

The HPV Vaccine

Planning Notes:

- 1) **Teams:** 3-5 students
- 2) **Length:** Approx. 3 class periods (45-75 minutes each)
- 3) **Resources:** Copies of student workbook & HPV Vaccine info sheet; Computers/Internet for research and paper writing

OVERVIEW:

Human papilloma virus (HPV) is a sexually transmitted disease that can cause cervical cancer. Scientists recently discovered a vaccine that prevents against some strains of HPV. Pediatricians now recommend that girls receive the vaccine prior to engaging in sexual activity. Many lawmakers, parents, and public health professionals want to make the vaccine mandatory. In this case study, you will first counsel a family of a young adolescent girl on the pros and cons of the vaccine. Then you will weigh in on the issue and provide evidence-based recommendations to influence public policy.

GOAL:

Write an evidence-based policy recommendation supporting or opposing a controversial public health law.

ROLE:

You will first act as a pediatrician. Then you will act as a public health policy think tank. Each team member will specialize in one of the following facets of expertise: 1) economic, 2) legal, 3) scientific, 4) epidemiological.

OBJECTIVE:

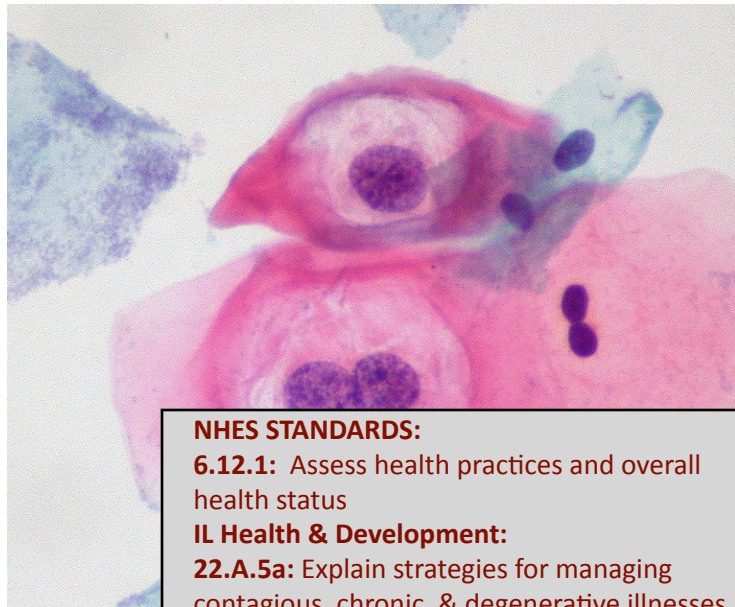
Obj. 11.9: Make an evidence-based policy recommendation.

DELIVERABLE:

Policy Recommendation Paper

ASSESSMENT:

Your policy paper will be evaluated on a rubric. The conclusion will be evaluated on the basis of the Claim-Evidence-Warrant framework.



NHES STANDARDS:

6.12.1: Assess health practices and overall health status

IL Health & Development:

22.A.5a: Explain strategies for managing contagious, chronic, & degenerative illnesses (e.g. various treatment & support systems)

Case Introduction:

Human papilloma virus (HPV) is a sexually transmitted disease that can cause genital warts and cervical cancer. Scientists recently discovered a vaccine that prevents against some strains of HPV. The HPV vaccination was approved by the FDA in 2006. Pediatricians now recommend that girls receive the vaccine in early adolescence, prior to engaging in any sexual activity. Some lawmakers, parents, and public health professionals want to make the vaccine mandatory. Others are opposed to a mandatory vaccination. In this case study, you will weigh in on the issue and provide evidence-based recommendations to influence public policy.

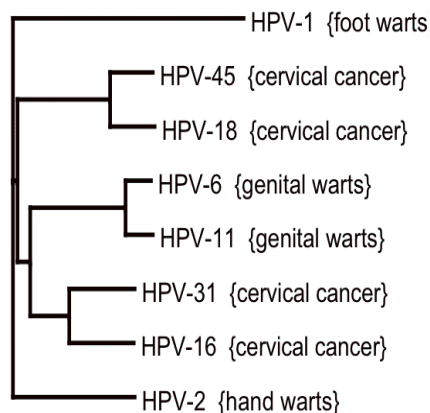
PART 1**Background:****Passage 1**

Viruses are made of two parts: genetic material (either DNA or RNA) and a protein coat to protect these genes. They can only replicate when they are inside the living cells of an organism. The human papillomavirus (HPV) includes 100 different strains, which infect the cells of the skin and mucus membranes. Thirty of the viruses are sexually transmitted. HPV is estimated to be the most common sexually transmitted infection in the United States. The American Social Health Association released the following statistics about HPV prevalence in Table 1. Different strains of HPV have been associated with various diseases which is seen in Figure 1.

Table 1: HPV infection prevalence by age

Age (years)	Prevalence (%)
14-19	24.5%
20-24	44.8%
25-29	27.4%
30-39	27.5%
40-49	25.2%
50-59	19.6%

- ✓ **Describe the trend seen in Table 1 between age and prevalence of HPV.**
- ✓ **What age group is most at risk of having an HPV infection?**

Figure 1

✓ **What disease is HPV-6 associated with?**

✓ **What disease is HPV-31 associated with?**

✓ **What strains of HPV do you think are the most dangerous? Why?**

Patient Introduction:

Jackie is a 13-year-old patient in your clinic. She has been treated in the past for an eating disorder and struggles with her weight. Jackie is overweight, but not obese. Jackie lives with her father and step-mother and two sisters, who are both younger. She enjoys art and creative pursuits, but does not participate in any athletics. Jackie reports that she does not smoke, use drugs, or engage in sex. She started menstruating at age 12 and her last menstrual period was 14 days ago. Jackie's stepmom is accompanying her to this routine annual physical for school. Her stepmom is concerned about a new relationship Jackie has had with a boy over the past few weeks. Jackie denies that they are "going out" but admits that he has become a good friend lately.

... the point of this case not to figure out what is wrong with the patient or make a specific diagnosis. Rather, the focus is PREVENTATIVE! The patient is coming in for a well-care visit (routine physical) and an important topic (the HPV vaccine) is discussed.

Nurse Notes:

When the nurse sees Jackie at the beginning of the visit, she records the following information:

- Heart rate: 78 beats per min
- Temperature: 99.1 degrees F
- Blood pressure: 110/70
- Height: 5'3"
- Weight: 153 lbs
- Last oral intake: plain toast and orange juice for breakfast
- Allergies: none
- Current medications: none

SOAP Note:

SOAP Note	
Subjective:	
Signs & Symptoms	<p>The SOAP note process is outlined in prior lessons in earlier modules in the sequence. Examples: SOAP Notes (Lesson 1.8), Vital Signs (Lesson 2.9), SAMPLE history (Lesson 4.8), Differential Diagnosis (Lesson 5.8) & the OPQRST portion of the subjective interview (Lesson 6.9), & the Plan (Lesson 7.9).</p>
Allergies	
Medications	
Past medical history	
Last oral intake	
Events leading to injury or illness	
Frequency	
Associated Symptoms	
Radiation	
Character	
Onset	
Location	
Duration	
Exacerbating Factors	
Relieving Factors	
Objective:	
Measurements	
Vital Signs	
Exam Results	
Lab Results	

Assessment:**Summary****Differential Diagnoses**

- 1.
- 2.
- 3.

Final Diagnosis*Claim:**Evidence:**Reasoning:***Plan:****Steps of Plan**

(Consider mental, social and physical health; short- and long-term needs, and follow-up care required)

Research:

As Jackie's primary care physician, there are many issues you should be focusing on and addressing with her. In this case study, you should focus on her sexual health. Specifically, you need to determine how you would counsel the patient and her stepmom in regards to the HPV vaccine. You should assume the patient has not yet received the vaccine and is unaware about it.

Gather information about the HPV vaccine by working together to find and share information as a team. Use the table below to organize your research plan.

Research Question	Owner/Source	New Information

Sample Script (Doctor-Patient Discussion):

In the space below, write a script of dialogue between the doctor and patient, revolving around the option of the vaccine for HPV prevention.

Use additional sheets of paper, if necessary.

If computers are available, have students go online and look up technical vocabulary that they find in the handout "CDC Vaccine Information Sheet"

PART 2

Your team works for a public health policy think tank. Each of you is a specialist in one of the following facets of expertise: 1) economic, 2) legal, 3) scientific, 4) epidemiological. Your state legislature will be voting on a measure to make the HPV vaccine mandatory for adolescents as a part of the required school vaccinations. Advocates for and against the measure are seeking your input. Form an evidence-based position and argue it through a policy recommendation paper.

Background:

Read the CDC Vaccine Information Sheet on the HPV vaccine. It will address the following:

An excellent HPV policy case study resource is "Sex and Vaccination" by Erik Zavrel and Clyde Freeman Herreid (University at Buffalo, State University of New York). It can be found at: <http://sciencecases.lib.buffalo.edu/cs/files/hpv.pdf>

- What is it?
- Why get it?
- Who should get it and when?
- Who should not get the vaccine or should wait.
- Risks from the vaccine
- What to do in rare case of severe reaction?

Policy Paper Requirements:

As a team, write a 2-4 page paper summarizing the issue and your evidence-based recommendations. Be sure to address the following in the paper:

- Overview of HPV and the HPV vaccine
- Clearly stated position (thesis)
- Specific evidence and rationale
- Factors influencing your position: 1) economic, 2) legal, 3) scientific, 4) epidemiological
- Pros and cons of making the vaccine mandatory

Rubric:

You will be evaluated based on the rubric below:

Obj. 11.9: Make an evidence-based policy recommendation.				
	Needs Improvement	Emerging Mastery	Partial Mastery	Mastery
QUALITY OF CONCLUSIONS (Follows C-E-R format)	Achieved 0 of 3 factors	Achieved 1 of 3 factors: 1) Clear and thorough Position (Claim/Thesis) 2) Accurate and aligned Evidence; 3) Logical & useful Warrant	Achieved 2 of 3 factors: 1) Clear and thorough Position (Claim/Thesis) 2) Accurate and aligned Evidence; 3) Logical & useful Warrant	Achieved 3 of 3 factors: 1) Clear and thorough Position (Claim/Thesis) 2) Accurate and aligned Evidence; 3) Logical & useful Warrant

Post-Case Wrap-up Questions:**Module 11 Learning Objectives:**

Obj 11.1: Describe how Americans access health care and identify groups that have difficulty accessing care.
Obj 11.2: Evaluate arguments to determine whether basic health care is a right, privilege, or responsibility
Obj 11.3: Calculate the cost of health care based on health insurance plan.
Obj 11.4: Describe how the Affordable Care Act addresses concerns of health care in the United States
Obj 11.5: Identify evidence that supports or refutes laws that impose public health regulations.
Obj 11.6: Identify health insurance policy components that lead to financial burden and 'underinsured' status.
Obj 11.7: Identify strengths and weaknesses of the U.S. healthcare system
Obj. 11.8: Identify similarities and differences between major health care system models

ANSWER THE FOLLOWING QUESTIONS ON A SEPARATE SHEET OF PAPER.

Obj. 11.1: Name one population group that might have difficulty obtaining the HPV vaccine and explain why.

Obj.11.2: Does the HPV vaccine mandate align most with the view that healthcare is a right, privilege or responsibility?

Obj.11.3: A patient comes into a clinic and requests the HPV vaccine (assume it is not mandatory). Do you think health insurance companies would pay for the entire thing? If not, what portion do you think the patient might be responsible for paying if the vaccine costed \$100.

Obj.11.4: Would the ACA make the HPV vaccine mandate more or less likely?

Obj.11.5: Explain one piece of evidence supporting the HPV vaccine mandate and one piece of evidence refuting it.

Obj.11.6: If a person is underinsured, what might happen to their likelihood to obtain appropriate immunizations?

Obj.11.7: Name one strength or weakness of the US healthcare system that would make universal HPV vaccine usage more or less likely.

Obj.11.8: Name another healthcare system and a country that uses it that you think would be likely to adopt a mandatory HPV vaccine policy. Explain why.