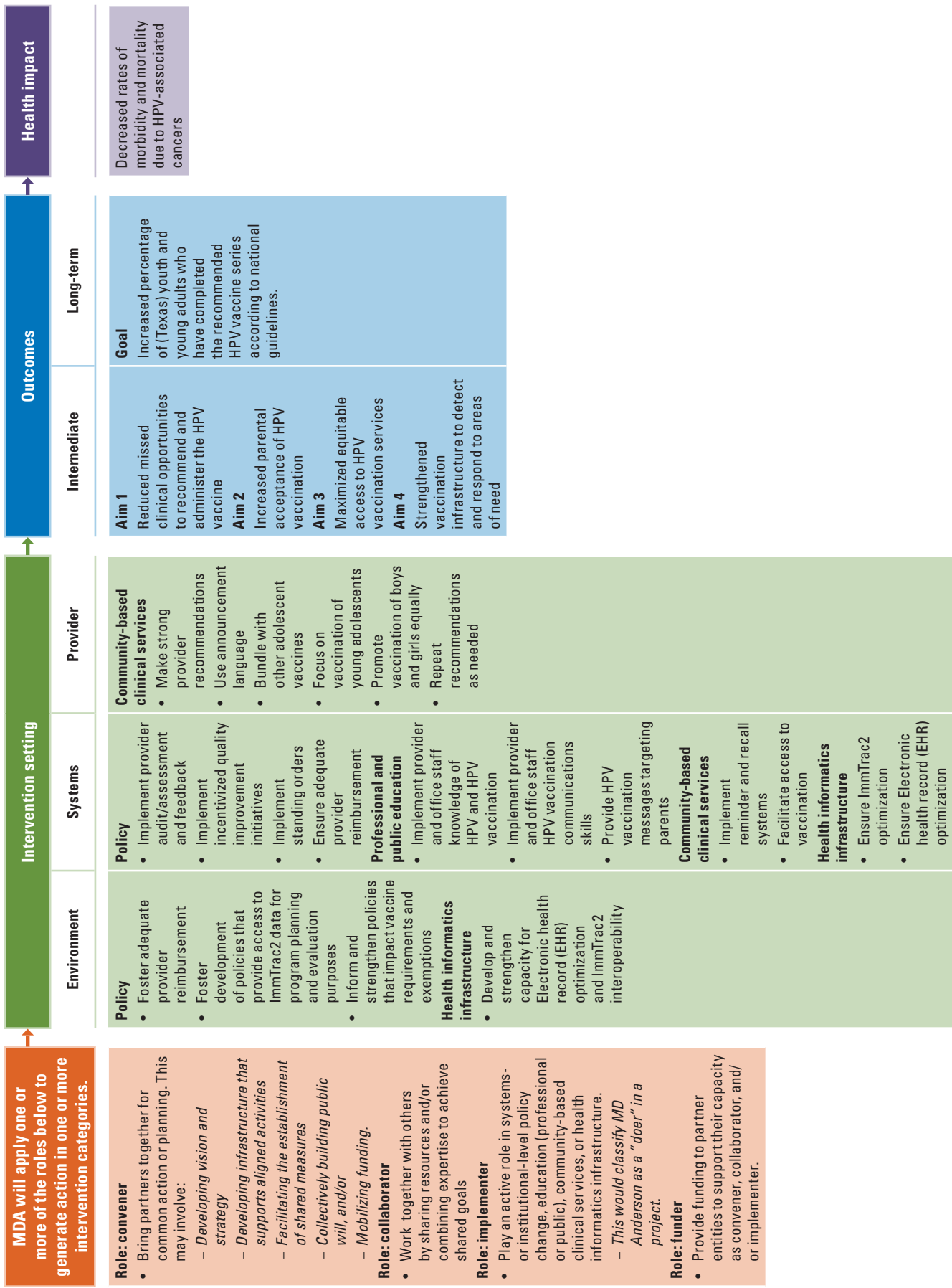
Through feedback in Phase III: Refine and share, the selected strategies from Phase II: Plan and prioritize were transformed into a matrix consisting of cancer prevention & control domains, selected intervention settings, aims and an overarching goal.



The following logic model further illustrates MD Anderson's anticipated roles within the Framework's intended pathways to change.



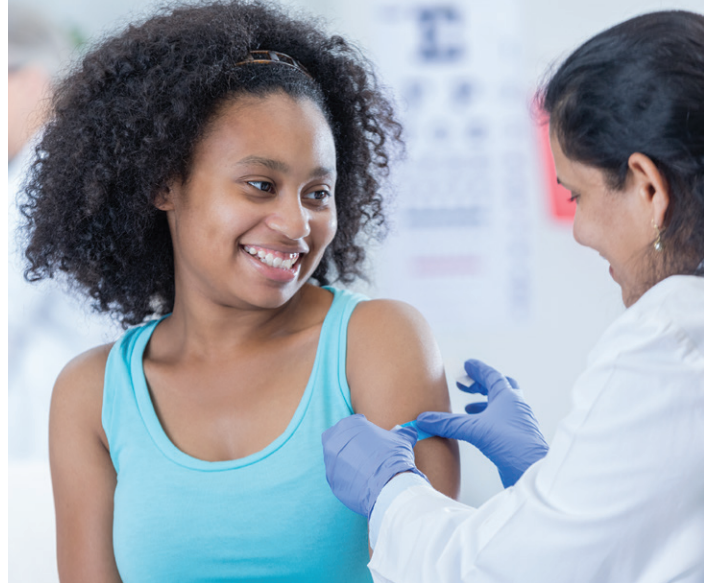
# Institutional framework to increase HPV vaccination in Texas logic model



## Framework: aims and interventions

### Aim 1: Reduce missed clinical opportunities to recommend and administer the HPV vaccine

“Yet, too many adolescents continue to leave their doctors’ offices without receiving the HPV vaccine, even when they have received other recommended vaccines.”<sup>7, 72-74</sup> One study of girls who had not received the HPV vaccine by 13 years of age found that 80 percent had had health care encounters during which another vaccine was administered.<sup>73</sup> If the HPV vaccine had been given at all of these visits, HPV vaccine initiation rates would have reached nearly 90 percent. The Panel Chair emphasizes strongly that provider – and systems-level changes hold the greatest potential for eliminating missed clinical opportunities, normalizing HPV vaccination, and ensuring that U.S. adolescents and future generations are optimally protected from HPV cancers.<sup>75”2</sup>



#### Setting: systems

Strategies implemented by health system or practice leadership

#### Policy

- Implement incentivized quality improvement initiatives
- Implement standing orders
- Implement provider audit/assessment and feedback

#### Professional and public education

- Increase provider and office staff knowledge of HPV and HPV vaccination
- Increase provider and office staff HPV vaccination communication skills

#### Community-based clinical services

- Implement reminder and recall systems
- Facilitate access to vaccination
- Health Informatics Infrastructure
- Ensure ImmTrac2 optimization
- Ensure electronic health record (EHR) optimization

#### Health informatics infrastructure

- Ensure ImmTrac2 optimization
- Ensure electronic health record (EHR) optimization

#### Setting: provider

Strategies implemented by providers and office staff

#### Community-based clinical services

- Stronger provider recommendation
  - Use announcement language
  - Bundle with other adolescent vaccines
  - Focus on vaccination of young adolescents
  - Promote vaccination of boys and girls equally
  - Repeat recommendations as needed

#### Setting: environment

Strategies implemented by immunization infrastructure

#### Health informatics infrastructure

- Develop and strengthen capacity for electronic health record (EHR) optimization and ImmTrac<sup>2</sup> interoperability

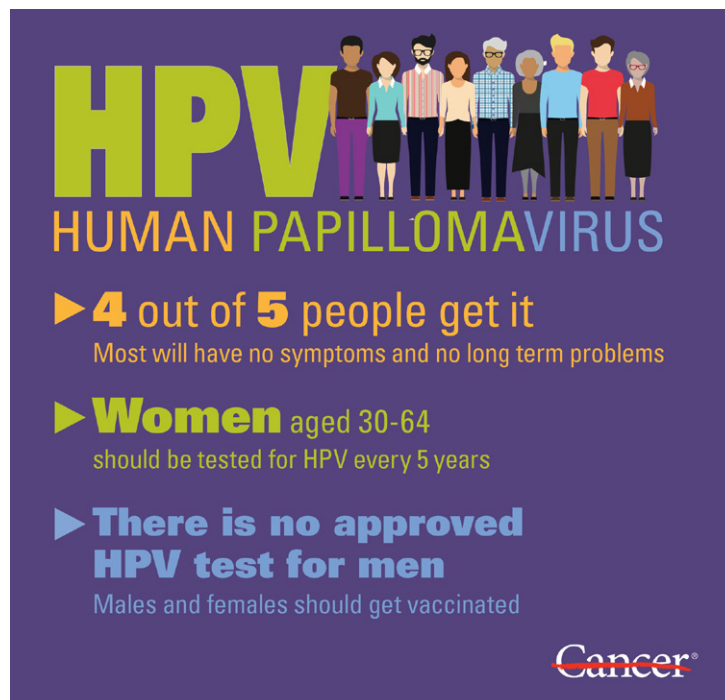
## Aim 2: Increase parental acceptance of HPV vaccination

“Campaigns should be built on current knowledge and use existing materials whenever possible. Use of multiple tools and modes of communication will reach as many parents as possible. ... While communication campaigns play an important role in multipronged approaches to increase HPV vaccination uptake, evidence suggests that interventions designed to influence parents’ knowledge, thoughts, and feelings are likely to only modestly affect vaccination rates and may be most effective when a vaccine is new.<sup>75, 103</sup> Ensuring that providers make a strong recommendations and address parents’ questions and concerns will likely be the most effective way to increase parents’ acceptance of HPV vaccination and boost vaccine uptake.”<sup>2</sup>

<p><b>Setting: systems</b> Strategies implemented by health system or practice leadership</p>
<p><b>Professional and public education</b></p> <ul style="list-style-type: none"> <li>• Provide HPV vaccination messages targeting parents</li> </ul>
<p><b>Community-based clinical services</b></p> <ul style="list-style-type: none"> <li>• Implement reminder and recall systems</li> </ul>

<p><b>Setting: provider</b> Strategies implemented by providers and office staff</p>
<p><b>Community-based clinical services</b></p> <ul style="list-style-type: none"> <li>• Stronger provider recommendation             <ul style="list-style-type: none"> <li>– Use announcement language</li> <li>– Bundle with other adolescent vaccines</li> <li>– Focus on vaccination of young adolescents</li> <li>– Promote vaccination of boys and girls equally</li> <li>– Repeat recommendations as needed</li> </ul> </li> </ul>

<p><b>Setting: environment</b> Strategies implemented by immunization infrastructure</p>
<p><b>Health informatics infrastructure</b></p> <ul style="list-style-type: none"> <li>• Develop and strengthen capacity for electronic health record (EHR) optimization and ImmTrac<sup>2</sup> interoperability</li> </ul>



**HPV**  
HUMAN PAPILLOMAVIRUS

- ▶ **4 out of 5** people get it  
Most will have no symptoms and no long term problems
- ▶ **Women** aged 30-64  
should be tested for HPV every 5 years
- ▶ **There is no approved HPV test for men**  
Males and females should get vaccinated

**Cancer**<sup>®</sup>

### **Aim 3: Maximize equitable access to HPV vaccination services**

“Ensuring that HPV vaccination is affordable and convenient for all U.S. adolescents will support optimal vaccine uptake. Access barriers likely play a role in low and uneven HPV vaccine uptake in the United States. These barriers – and approaches for addressing them – may differ across geographic regions, populations, and clinical settings.”<sup>2</sup> “Holding vaccination clinics with special hours (evenings and/or Saturdays) at your practice allows for more opportunities for busy families to access vaccination services.”<sup>6</sup>

“Offering and promoting HPV vaccination in schools, pharmacies, and other sites within the medical neighborhood may be particularly useful in rural areas, which have fewer primary care physicians per capita than urban areas and greater obstacles to access.”<sup>124</sup><sup>2</sup>

### **Aim 4: Strengthen the vaccination infrastructure to detect and respond to areas of need**

“It is critical to reliably identify patients due or overdue for vaccination and monitor vaccination rates. Tracking systems can be embedded within or integrated with electronic health records (EHRs). Integration with state immunization information systems (IIS) would enhance tracking capability.”<sup>2</sup>

## **Next steps**

During **Phase IV: Implement and evaluate**, faculty and staff will use the Framework and logic model to guide the development of the strategic actions into operational plans.

#### **Setting: systems**

Strategies implemented by health system or practice leadership

#### **Policy**

- Ensure adequate provider reimbursement

#### **Community-based clinical services**

- Facilitate access to vaccination

#### **Health informatics infrastructure**

- Ensure ImmTrac2 optimization

#### **Setting: environment**

Strategies implemented by immunization infrastructure

#### **Health informatics infrastructure**

- Develop and strengthen capacity for electronic health record (EHR) optimization and ImmTrac2 interoperability

#### **Setting: environment**

Strategies implemented by immunization infrastructure

#### **Health informatics infrastructure**

- Develop and strengthen capacity for electronic health record (EHR) optimization and ImmTrac2 interoperability

## References

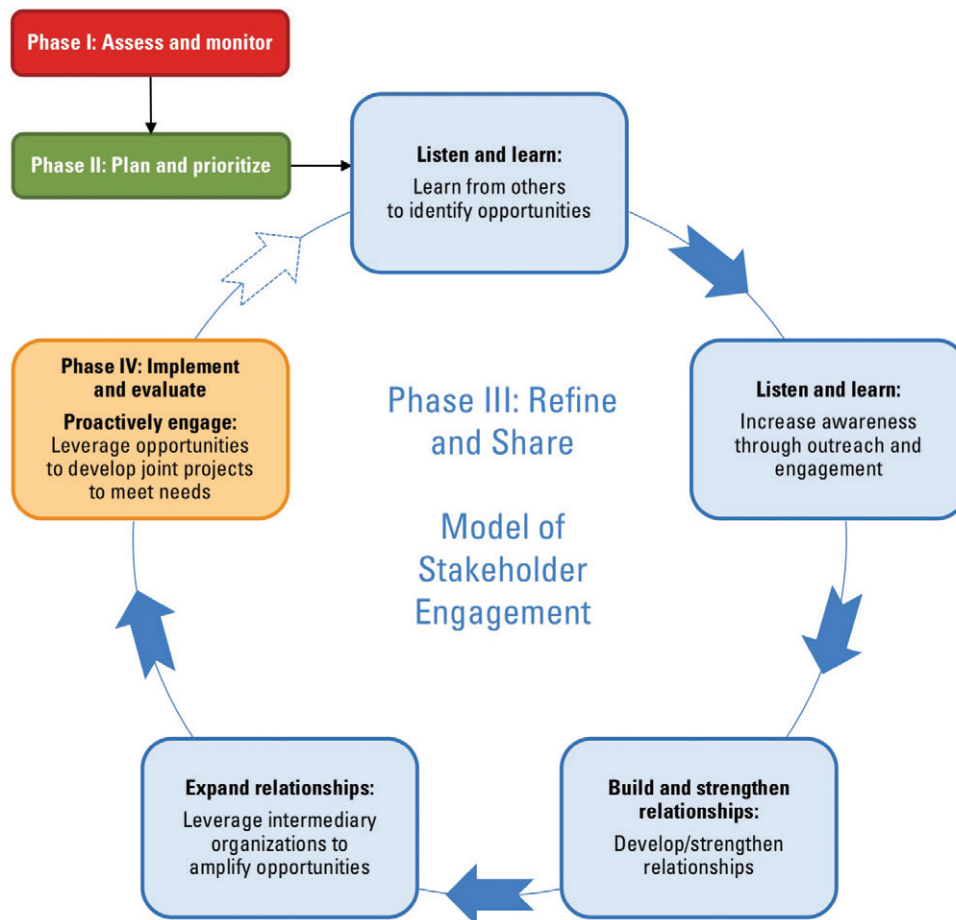
1. 2018 Texas Cancer Plan; A Statewide Call to Action for Cancer Research, Prevention and Control, 2018. Austin, Texas: Cancer Prevention and Research Institute of Texas
2. Accelerating HPV Vaccine Uptake: Urgency for Action to Prevent Cancer. A Report to the President of the United States from the President's Cancer Panel. Bethesda, MD: National Cancer Institute; 2014.
3. Centers for Disease Control and Prevention. CDC's Strategic Framework for Global Immunization, 2016-2020. Atlanta, GA: May 2016
4. HPV Vaccination for Cancer Prevention: Progress, Opportunities, and a Renewed Call to Action. A Report to the President of the United States from the Chair of the President's Cancer Panel. Bethesda (MD): President's Cancer Panel; 2018 Nov.
5. Global Routine Immunization Strategies and Practices (GRISP): a companion document to the Global Vaccine Action Plan (GVAP). Geneva, Switzerland: World Health Organization; 2016.
6. American Academy of Pediatrics, Practice Management for Immunization. [www.aap.org](http://www.aap.org). Accessed February 18, 2019.

# Appendix 1

## Appendix 1 – Phase III: Refine and share

In Phase III: Refine and share, MD Anderson engaged external stakeholders identified during Phase II: Plan and Prioritize. Gathering external stakeholder input ensures that MD Anderson’s actions to increase HPV vaccination rates in Texas are supportive and not duplicative. MD Anderson developed a model of engagement for this phase that was intended to be mindful of existing efforts and priorities of the external stakeholders. A series of core questions guided MD Anderson faculty and staff through the different stages of engagement: listen and learn, build and strengthen relationships, expand relationships and proactive engagement. These stages and the associated questions were socialized and enhanced during the third Control Advisory Panel meeting of Phase II: Plan and prioritize.

Stakeholder engagement matrices were developed in Phase II for use during Phase III. The matrices categorized external stakeholders by geographic level, sector, and associated selected strategic action. In Phase III, external stakeholders from these matrices were organized into three tiers indicating the preferred sequence of meetings.



MD Anderson would like to thank the following stakeholders that provided feedback and guidance in the development of the Framework. This list is up to date as of the publication date and indicates the number of staff per entity that participated in learning and feedback sessions. Stakeholder engagement is ongoing and will include additional entities.

- American Cancer Society (5)
- Baylor College of Medicine (3)
- City of Houston Health Department (2)
- Kelsey-Seybold Clinic (2)
- Robyn Correll Carlyle, MPH, CHWI, Public Health and Evaluation Consultant
- Texas Department of State Health Services (4)
  - Office of Science and Population Health
  - Chronic Disease
  - Immunization
- Texas Medical Association (2)
- Texas Pediatric Society (3)
- The Immunization Partnership (2)
- The University of Texas System, Population Health (3)
- UT Health, School of Public Health (5)
- UT Medical Branch, Galveston (2)
- UT Southwestern, Simmons Comprehensive Cancer Center (1)

## Acknowledgments

We are incredibly grateful to the large and diverse group of faculty and staff that provided input and advice to the Planning Core Team during Phase II: Plan and prioritize. This phase was one of three phases designed to develop a strategic framework for MD Anderson to increase HPV vaccination.

During Phase II, the following contributors agreed upon a set of proposed strategic actions. These actions are thought to be reflective of MD Anderson's role as a leading cancer institute in the state. The proposed actions are meant to inform future discussions with external stakeholders in Phase III: Refine and Share and should not be viewed as elements of a detailed program plan to increase in HPV vaccination rates in Texas.

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