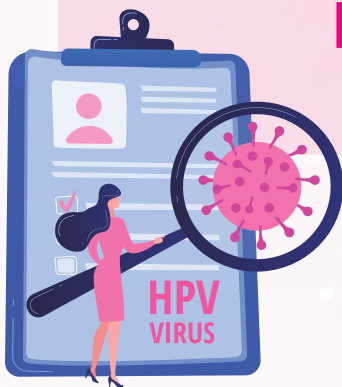


Senior Secondary Liberal Studies
Learning and Teaching Exemplar
for NCS students (2)

HPV Vaccination Programme in Hong Kong



HPV Vaccination Programme in Hong Kong

A. Basic information of the lessons

Topic HPV vaccination programme in Hong Kong

Relevant modules, themes and issues for enquiry

Module 5: Public Health



Theme 1: Understanding Public Health

- How is people's understanding of public health affected by the development of science and technology?
- In what ways is people's understanding of public health affected by health information, social expectations, personal values and beliefs in different cultures?

Theme 2: Science, technology and public health

- Can science and technology provide effective solutions in the prevention and control of diseases?
- In the area of public health, how is the development of science and technology affected by various factors, and what issues are triggered by this development?
- What challenges do different sectors of society, the government and international organizations have in maintaining and promoting public health?



Overall design rationale



This exemplar is designed to guide students to learn about different vaccination programmes in Hong Kong and how vaccination programme implemented by the government help to maintain and promote public health development in controlling disease infection. By using the HPV vaccination programme as an introduction, this exemplar aims at enabling students to understand the benefits and challenges brought by the development of medical technologies. This exemplar also guides students to comment on the factors that the government should take into considerations when allocating related public health resources, as well as the challenges it may potentially face, thereby strengthening students' insight into Hong Kong's medical policies.

Time required



2- 3 lessons (40 minutes per lesson), approximately 80 – 100 minutes in total



Learning objectives



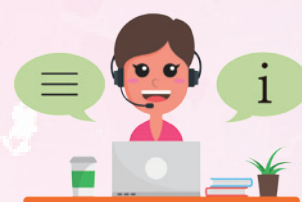
Knowledge:

- To learn the importance of vaccination as a means to maintain and promote public health.
- To learn about the factors and the challenges when allocating public health resources.
- To learn about the roles and points of interest for various stakeholders.



Skills:

- To develop interpretation and data processing skills
- To make conceptual observations based on the available data in exploring the issues
- To apply relevant knowledge and concepts in discussing contemporary issues
- To analyze issue from critical multiple perspectives and the skills of conceptualization and contextualization
- To respond immediately to queries
- To express ideas in speaking and writing



Values and attitudes:

- To identify the value orientations behind different opinions on individuals and social issues, to make judgements after considering them from multiple perspectives.
- To adopt an open mind and develop respect for evidence when handling with the opinions and values of others

Basic Concepts for application



Basic concepts:

Health, public health, health promotion, disease prevention, disease diagnosis and treatment, medical technology, health expenditure, infectious diseases



Other related concepts:

Collective responsibility, resource allocation, health education, medical burden, risk assessment, immunity, feasibility, affordability, equity, efficacy, safety, cost-effectiveness, necessity, voluntary, compulsory

Relevant learning experience at junior secondary levels



- Common diseases in Hong Kong, their causes and preventive measures
- Limited resources in meeting the needs of the whole community





- Guiding questions were set after each Source in the data file (Appendix 2). They are simple and basic questions which can be used for lesson preparation or in-class discussion. Students can be equipped with a basic understanding of the issue with reference to the guiding questions. It is expected that the less-abled learners can have a rough idea about the perspectives for the discussion follows.
- Audio-visual learning materials may enhance the motivation of students in learning. For those who cannot understand Cantonese, the video can be skipped since the sources in the data file may also provide relevant information for discussion.
- Discussion about cervical cancer and HPV vaccination unavoidably involves sex-related issue. This may create embarrassment among some NCS students due to their cultural background or religious concern.
- The following are some suggestions that teacher may consider when handling such cases: teachers can trim down the reference materials a bit so that the sex-related issue can be minimized or teacher can mention the issue casually and briefly. Teachers may consider pulling out the girls with conservative cultural background before the lesson and brief them about the sex-related elements in the coming lessons. If the girls do not feel comfortable about the lesson arrangement, teachers may seek permission from the school and let the girls stay in the library for self-study. Reference materials about the issue should be distributed to the students so that they can still learn the issue but in a different setting. Teachers may also inform the parents about the lessons beforehand and if the parents showed concern about having their children to attend the lessons, teachers may pull out the student from the class for a while.
- An extended reading passage is attached (Appendix 3). It is an article about the responses of the ethnic minorities in England towards HPV vaccination. It is expected the NCS students would develop an understanding about the relationship between ethnicity and public health issue. And it is hoped that they would feel less remote about the issue. Teachers can discuss the extended reading passage with students in the end of the lessons for consolidation of relevant concepts. Or teachers can discuss it with students before the writing task. Students may consider the experience of other countries when developing their stance and arguments about HPV vaccination programme.



B. Design of classroom learning and teaching

Lesson Learning and teaching strategies and flow

Before class

Lesson preparation

- ♥ Ask students to study the information about the government vaccination programmes posted on the website of the Centre for Health Protection and complete Appendix 1.

Website: http://www.chp.gov.hk/en/view_content/18870.html

1

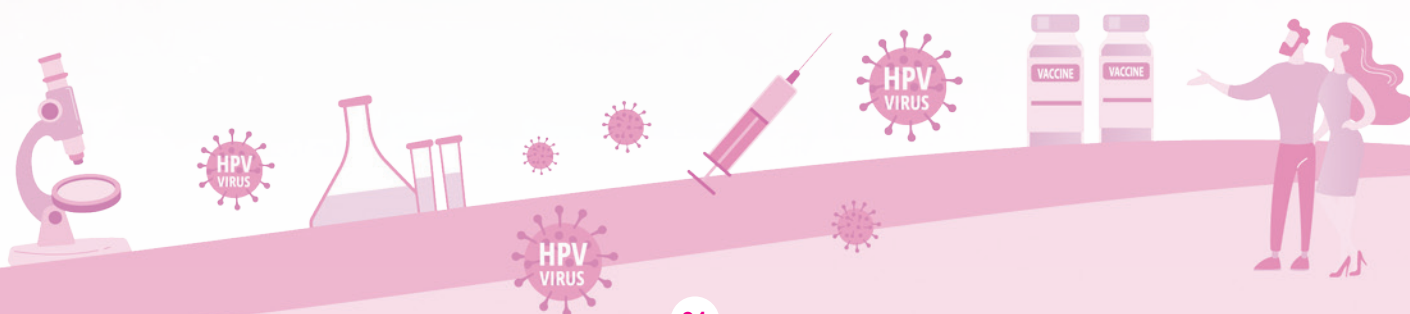
♥ Lead-in activity (around 15 minutes)

- Brainstorm on how to stay healthy and prevent disease infection such as flu e.g. more physical exercise, healthy diet, good quality sleep, body check, vaccination.
- Teachers may highlight the effectiveness of vaccination as a means to prevent disease infection.
- Teachers go over Appendix 1 with students and highlight the aim of the vaccination programmes and whether the vaccination programmes identified are free and/or compulsory. This relates to the issue of allocation of resources.



♥ Group discussion activity (around 25 minutes)

- Teachers introduce the topic for discussion “Should the Hong Kong government introduce a free and compulsory HPV vaccination programme to Hong Kong teenage girls in Hong Kong?”
- Guide students to read the sources shown in Appendix 2 and watch the video about the reasons for having HPV vaccination. Students are expected to identify the factors for and against the motion e.g. safety (Sources E and F), efficacy (Sources B, D, E and H), affordability/cost-effectiveness (Sources A and D), necessity/urgency (Sources C and E). Teachers and students can make use of Appendix 4 to organize their idea.



2



Report back session (around 30 minutes)

Students report back their findings. Teachers may help students to clarify and elaborate their answers with reference to the sources given. Emphasis should be put on supporting students to conceptualize the factors considered e.g. the factor of safety should be identified when discussing about the licensed HPV vaccine is proved safe after clinical tests.



Summary / Conclusion (10 minutes)

- Teachers conclude the factors considered by the government when formulating public health policy. For example, resource limitation, equity, necessity etc.
- In order to guide students to give specific answer addressing to the question words, teachers may guide students to complete Appendix 5. Students can reorganize their arguments with reference to the three focuses of the question i.e. free, compulsory and teenage girls.



3



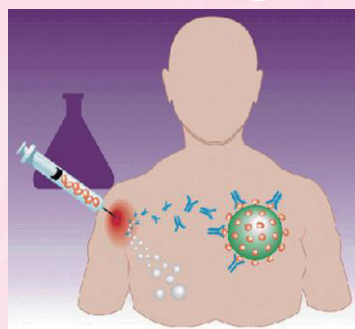
Post-lesson task (around 40 minutes)

- Teachers brief students about the writing task (Appendix 6). Students would write an essay on “Should the Hong Kong government introduce a free and compulsory HPV vaccination programme to Hong Kong teenage girls in Hong Kong?” with a view to consolidating their learning. Guidelines of essay writing are attached for less-abled students. Guided writing can also be arranged if necessary.



Appendix I: Pre-lesson Preparation Worksheet

Vaccination programmes in Hong Kong



Please study the website of the Centre for Health Protection (http://www.chp.gov.hk/en/view_content/18870.html) about vaccination programmes in Hong Kong and fill in the following information.

Vaccination programmes in Hong Kong

			Residential Care Home Vaccination Programme
--	--	--	---

Free / subsidized *	Free / subsidized*	Free / subsidized*	—
Aim:	Aim:	Aim:	—
Target:	Target:	Target:	—

* delete as appropriate



Appendix 2: Data File

SOURCE A

The following is a poster about Human papillomaviruses (HPV) vaccination. The vaccination is targeting cervical cancer (cancer of the neck of uterus).

Cancer Prevention, Smoking Awareness and Cervical Cancer & HPV Vaccination Campaign
癌症預防 · 吸煙與健康 · 子宮頸癌及HPV疫苗注射運動

Cervical Cancer & HPV Vaccination
子宮頸癌及HPV疫苗注射

1st dose 第一針

Venue 地點 : G/F, KK Leung Concourse
梁詠琚樓地下

Date 日期 : 24 - 27 / 11 / 2015 (Tue - Fri)

Time 時間 : 10 a.m. - 4 p.m.

2nd dose 第二針

Venue 地點 : Room 209 Meng Wah Complex
明華209室

Date 日期 : 26 - 28 / 1 / 2016 (Tue - Thu)

Time 時間 : 10 a.m. - 4 p.m.

3rd dose 第三針

Venue 地點 : Room 209 Meng Wah Complex
明華209室

Date 日期 : 23 - 25 / 5 / 2016 (Mon - Wed)

Time 時間 : 10 a.m. - 4 p.m.

Promotion 優惠價
\$750
per dose / 每針
For eligible UHS users only
只限享有
港大醫療福利人士

Detail information including HPV vaccine, please visit
詳細資料, 包括HPV疫苗, 請瀏覽:
<http://www.uhs.hku.hk>

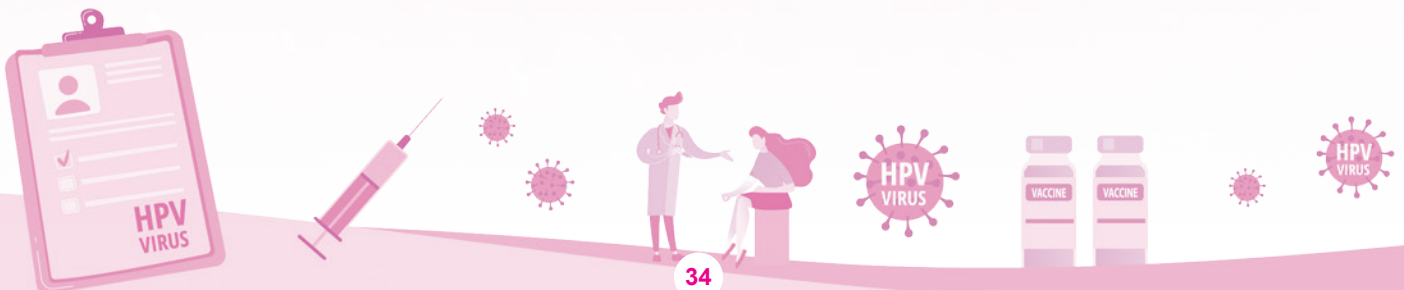
Source: University Health Service, HKU. (2015). *Cancer Prevention, Smoking Awareness and Cervical Cancer & HPV Vaccination Campaign*. Retrieved from www.uhs.hku.hk/he/leaflet2015-02.jpg

Question:

1. How many doses are needed for HPV vaccination?

2. What is the total amount of money needed to pay for the vaccination?

_____ doses X \$ _____ = \$ _____



SOURCE B

Vaccine scheme to start

September 23, 2016

The Community Care Fund* will launch the free cervical cancer vaccination pilot scheme on October 3 for girls from low-income families.

Community Care Fund Task Force Chairperson Law Chi-kwong said girls aged 9 to 18 who are recipients of Comprehensive Social Security Assistance or full School Textbook Assistance are eligible for the scheme.

The budget for the three-year pilot scheme is \$98.75 million, he said, adding it will benefit 31,000 people.

The Family Planning Association is responsible for implementing the scheme by providing the injection at its three Youth Health Care Centres in Wan Chai, Mong Kok and Kwai Fong.

* The Community Care Fund: provide assistance to people facing economic difficulties, in particular those who fall outside the social safety net or those within the safety net but have special circumstances that are not covered.
<https://www.communitycarefund.hk/en/>

Source: Information Services Department, HKSAR. (2016). *Vaccine scheme to start*. Retrieved from http://www.news.gov.hk/tc/categories/health/html/2016/09/20160923_153148.shtml?pickList=ticker

Question:

1. What are the characteristics of the existing cervical cancer vaccination programme?
Circle the appropriate answer.

Free / subsidized

For all girls / for selected girls (please specify)

SOURCE C

In Hong Kong, cervical cancer (cancer of the neck of uterus) is one of the leading female cancers, with 400-500 new cases every year. Cervical cancer has been the 8th commonest cancer among females in Hong Kong and accounted for 3.3% of all new cancer cases in females in 2014. Cervical cancer is the 8th leading cause of female cancer deaths in Hong Kong. In 2015, a total of 169 women died from this cancer, accounting for 2.8% of female cancer deaths.

Some of the risk factors of cervical cancer include sexual intercourse at an early age, smoking and weakened immunity. However, the most commonly neglected risk factor is failure to get a regular cervical cancer screening.



Cervical cancer can be prevented by reducing the HPV infection and the progression from persistent HPV infection to cervical cancer. Get HPV vaccination (cervical cancer vaccination) before having sexual experience could be a way.

Apart from the measures highlighted above, cervical cancer screening offers you additional protection.

Source: Centre for Health Protection. (2017). Cervical Cancer. Retrieved from <http://www.chp.gov.hk/en/content/9/25/56.html>

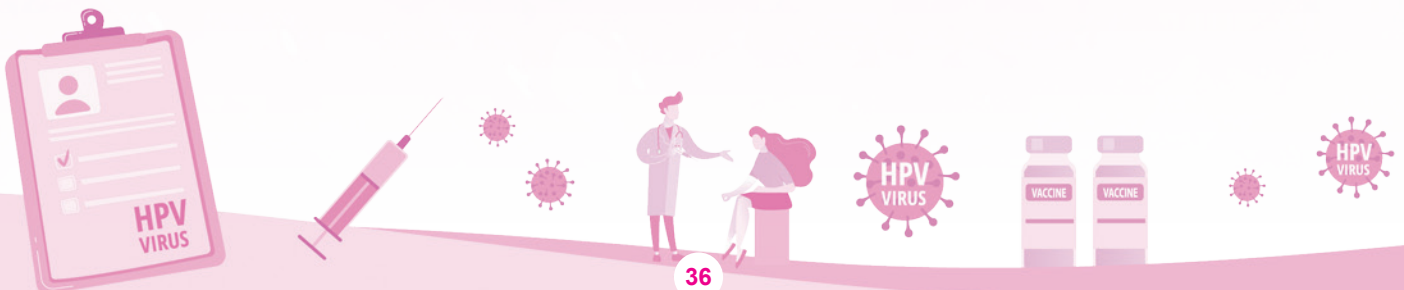
Question:

1. How prevalent (common) is cervical cancer in Hong Kong?

2. According to Source C, identify/ suggest 3 ways that could prevent cervical cancer.

SOURCE D

- More than 100 HPV genotypes are known today. Currently, 3 HPV vaccines (2-valent, 4-valent and 9-valent vaccines) have been registered in Hong Kong for the prevention of cervical cancer. All three vaccines could prevent infections from HPV-16 and 18, which account for about 70% of all cervical cancer worldwide. The 9-valent vaccine, in view of its efficacy against HPV-52 and 58, could potentially increase the protection of cervical cancer to around 90% in Hong Kong. However, the vaccines have no therapeutic effect on any existing HPV infections or diseases.
- Transmission of genital HPV infection is primarily through sexual contact with an infected person. The ideal age of vaccination, if administered, should be timed before the commencement of sexual debut.
- Current studies suggested that the vaccine offers at least 6 – 9 years of protection.



- HPV vaccines cannot offer a 100% full protection from cervical cancer. In this connection, regular cervical cancer screening remains an important public health strategy which should continue to be recommended to achieve a high population coverage. HPV vaccination does not replace the cervical cancer screening.

Source: Centre for Health Protection. (2016). Consensus Statement on the use of Human Papillomavirus (HPV) Vaccine in prevention of cervical cancer. Retrieved from http://www.chp.gov.hk/files/pdf/consensus_statement_on_the_use_of_hpv_vaccine_in_prevention_of_cervical_cancer.pdf

Question:

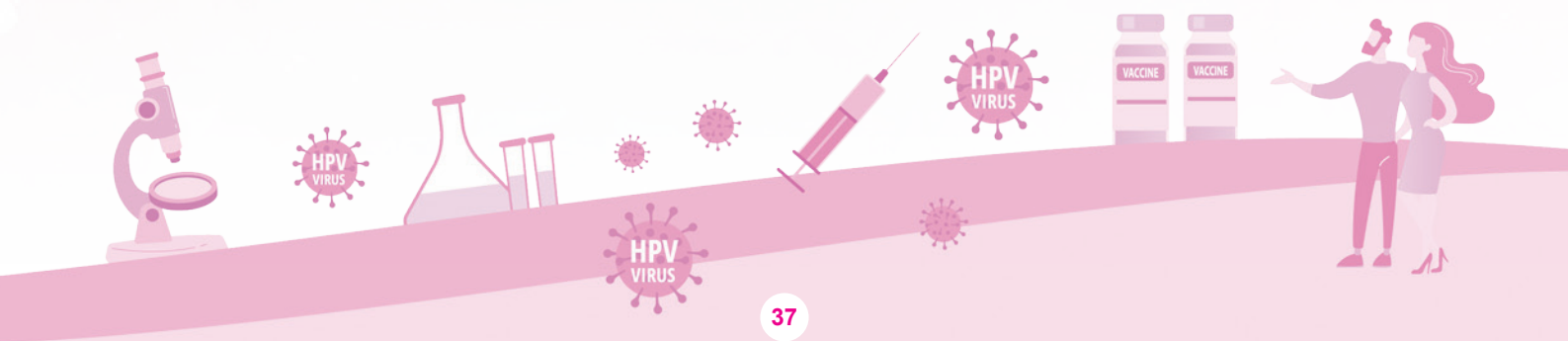
1. What is the optimal age/ time for the vaccination?

2. What is the percentage of cervical cancer that could likely be prevented by the vaccine?

3. Does the vaccine offer long-lasting protection? / How long would the protection offer by the vaccine last?

SOURCE E

- G.E.M. @ 「預防子宮頸癌」宣傳片 (in Chinese)
<https://www.youtube.com/watch?v=7Lz8LG7IyAE>
- 2013 預防 HPV 病毒 廣告 - 蔡卓妍、鄭伊健 (in Chinese)
<https://www.youtube.com/watch?v=ULmHH4qb-VA>
- HPV vaccine commercial 2016 (in English)
<https://www.youtube.com/watch?v=tTf2kecTj2s>



Dispute over HPV vaccinations

29 July 2016

In Japan, the dispute over reported side effects from cervical cancer vaccines has been taken to the courts as dozens of women and girls sued the government and pharmaceutical makers this week for damages over health problems they suffered after they were vaccinated.

While the human papillomavirus (HPV) vaccines continue to be widely used overseas as an effective defense against cervical cancer, the government stopped recommending the vaccination for schoolgirls in 2013 as allegations of side effects surfaced — and has since not reinstated the recommendation despite calls from medical organizations to do so.

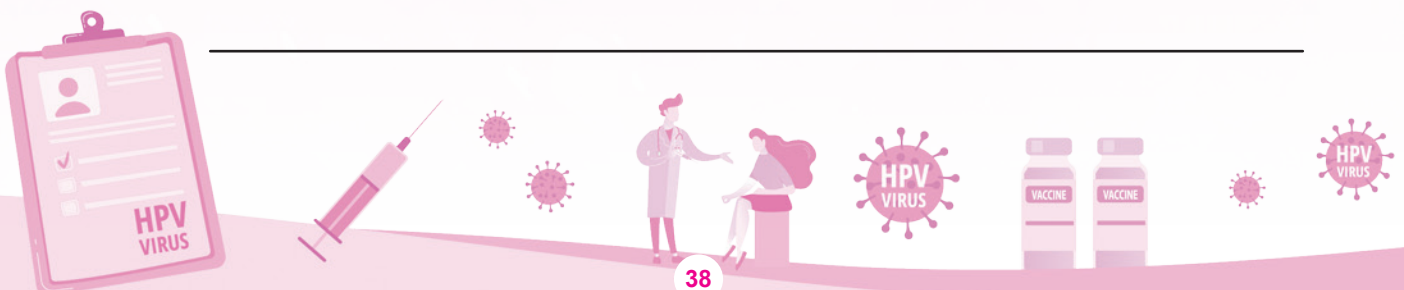
According to the Health, Labor and Welfare Ministry, 2,945 of some 3.39 million women and girls who received the vaccine shots by the end of this April — or 0.09% — complained of health problems ranging from headache, nausea and fatigue to loss of memory and numbness in their hands and legs. A September 2015 survey showed that at least 186 girls had not recovered from the symptoms — with the conditions of 135 of them so severe as to interfere in their daily lives, such as going to school or work.

The health ministry says the causal link between the vaccines and the reported health problems is unclear. Health authorities in other advanced nations say the safety of the HPV vaccines is not in doubt despite reports of side effects. The makers of the vaccines say their benefits in preventing cervical cancer have been proven and outweigh any risks. The World Health Organization, in a statement made by its advisory committee on vaccine safety in December, noted that as a result of the continuing suspension of the health ministry's recommendations for HPV vaccinations, young women in Japan “are being left vulnerable to HPV-related cancers that otherwise could be prevented” and warned that “policy decisions based on weak evidence, leading to lack of use of safe and effective vaccines, can result in real harm.”

Source: The Japan Times Online. (2016). *Dispute over HPV vaccinations*. Retrieved from <http://www.japantimes.co.jp/opinion/2016/07/29/editorials/dispute-over-hpv-vaccinations/#.WQr0EdKGPcs>

Question:

1. Identify and explain the public health risk shown in Source E.



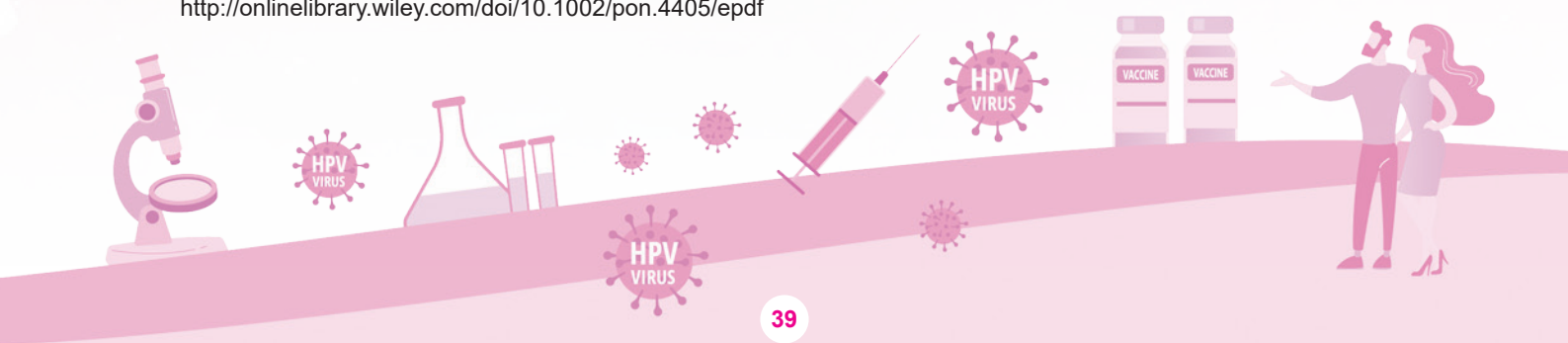
Appendix 3: Extended Reading

Vaccination against HPV is offered in England for girls in school year 8 (aged 12-13). In England, the uptake of human papillomavirus (HPV) vaccination to prevent HPV-related cancer is lower among girls from ethnic minority backgrounds.

The reasons that ethnic minority parents gave to explain why they had not vaccinated their daughters were summarized in the following table. They are related to the public health knowledge, acceptability and parenting style of the ethnic minority.

Factors	Extract of the interview scripts
Concerns about vaccine	The vaccination was perceived to be unsafe, painful and able to cause side-effects: <i>... the only thing that worries me is ... that we don't know the long-term effects ... that's the only worry I have (Bangladeshi)</i>
	Low perceived risk: the parents believed that their daughters were not at risk of contracting HPV: <i>I know what my daughter is like ... she goes to a girls' school, she doesn't hang out with boys ... She's not of a nature that I think she would naturally be very promiscuous at a young age ... (Asian)</i>
	Promotion of promiscuity: the parents concerned that HPV vaccination would encourage unsafe sexual practices: <i>... I really object to the adverts ... that say you can't stop your daughter from growing up, but you can ... reduce the risks of her getting cancer ... It's sending the wrong messages. It's claiming that, um, having sex is part of growing up. I don't believe it. (Indian)</i>
External and internal influence & information needs of parents	Some parents have limited knowledge about the vaccine: <i>I asked my friend ... she says, 'these are the side-effects. (Somali)</i> <i>I didn't know anything much ... Err, and still don't know anything about it.</i> <i>We couldn't possibly make an informed decision (Indian)</i>
Preventing HPV-related cancer using other ways other than vaccination	Some parents use methods to prevent illness that are based on idiosyncratic beliefs, including building immunity 'naturally' Some parents would prefer to use other ways other than vaccination to prevent cervical cancer e.g. safe sex, education and discussion <i>... as long as we lead a healthy lifestyle without any bad habits</i> <i>... I should be able to protect myself from any kind of illness (Bangladeshi)</i>

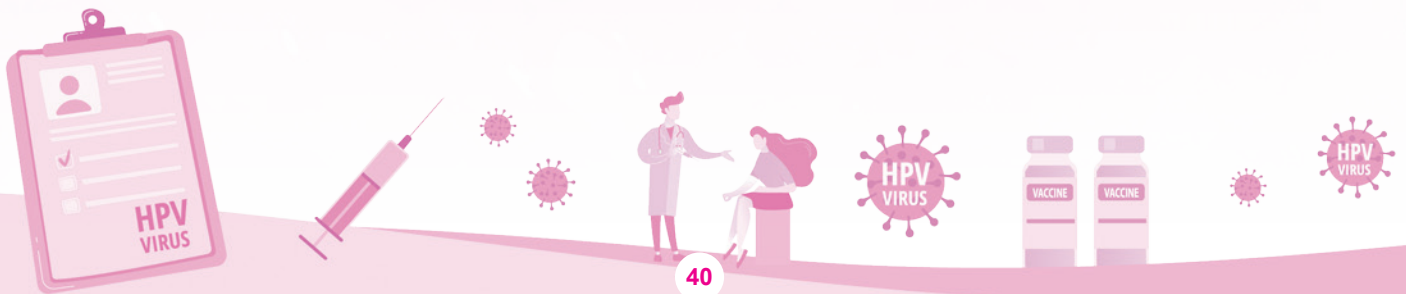
Source: Alice S. Forster. (2017). *Exploring human papillomavirus vaccination refusal among ethnic minorities in England: A comparative qualitative study*. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1002/pon.4405/epdf>



Appendix 4:

Should the government introduce free and compulsory HPV vaccination for adolescent girls in Hong Kong?

Factors considered / concerns	Source(s)	Explanation / elaboration



Appendix 5:

Should the government introduce free and compulsory HPV vaccination for adolescent girls in Hong Kong?

Keywords in the question	Relevant argument
Free	
Compulsory	
Adolescent girl	

Appendix 6:

Essay writing

Should the Hong Kong government introduce a free and compulsory HPV vaccination programme to Hong Kong teenage girls in Hong Kong? (8 marks)

Guidelines:

- Refer to Appendix 4 for arguments.
- You are expected to write 3 supportive arguments and 1 counter-argument with rebuttal.
- Structure of the essay:

1. 1st paragraph: show your stance

The government should / should not introduce a free and compulsory HPV vaccination programme to Hong Kong teenage girl in Hong Kong.

2. 2nd paragraph: explain your 1st supportive argument

Clear topic sentence + clue + explanation

Firstly, the government should introduce the vaccination programme because it is _____. According to Source _____, _____. It shows that _____. (you may repeat the above sentences with more supportive evidence)

e.g. Firstly, cost effective → Source A, the total amount is \$2400 for each girl → Source D, 70% of cervical cancer could be prevented by the vaccine → If a free vaccination



programme to be introduced → the government has to pay a large sum of money → but able to reduce cervical cancer cases → reduce medical expenses.

OR

The government should not introduce the vaccination programme because the vaccination is _____. According to Source _____, _____. It shows that _____. (you may repeat the above sentences with more supportive evidence)

e.g. Firstly, not cost-effective → Source A, the total amount is \$2400 for each girl → Source D, more than 200 cervical-cancer-related viruses and the vaccines cannot protect against infection by other high risk types of HPV → Source C, other ways to prevent cervical cancer is also effective → If a free vaccination programme to be introduced → the government has to pay a large sum of money annually → but able to tackle all cervical cancer cases → other ways can prevent it → not worth

3. 3rd paragraph: explain your 2nd supportive argument

Clear topic sentence + clue + explanation

Secondly, the government should introduce the vaccination programme because it is _____. According to Source _____, _____. It shows that _____. (you may repeat the above sentences with more supportive evidence)

4. 4th paragraph: explain your 3rd supportive argument

Clear topic sentence + clue + explanation

Thirdly, the government should introduce the vaccination programme because it is _____. According to Source _____, _____. It shows that _____. (you may repeat the above sentence with more supportive evidence)

OR

Thirdly, the government should not introduce the vaccination programme because the vaccination is _____. According to Source _____, _____. It shows that _____. (you may repeat the above sentence with more supportive evidence)

5. 5th paragraph: explain counter-argument with rebuttal

Clear topic sentence + clue + explanation

It is argued that..... According to Source _____, _____. However, the said statement is not valid due to the followings.

e.g. Safety → Source E, safe and many countries have such vaccination programme → Source F, not safe as women and girls who received the vaccine had health problems (give examples) → exceptional cases

6. 6th paragraph: conclusion

Summarize your arguments in few sentences.



This image shows a full page of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page, leaving small margins at the top and bottom. There is no handwriting or other markings on the paper.

Guidelines for Teachers

(P.34) Questions:

1. How many doses are needed for HPV vaccination?

ans.: 3

2. What is the total amount of money needed to pay for the vaccination?

ans.: 3 doses X \$750 = \$2250

(P.35) Questions:

1. What are the characteristics of the existing cervical cancer vaccination programme?
Circle the appropriate answer.

ans.: (Free) / subsidized

For all girls / (for selected girls) (please specify)

(P.36) Questions:

1. How prevalent (common) is cervical cancer in Hong Kong?

ans.: 400-500 new cases every year / the 8th commonest cancer among females/ 3.3% of all new cancer cases/ the 8th leading cause of female cancer deaths in Hong Kong

2. According to Source C, identify/ suggest 3 ways that could prevent cervical cancer.

ans.: HPV vaccination before sexual experience/ cervical cancer screenign / quit smoking / strengthen immunity

(P.37) Questions:

1. What is the optimal age/ time for the vaccination?

ans.: Teenager (women who have not started sexual activities)

2. What is the percentage of cervical cancer that could likely be prevented by the vaccine?

ans.: 70%

3. Does the vaccine offer long-lasting protection? / How long would the protection offer by the vaccine last?

ans.: No. The vaccine offers 4.5 – 5 years of protection

(P.38) Questions:

1. Identify and explain the public health risk shown in Source E.

ans.: Women and girls who received the vaccine had health problems such as headache, nausea and fatigue to loss of memory and numbness in the hands and legs. This may create medical burden as they have to seek medical services.



(P.40) Appendix 4:

Should the government introduce free and compulsory HPV vaccination for adolescent girls in Hong Kong?

Factors considered /concerns	Source(s)	Explanation / elaboration
Safety (Hint: Is it safe to have the vaccination?)	E, F	- Health risk / health problem after vaccination
Efficacy (Hint: Can cervical cancer be 100% prevented?)	B, D, E, H	- Cervical cancer can be / cannot be prevented
Affordability / costeffectiveness (Hint: Is it worth for the government to introduce such programme? / Would the vaccination programme impose economic burden to the government?)	A, D	- Medical expenditure / medical burden
Necessity / urgency (Hint: How serious is cervical cancer in Hong Kong?)	C, E	<ul style="list-style-type: none">- it is necessary to make it free and compulsory as there is an increasing number of people having cervical cancer- it is not necessary to introduce the programme as the cervical cancer is only the 8th commonest cancer in Hong Kong

(P.41) Appendix 5:

Should the government introduce free and compulsory HPV vaccination for adolescent girls in Hong Kong?

Keywords in the question	Relevant argument
Free	e.g. cost-effectiveness e.g. affordability
Compulsory	e.g. safety e.g. necessity e.g. feasibility e.g. personal rights of making choice over their health issue
Adolescent girl	e.g. efficacy e.g. equity

