

Updated estimations of the HPV vaccination deficit among girls in Greece. Early signs of recovery?

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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 12/2023¹.
- Despite the active catch-up initiative, our latest analysis underlined that the HPV vaccination dose deficit had been increasing during 2022, reaching at the end of 2022, 5.9 months of vaccination of 2019².
- Since the observed catch-up's performance was low and it was unlikely to achieve the HPV deficit elimination by the end of 2023, the NIC extended its duration by a year until the end of 2024³.
- Monitoring the catch-up intervention is an essential step to assess the effectiveness of the implemented intervention. Stakeholders should be timely informed regarding the catch-up effectiveness to adjust the intervention if needed to optimize intervention effectiveness.
- Greece has adopted the Strategy to Accelerate the Elimination of Cervical Cancer, in which a key target is 90% of girls to receive a full course of the HPV vaccine by 2030. Failing to address the HPV vaccination deficit jeopardizes the goal of cervical cancer elimination².

AIMS

- Assess the effectiveness of the announced catch-up program by the end of 2023.
- Examine whether the recent announced duration of the catch-up (end 2024) 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 needed to clear the deficit, a previously published COVID-19 recovery calculator was used^{4,5}. The tool describes the course of the HPV vaccination deficit through three sequential periods: the COVID-19 impact period, the transition period, and the catch-up period.
- 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).

Data sources

- Monthly HPV vaccine sales data⁵. Observed period: Until September 2023

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

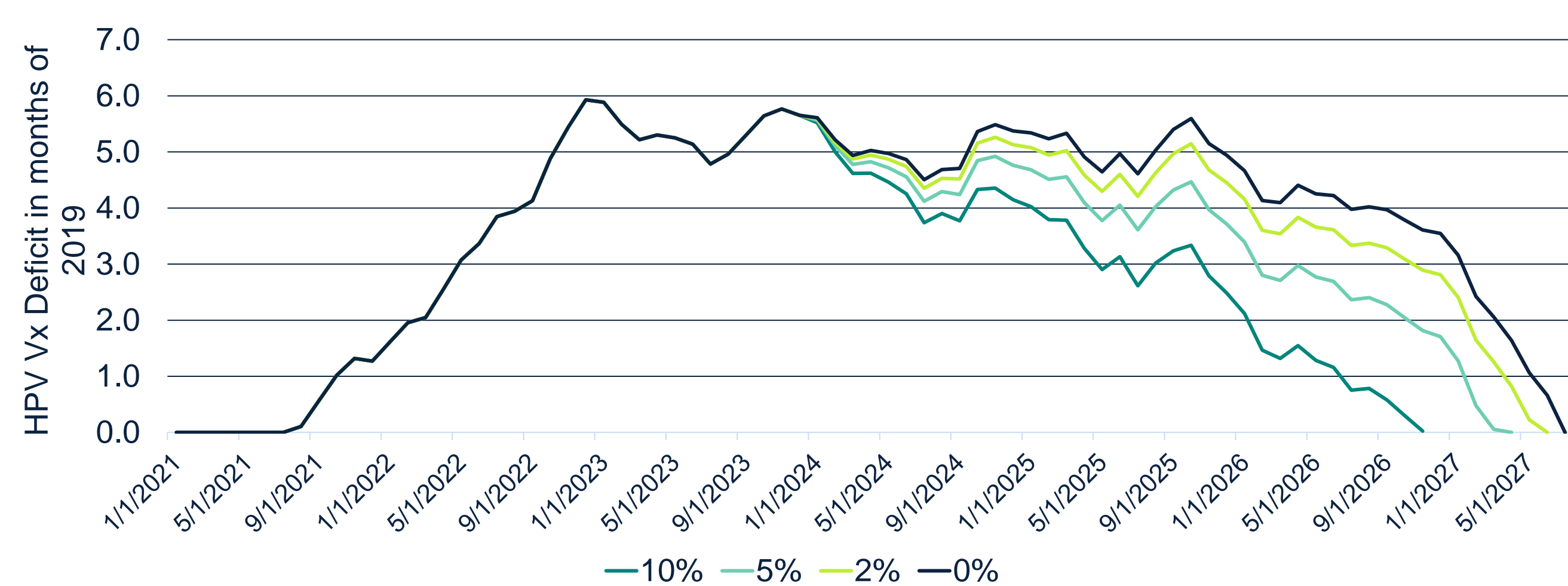
RESULTS

Table 1: HPV vaccination deficit 3/2022 – 12/2024 expressed as months of the last pre-pandemic year (e.g., 2019)

	March 2022 (observed)	December 2022 (observed)	September 2023 (observed)	December 2023 (estimated)	September 2024 (estimated)
Deficit in months of 2019	2.6	5.9	5.3	5.7	4.7
Relative difference compared to previous datapoint	NA	127%	-10%	8%	-17.5%

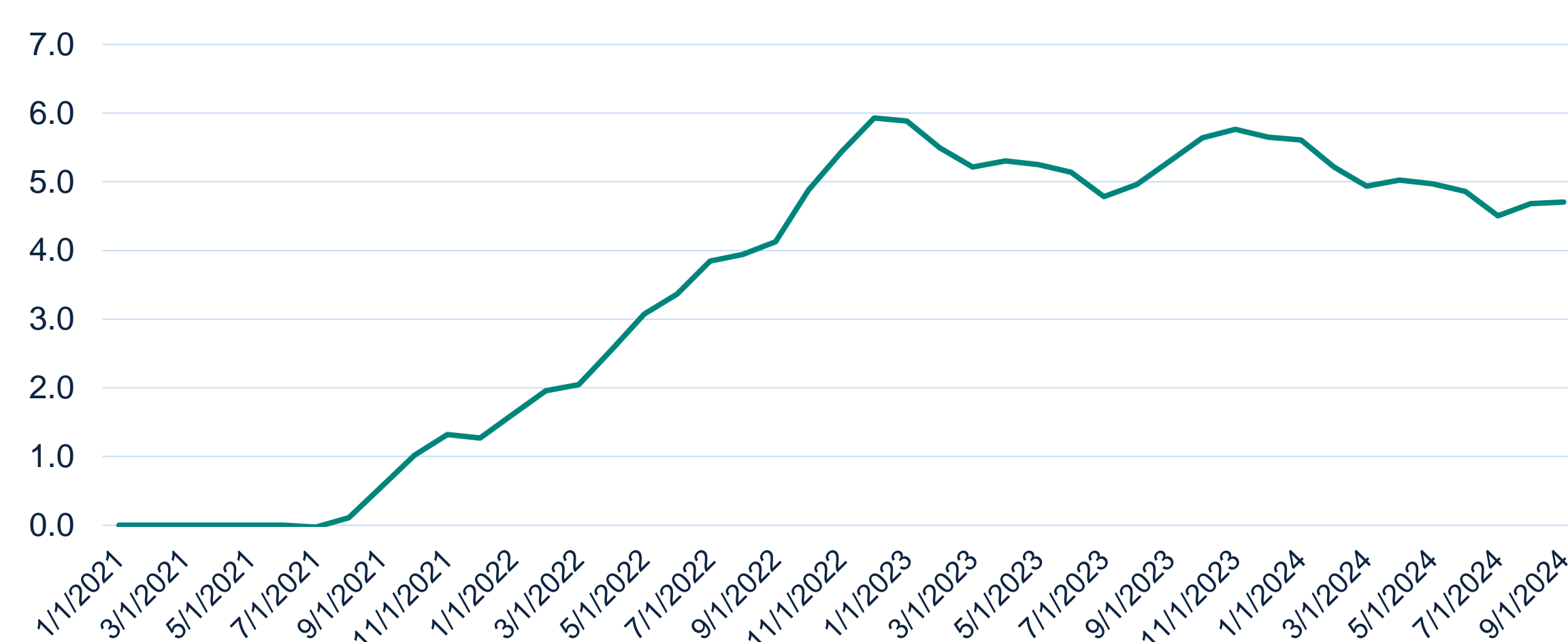
- HPV vaccination deficit was exploded between March 2022 and December 2022 (127% increase)
- 2023 was the first year that the HPV deficit was reduced.

Figure 2: Model prediction for HPV vaccination deficit if Greece managed to sustain the same HPV catch-up performance



- To eliminate the HPV vaccination deficit in Greece HPV catch-up duration should be extended until the end of 2027.

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



- In Greece, HPV vaccination deficit increase rate was very high. Between March 2022 and December 2022, the deficit was increasing every month 0.33 months of 2019
- Since the decrease rate is much lower (0.05 months of 2019 per month) than the increase rate, vaccination deficit in Greece is likely to persist for many years.

Table 2: Expected HPV vaccination elimination date under different scenarios

Increase effectiveness of the catch-up strategy	Date of HPV deficit elimination.
status quo	August 2027
2%	June 2027
5%	March 2027
10%	November 2026

CONCLUSIONS

- The HPV vaccination deficit elimination is more like a marathon than a sprint.
- The effect of the COVID-19 pandemic on HPV vaccination rates persisted for many years in Greece .
- Under the observed performance and the expected duration of the catch-up, HPV vaccination deficit elimination is expected by August 2027
- Extended catch-up duration by the end of 2027 and accompanying it with interventions to increase catch-up's performance is required to reduce the time to deficit elimination.
- What will happen if we do not manage to eliminate the HPV vaccination deficit?⁶
 - A significant number of girls/women will be vulnerable to HPV complications.
 - Disease burden is expected to be increased in the coming years.

REFERENCES

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