



# **POLICY BRIEF**

## **Restart the HPV Vaccination Programme**

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# Status of HPV Vaccination in Malaysian Schools

## Background

Cervical cancer is the third most common cancer in women in Malaysia (1), and is mainly caused by the human papillomavirus (HPV) (1). There are many types of HPV, with HPV 16 and HPV 18 causing the majority of cervical cancer cases (1). Once infected with HPV, individuals will develop a pre-cancerous lesion called Cervical Intraepithelial Neoplasia (CIN), which subsequently develop into cervical cancer (2).

HPV vaccines, by preventing HPV infections, protect individuals against 90% of HPV-related cancers (3). The vaccines are thus the main preventative measure against CIN and cervical cancer (2), with The World Health Organization (WHO) aiming to achieve a global vaccination rate of 90% by 2030.

Three types of HPV vaccines are being used in Malaysia: a bivalent that protects against HPV 16 and 18; a quadrivalent that protects against HPV 6, 11, 16, and 18; and a 9-valent that protects against HPV 6, 11, 16, 18, 31, 33, 45, 52, and 58 (3).

The recommended dosage differs according to age: individuals vaccinated before age 15 will require two doses, while individuals vaccinated after age 15 will require three doses (4).

Since 2010, the Malaysian Government has implemented a national school-based HPV immunisation programme (5), where a two-dose regimen is given six months apart (6). The vaccine is provided free of charge to 13-year-old teenage girls in Malaysian secondary schools (7). From 2010 to 2016, the Ministry of Health reports that 85.8% of this cohort – about 250,000 individuals per year – have been vaccinated (8).

## The issue

Since 2020, most countries have struggled to cope with political, social, and economical effects of the Covid-19 pandemic (10). As the focus shifted to acute communicable diseases, many other areas in the health system were also affected, including preventive health vaccination programmes in schools (8).

As schools in Malaysia were closed in 2020 and 2021 due to the pandemic, the HPV vaccination programme could not be carried out (8). Based on the HPV vaccination rate in previous years, at least 176,944 and 186,593 teenage girls in Malaysian secondary schools would have missed their HPV vaccinations in year 2020 and 2021 respectively (8). Using similar predictive values, around 200,000 individuals in this cohort would have missed out their vaccinations in 2022.

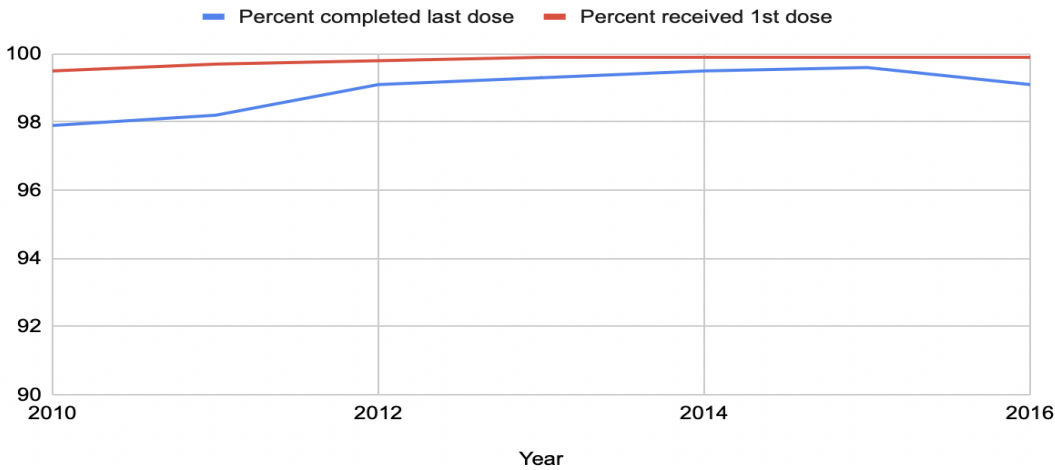
In total, the disruption caused by Covid-19 would have led to 560,000 teenage girls in Malaysian secondary schools missing out on their HPV vaccinations.

## Why does this matter?

HPV vaccines are crucial in protecting individuals against Cervical Intraepithelial Neoplasia (CIN) and HPV related cancers. In the United States of America, the disrupted vaccination programme is expected to cause an additional 132,000 cases of CIN over the next 50 years, and up to 6,487 more cases of cervical cancer over the next century (12).

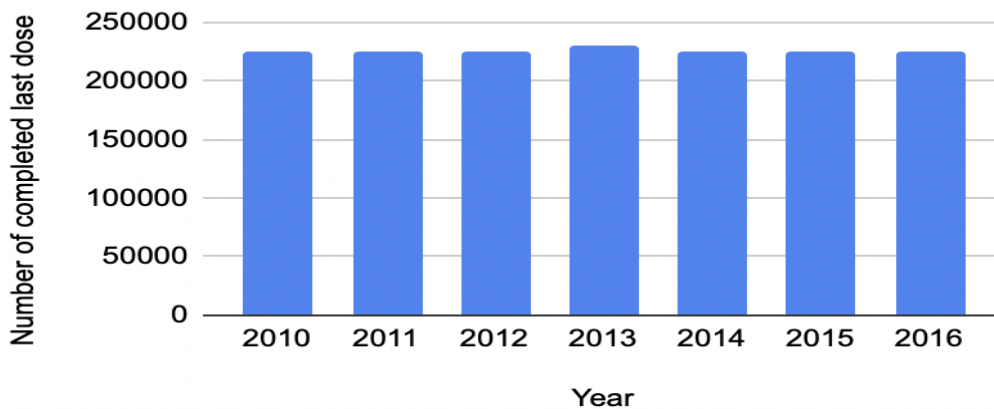
A similar situation is expected of Malaysia – the delay or lack of HPV vaccination puts the teenage girls at risk of developing CIN or cervical cancer.

# Figures



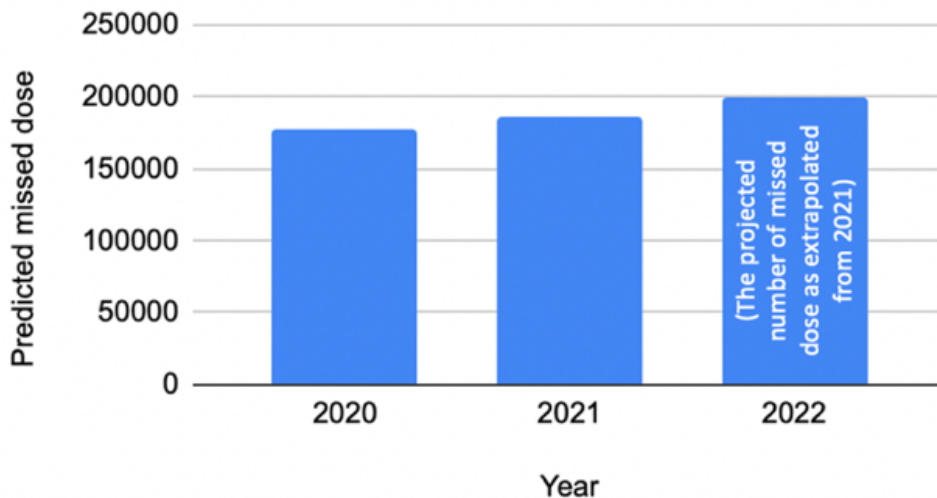
From 2010 to 2016, more than 95% of 13-year-old teenage girls in Malaysian secondary schools had completed their 2-dose HPV vaccinations.

Figure 1. Percentage of 13-year-old teenage girls in Malaysian secondary schools who received two doses of HPV vaccines from 2010 to 2016 (7).



Under the national school-based HPV immunization programme, more than 200,000 doses were administered each year between 2010 and 2016.

Figure 2. Percentage of 13-year-old teenage girls in Malaysian secondary schools who received two doses of HPV vaccines from 2010 to 2016 (7).



Estimated numbers of **13-year-old teenage girls in Malaysian secondary schools who would have missed their dose in 2020, 2021 and 2022** due to the cessation of the national HPV vaccination programme: at least 176,944, 186,593, and (predicted to be) 200,000 respectively, amounting to **at least 560,000**.

Figure 3. Estimated number of 13-year-old teenage girls in Malaysian secondary school who would have missed their HPV vaccines from 2020 to 2022 (8).

# Validation research

To validate the findings and estimations of the data from above, a ground-level survey was carried out to determine:

## **Between 2020 and 2022, was the national HPV vaccination programme for 13-year-old teenage girls in Malaysian secondary schools conducted in all states?**

The survey was carried out among all districts in every state in Malaysia. Secondary schools were sampled and asked whether HPV vaccination had been carried out between years 2020 and 2022. The methodology for the survey is outlined below.

### **Methodology**

1. All districts in Malaysia were identified using the dynamic mapping retrieved from the Department of Statistics Malaysia official website. (<https://bit.ly/DOSMmap>) (13)
2. From each district, one secondary school was randomly selected using the Ministry of Education official website. (<https://www.moe.gov.my/en/muat-turun/laporan-dan-statistik/senarai-sekolah>) (14)
  - a. Method of selection: Random sampling.
  - b. If the school was not reachable or compliant, another school from the same district was selected randomly.
  - c. If no school from the entire district was contactable, then that particular district was categorised as Not-Available.
3. Teachers in charge of the vaccination programme – Senior Assistants in charge of student affairs or school counsellors – were asked the following questions:
  - a. The 3 questions were:
    - i. In 2020, did this school successfully carry out the HPV vaccination programme for 13-year-old teenage girls enrolled in the school?
    - ii. In 2021, did this school successfully carry out the HPV vaccination programme for 13-year-old teenage girls enrolled in the school?
    - iii. In 2022, did this school successfully carry out the HPV vaccination programme for 13-year-old teenage girls enrolled in the school?
4. Based on the input of the respondents, data was collected and compiled for analysis.

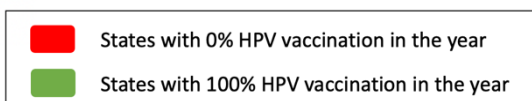
# Findings

Overall, most states did not report comprehensively conducting any HPV vaccination programmes from 2020 to 2022.

- The districts we surveyed in Perlis, the Federal Territory of Putrajaya, and the Federal Territory of Labuan **did not report conducting any HPV vaccination programmes from 2020 to 2022.**
- The districts surveyed in Melaka reported conducting the programme in 2020, **but not in 2021 and 2022.**
- The districts surveyed in Kedah, Perak, Penang, Johor, Selangor, Negeri Sembilan, Pahang, Terengganu, Kelantan, Sabah, Sarawak and the Federal Territory of Kuala Lumpur did not report conducting the HPV vaccination programmes **fully from 2020 to 2022.**

States (N=16) Total states surveyed=13+3 Federal Territories	Total number of districts/zones in each state	Districts (N=162) Total number of districts/zones surveyed in each state	Percentage of districts/zones in each state reporting successful HPV vaccination programmes		
			2020	2021	2022
Kedah	12	12	8.30%	0%	0%
Penang	5	5	60%	40%	0%
Perak	13	13	15.40%	15.40%	7.70%
Perlis	1	1	0%	0%	0%
Selangor	9	9	33.30%	33.30%	33.30%
Negeri Sembilan	7	7	28.60%	14.30%	14.30%
Melaka	3	3	100%	33.30%	33.30%
Pahang	11	11	63.60%	27.30%	36.40%
Johor	10	10	50%	20%	0%
Terengganu	8	8	25%	12.50%	25%
Kelantan	11	11	27.30%	16.70%	18.20%
Sarawak	40	40	30%	27.50%	12.50%
Sabah	27	27	55.60%	22.20%	14.80%
Federal Territory of Kuala Lumpur	3	3	0%	33.3%	0%
Federal Territory of Putrajaya	1	1	0%	0%	0%
Federal Territory of Labuan	1	1	0%	0%	0%

Figure 4. Percentage of districts surveyed among all states in Malaysia reporting successful HPV vaccination programmes from 2020 to 2022.



# Findings

**Percentage of Malaysian Districts Reporting HPV Vaccinations in 2020**

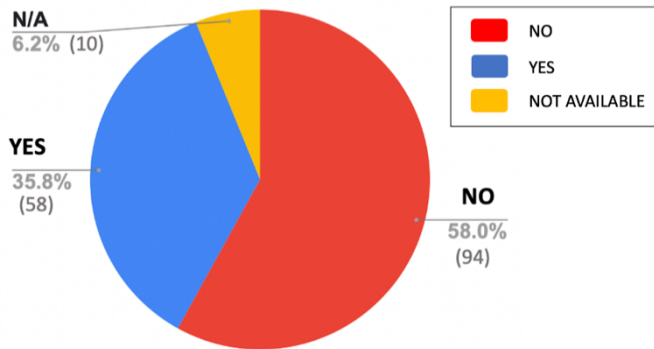


Figure 5. Percentage of Malaysian districts reporting HPV vaccinations in 2020.

- 58.0% of Malaysian districts did not have a successful HPV vaccination programme in 2020.
- 35.8% of Malaysian districts did have a successful HPV vaccination programme in 2020.
- 6.2% of Malaysian districts did not have any available data in 2020.

**Percentage of Malaysian Districts Reporting HPV Vaccinations in 2021**

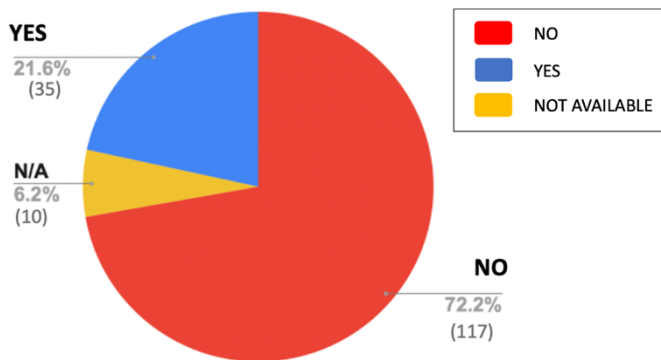


Figure 6. Percentage of Malaysian districts reporting HPV vaccinations in 2021.

- 72.2% of Malaysian districts did not have a successful HPV vaccination programme in 2021.
- 21.6% of Malaysian districts did have a successful HPV vaccination programme in 2021.
- 6.2% of Malaysian districts did not have any available data in 2021.

**Percentage of Malaysian Districts Reporting HPV Vaccinations in 2022**

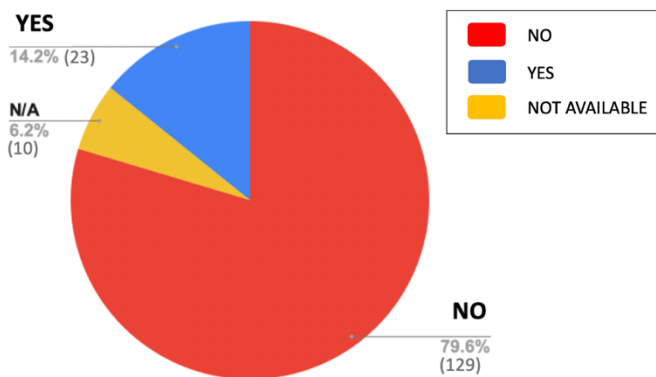


Figure 7. Percentage of Malaysian districts reporting HPV vaccinations in 2022.

- 79.6% of Malaysian districts did not have a successful HPV vaccination programme in 2021.
- 14.2% of Malaysian districts did have a successful HPV vaccination programme in 2021.
- 6.2% of Malaysian districts did not have any available data in 2021.



# Call To Action for the Malaysian Government

## **(1) Restart the nationwide HPV vaccination programme in 2023**

We urgently request the government to restart HPV vaccinations for 13-year-old teenage girls in Malaysian secondary schools.

This is because the delays will lead to two immediate problems: first, more women could be at a higher risk of developing pre-cancerous lesions or cervical cancer.

Second, much higher costs will be required to vaccinate these individuals at a later age when they grow older, as three doses – rather than two – will be required for a complete HPV vaccination (4). This will cause an additional increase in costs to the government.

## **(2) Implement a catch-up vaccination programme in 2023 for those who have missed their HPV vaccination**

We strongly urge the government to implement a catch-up vaccination programme for those who have missed their vaccinations in 2020 to 2022.

A catch-up vaccination programme has been carried out previously, namely the MyHPV programme by LPPKN in 2019. This program gave free HPV vaccines to single or unmarried Malaysian women born between 1992 and 1996 (15).

The costs for this vaccination programme should be allocated as part of the Covid-19 recovery efforts under the 2023 Budget which is already being planned for.

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# Appendix: Results of the Validation Survey

State (N=16)	District (N=162)	HPV Vaccinations		
		2020	2021	2022
Kedah	Kuala Muda District	N*	N	N
	Kulim District	N	N	N
	Kota Setar District	N	N	N
	Kubang Pasu District	N	N	N
	Langkawi	Y**	N	N
	Yan District	N	N	N
	Pendang District	N	N	N
	Baling	N	N	N
	Bandar Baharu	N/A***	N/A	N/A
	Padang Terap	N/A	N/A	N/A
	Pokok Sena	N	N	N
	Sik	N/A	N/A	N/A
Penang	Northeast Penang Island	Y	N	N
	Southwest Penang Island	Y	Y	N
	Central Seberang Perai	N	N	N
	South Seberang Perai	Y	Y	N
	North Seberang Perai	N	N	N
Perak	Hilir Perak	N	N	N
	Hulu Perak	Y	Y	N
	Kinta	N	N	N
	Larut dan Matang	N	N	N
	Manjung	N	N	N
	Perak Tengah	Y	Y	Y
	Bagan Datuk	N	N	N
	Kampar	N	N	N
	Kuala Kangsar	N	N	N
	Kerian	N	N	N
	Selama	N	N	N
	Mualim	N	N	N
	Batang Padang	N	N	N

State (N=16)	District (N=162)	HPV Vaccinations			
		2020	2021	2022	
Perlis	Kangar	N	N	N	
Selangor	Gombak	N	N	N	
	Hulu Langat	N	N	N	
	Hulu Selangor	N	N	N	
	Klang	Y	Y	N	
	Kuala Langat	Y	Y	Y	
	Kuala Selangor	N	N	N	
	Petaling	N	N	Y	
	Sabak Bernam	Y	Y	Y	
	Selangor	N	N	N	
	Negeri Sembilan	Jelebu	Y	N	N
		Jempol	N	N	N
Kuala Pilah		N		N	
Port Dickson		Y	Y	Y	
Rembau		N	N	N	
Seremban		N	N	N	
Melaka	Tampin	N	N	N	
	Melaka Tengah	Y	N	N	
	Alor Gajah	Y	Y	Y	
Pahang	Jasin	Y	N	N	
	Bentong	Y	N	N	
	Bera	Y	N	N	
	Cameron Highlands	Y	Y	Y	
	Jerantut	N	N	N	
	Kuantan	Y	N	N	
	Lipis	N	N	N	
	Maran	N	N	N	
	Pekan	Y	N	Y	
	Raub	Y	Y	Y	
	Rompin	Y	Y	Y	
	Temerloh	N	N	N	

State (N=16)	District (N=162)	HPV Vaccinations		
		2020	2021	2022
Johor	Batu Pahat	Y	Y	N
	Johor Bahru	N	N	N
	Kluang	Y	N	N
	Kota Tinggi	N	N	N
	Kulai	N	N	N
	Mersing	Y	Y	N
	Muar	Y	N	N
	Pontian	N	N	N
	Segamat	Y	N	N
	Tangkak	N	N	N
Terengganu	Besut	N/A	N/A	N/A
	Dungun	N	N	N
	Hulu Terengganu	Y	Y	Y
	Kemaman	N	N	Y
	Kuala Nerus	N	N	N
	Kuala Terengganu	Y	N	N
	Marang	N	N	N
	Setiu	N	N	N
	Kelantan	Bachok	Y	N
Gua Musang		N	Y	N
Jeli		N	N	N
Kota Bharu		N	N	N
Kuala Krai		N	N	N
Machang		N	N	N
Pasir Mas		N	N	N
Pasir Puteh		Y	Y	Y
Tanah Merah		N	N	Y
Tumpat		Y	N	N
Kecil Lojing		N	N	N
Sarawak	Asajaya	N/A	N/A	N/A
	Bau	N	N	N
	Belaga	N/A	N/A	N/A
	Beluru	N	N	N
	Betong	Y	N	N

State (N=16)	District (N=162)	HPV Vaccinations		
		2020	2021	2022
Sarawak	Bintulu	Y	Y	N
	Bukit Mabong	Y	Y	N
	Dalat	Y	Y	N
	Daro	N	Y	N
	Julau	Y	N	N
	Kabong	N	N	N
	Kanowit	N	N	N
	Kapit	Y	Y	N
	Kuching	Y	Y	N
	Lawas	N	N	N
	Limbang	N	N	N
	Lubok Antu	N	N	N
	Lundu	N/A	N/A	N/A
	Marudi	Y	Y	Y
	Matu	N	Y	N
	Maradong	N/A	N/A	N/A
	Miri	N	Y	Y
	Mukah	N	N	N
	Pakan	N	N	N
	Pusa	Y	N	N
	Samarahan	N	N	N
	Saratok	N	N	N
	Sarikei	N	N	N
	Sebauh	N	N	N
	Selangau	Y	Y	Y
	Serian	N	N	N
	Sibu	N	N	N
	Simunjan	N	N	N
	Song	N	N	N
	Sri Aman	Y	N	N
	Subis	Y	Y	Y
	Tanjung Manis	N	N	N
Tatau	N	N	N	
Tebedu	N	N	N	
Telang Usan	N	N	Y	

State (N=16)	District (N=162)	HPV Vaccinations		
		2020	2021	2022
Sabah	Beaufort	Y	Y	N
	Beluran	Y	N	N
	Kalabakan	Y	N	N
	Keningau	N	N	N
	Kinabatangan	N	N	N
	Kota Belud	N	N	N
	Kota Kinabalu	N	N	Y
	Kota Marudu	Y	Y	Y
	Kuala Penyu	Y	Y	N
	Kudat	N	N	Y
	Kunak	Y	N	N
	Lahad Datu	N	N	N
	Nabawan	Y	Y	Y
	Papar	Y	Y	N
	Penampang	Y	N	N
	Putatan	Y	N	N
	Pitas	Y	Y	N
	Ranau	N	N	N
	Sandakan	N	N	N
	Semporna	Y	N	N
	Sipitang	Y	N	N
	Tambunan	Y	N	N
	Tawau	Y	N	N
	Telupid	N	N	N
Tenom	N/A	N/A	N/A	
Tongod	N/A	N/A	N/A	
Tuaran	N	N	N	
Federal Territory of Kuala Lumpur	Bangsar / Pudu	N	N	N
	Keramat	N	Y	N
	Sentul	N	N	N
Federal Territory of Putrajaya		N	N	N
Federal Territory of Labuan		N	N	N

\*N = NO

\*\*Y = YES

\*\*\*N/A= Not Available



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