EPH250

HPV vaccination deficit among girls in Greece. Where we are now?

Gountas Ilias[1], Skroumpelos Anastasios[1], Trimis Georgios[1], Markoulatos Nikos[1], Sabale Ugne[2], Stina Salomonsson[2], Saxena Kunal[3], Lazaros Poughias[1], Karokis Antonis[1]

1. MSD Greece, 2. Value & Implementation Outcomes Research, MSD, Stockholm, Sweden, 3. Value & Implementation Outcomes Research, Merck & Co., Inc., Rahway, NJ, USA

INTRODUCTION

- **Greece experienced a significant interruption in routine vaccination during the COVID-19 pandemic. To prevent future increases in HPV-related diseases**, the Greek National Immunization Committee (NIC) **announced, in 04/2022, a catch-up initiative to run until 12/2023[1]**. However, despite the catch-up initiative, the HPV vaccination deficit increased until December 2022[2].
- Our latest analysis showed that there is a low decreasing trend in the HPV vaccination deficit, from 5.9 to 5.4 months of 2019 vaccination between December 2022-December 2023**[2].**
- **Given the modest performance of the observed catch-up and the unlikelihood of its meeting the HPV deficit elimination by the end of 2023, the NIC extended its duration by a year until the end of 2024[3] and then up to the end of 2025[4].**
- **Monitoring the catch-up intervention is an essential step** to assess the effectiveness of the implemented intervention. Stakeholders and decision-makers should be informed regarding the catch-up effectiveness **to timely adjust the intervention if needed to optimize intervention effectiveness.**

AIMS

- **Assess the success of the HPV catch-up vaccination program at the end of 2024.**
- **Examine whether the recent announced duration of the catch-up (end 2025) is enough to eliminate the HPV vaccination deficit**.

METHODS

Description of the tool

- To estimate the HPV vaccination dose deficit and the time and catch-up rates required to clear the deficit, **a previously published COVID-19 recovery calculator was used[5].**

Data sources

- Monthly HPV vaccine sales data[6]**. Observed period: Until September 2024.**

Quantification of the HPV vaccination deficit

- The dose deficit was estimated by **subtracting the number of monthly doses distributed during and post the COVID-19 pandemic from the number of doses distributed in the corresponding month of the pre-pandemic year (2019).**

Population

- During the pandemic and until April 2022, when gender-neutral vaccination was introduced, only girls were eligible for HPV vaccination, and thus the dose deficit was only attributed to them. **In order to exclude the vaccination of boys after the introduction of the gender-neutral vaccine, we assume that 50% of the observed HPV sales data are attributable to girls.**

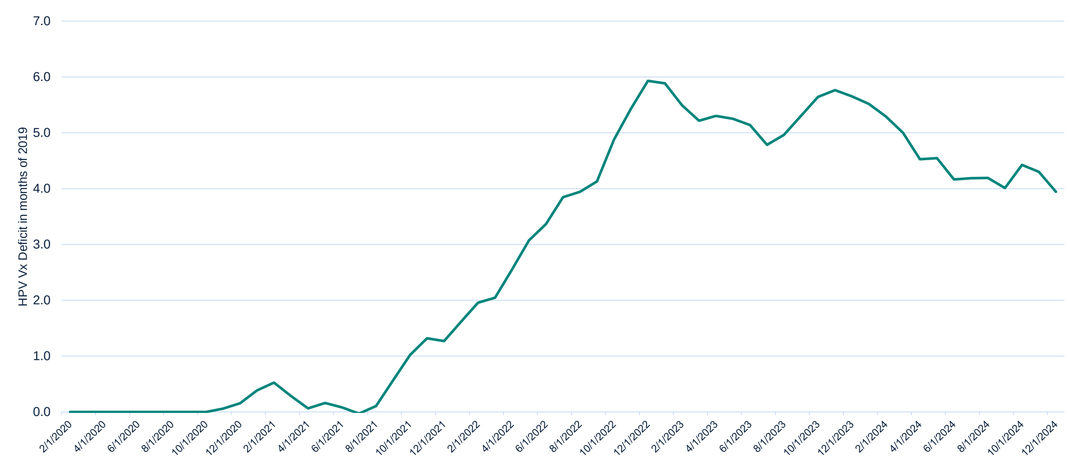
RESULTS

Table 1: HPV vaccination deficit by the end of 2024, expressed as months of the last pre-pandemic year (e.g., 2019).

	March 2022 (Observed)	December 2022 (Observed)	December 2023 (Observed)	December 2024 (Estimated)
Deficit in months of 2019	2.6	5.9	5.7	3.9
Relative difference compared to previous point	NA	127%	-3%	-32%

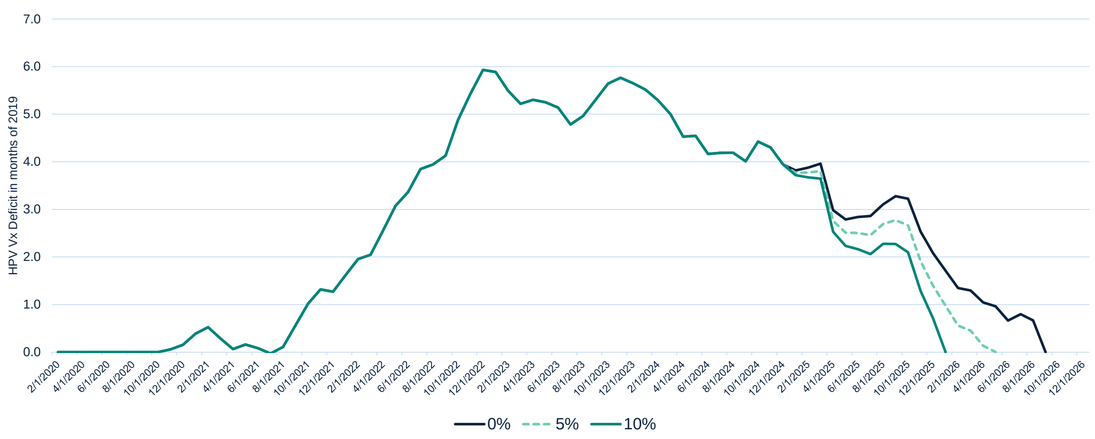
- HPV vaccination deficit was **highly increased between March 2022 and December 2022 (127% increase).**
- In December 2024 **the deficit was significantly decreased compared to December 2023.**

Figure 1: HPV vaccination deficit over time expressed as months of the last pre-pandemic year (e.g., 2019) in Greece.



- The HPV vaccination deficit was increasing by 0.37 months of 2019 per month between March 2022 and December 2022.
- Since the decrease rate is less steep than the increase rate, vaccination deficit in Greece is likely to persist for many years.

Figure 2: Model prediction for HPV vaccination deficit under different catch-up effectiveness scenarios.



- To eliminate the HPV vaccination deficit in Greece, the HPV catch-up duration should be extended until September of 2026.

Table 2: Expected HPV vaccination elimination date under different scenarios.

Increase effectiveness of the catch-up strategy	Date of HPV deficit elimination.
Status quo	Sep 2026
5%	May 2026
10%	Jan 2026

- A modest increase in catch-up efficiency, defined as a 10% increase in administered doses compared to the status quo, could potentially eliminate the deficit by early 2026.

CONCLUSIONS

- The HPV vaccination **deficit elimination is more like a marathon race rather than a sprint run**.
- Under the observed performance, HPV vaccination deficit elimination **is expected by September 2026**.
- A modest increase in catch-up efficiency, defined as a 10% increase in administered doses compared to the status quo, **could eliminate the deficit 9 months earlier**.
- **Extended catch-up duration by the end of 2026** and accompanying it with interventions to increase catch-up's performance is required to reduce the time to deficit elimination.
- **What will happen if HPV vaccination deficit is not eliminated?**
  - A significant number of girls/women will be susceptible to HPV complications with a subsequence increase of the HPV burden in the coming years.

REFERENCES

1. Greek MoH, 2. Gountas et al. ISPOR 2023, 3. Greek MoH, National Immunisation Programme (NIP) for children and adolescents 2023, 4. Greek MoH, NIP for children and adolescents 2024 ,5. Saxena K et al. Current Medical Research and Opinion 2022, 6. Gountas et al. Vaccines 2023

DISCLOSURES

Funding source: This work was funded by Merck Sharp & Dohme LLC, a subsidiary of Merck & Co., Inc., Rahway, NJ, USA.

CONTACT INFORMATION: Ilias Gountas (ilias.gountas@merck.com)