

Exploring the Pandemic's Impact: An Examination of Adolescent and Adult Vaccination Rates in Different Countries during COVID-19



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INTRODUCTION

- The COVID-19 pandemic highlighted the importance of national immunization strategies for living longer and healthier lives.
- Immunization is a global health and development success story, saving millions of lives every year across the globe. There are now vaccines to prevent more than 20 life-threatening diseases and preventing 3.5 to 5 million deaths annually from diseases like diphtheria, tetanus, pertussis, influenza, and measles (WHO).
- An independent analysis found that COVID-19 vaccinations prevented 14.4 million deaths from COVID-19 in 185 countries and territories between December 8, 2020, and December 8, 2021 (Lancet 2022 [Watson]).
- In the USA, it is estimated that, from December 2020 through November 2022, the COVID-19 vaccination program prevented more than 18.5 million additional hospitalizations and 3.2 million additional deaths. The vaccination program also saved the US \$1.15 trillion in medical costs (commonwealth fund report, 2022)
- Vaccine hesitancy—the choice to delay or refuse available vaccines—poses a major obstacle to the effectiveness of immunization programs. Even before this pandemic, the World Health Organization declared vaccine hesitancy a “top 10 health threat”, given the increase in outbreaks for preventable diseases (WHO 2019). For example, in the Americas, the risk of disease outbreaks reached recently a 30-year high due to a decline in vaccination coverage. (PAHO Director statement, 2023)
- What is less understood is the impact of the increased focus on vaccination during the pandemic, and its relation to vaccine hesitancy/fatigue on other immunizations.

OBJECTIVES

The objectives of this study were

- To assess trends of influenza, Tdap, Shingrix, and human papilloma virus (HPV) vaccination rates before, during, and after the pandemic
- To monitor the trend between vaccination hesitancy/fatigue for COVID-19 and trends in other immunizations.

METHODS

We reviewed vaccination guidelines and available data for COVID-19, shingles, influenza, pertussis, and HPV among groups aged 12+ years across the US, England, Germany, Italy, France, Germany, Hungary, and Australia. We compared guideline-compliant country-level rates of vaccination from pre-pandemic (2018-2020) to during and post-pandemic (2020-2023) and assessed rates for noticeable trends.

RESULTS

- Covid-19 vaccination uptake at the beginning of the pandemic was very high, with rates >90% in most developed countries. However, this decreased significantly with the increased need of boosting to maintain protection (Figure 1 and Figure 2).
- The hesitancy to vaccinate against COVID-19 increased over time. A recent study in the US shows that more than 30% of adults are hesitant to get the new upcoming vaccine (August 2023).
- In 2021, there was already significant heterogeneity in Covid-19 vaccination hesitancy across European countries, with the greatest hesitancy in Bulgaria (>60% of the population), and lowest in the UK and Spain (<10%).

Figure 1. COVID-19 vaccination uptake among ages ≥12 years in the US (August 2021–January 2023)

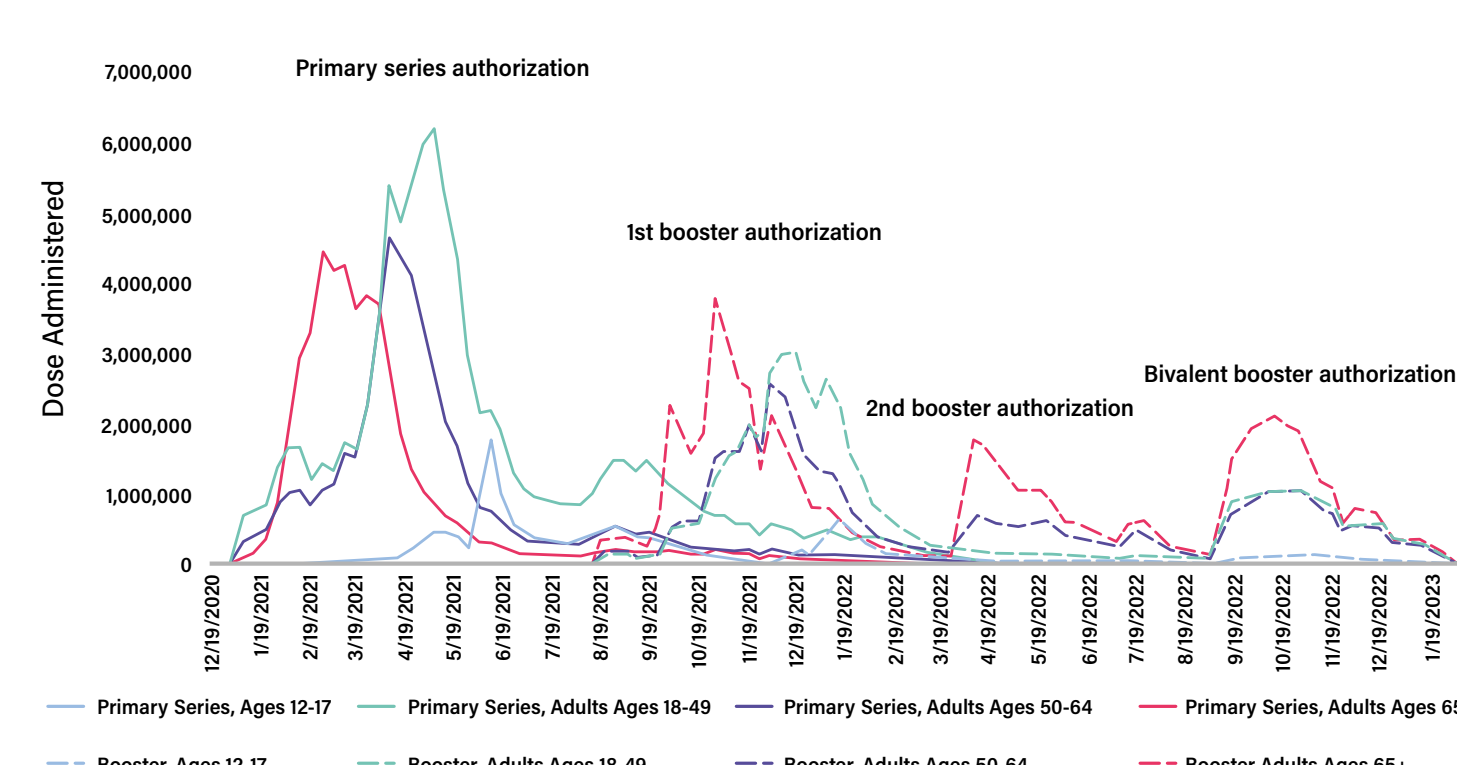
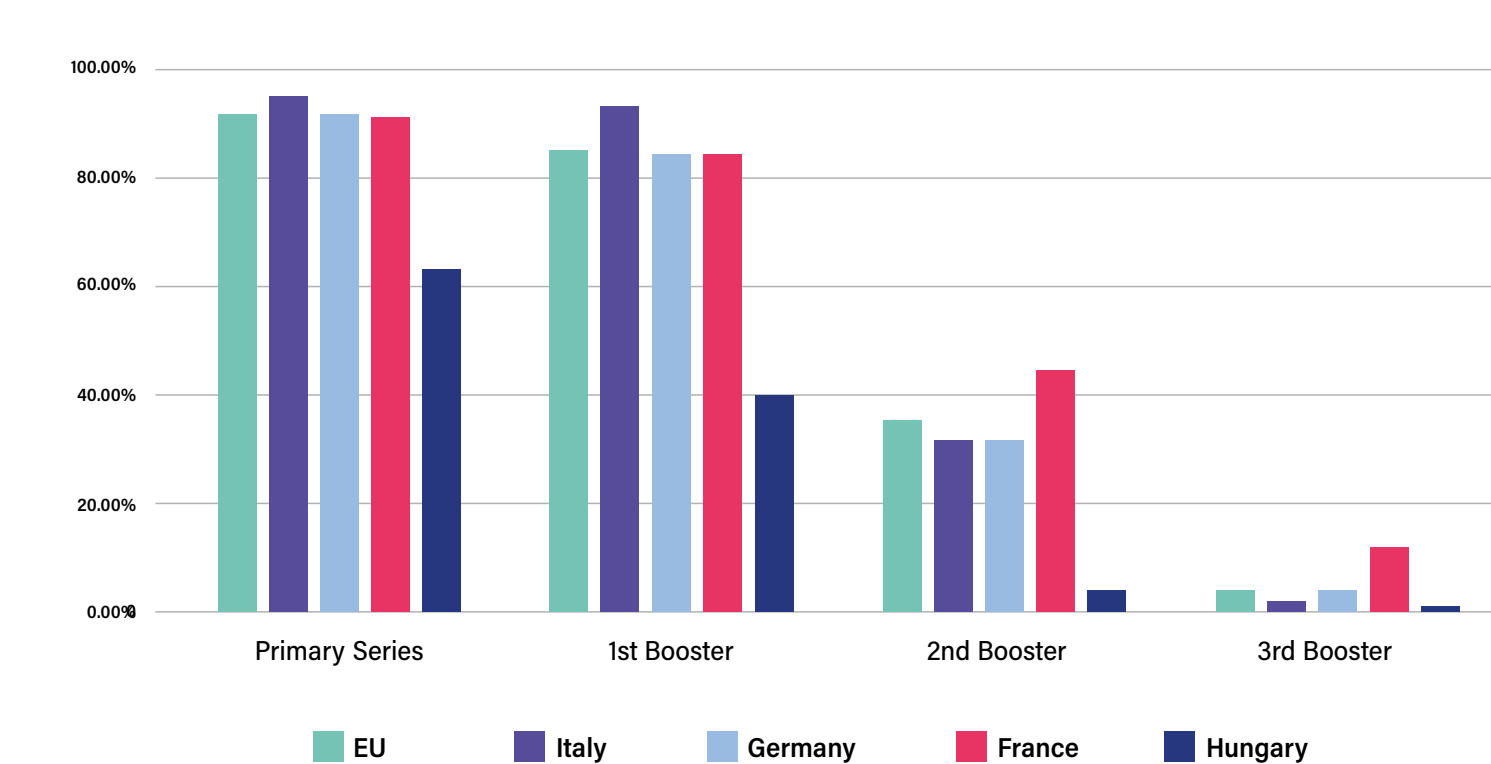


Figure 2. COVID-19 vaccination uptake among ages >60 years in the EU

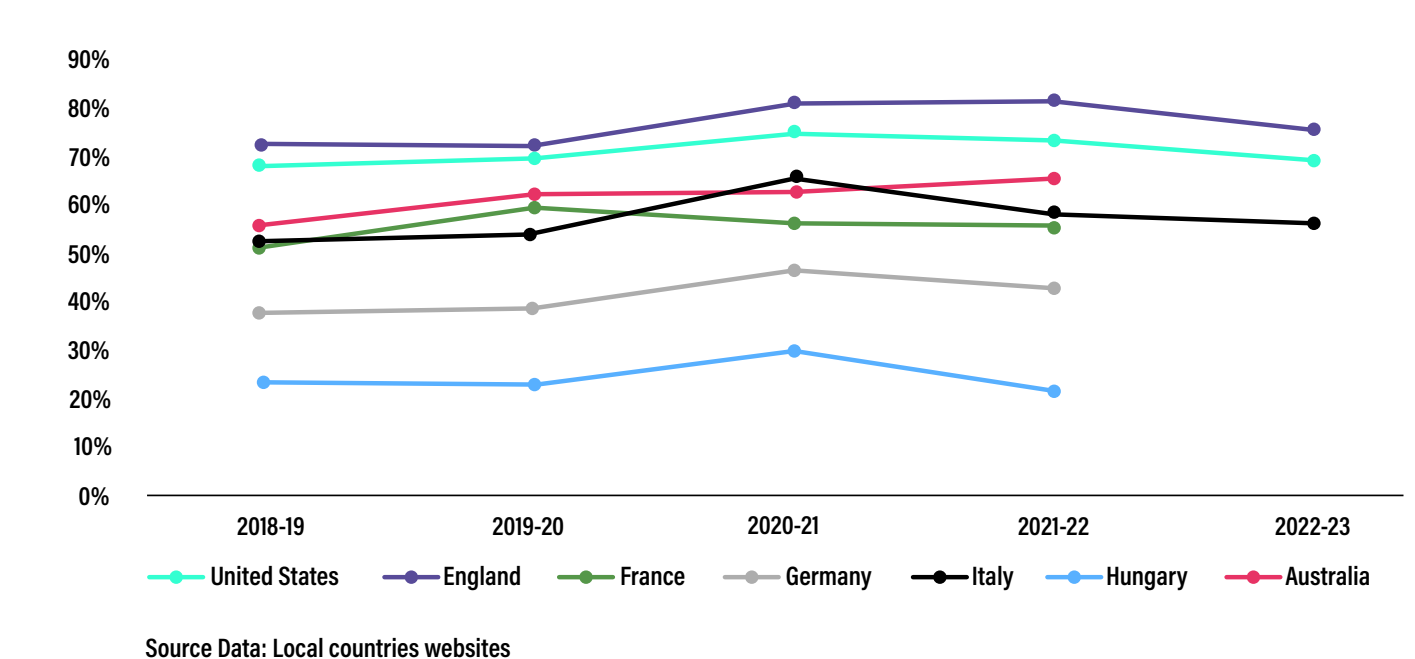


Regarding other vaccinations, data show an increasing trend in uptake of the influenza vaccination during the peak of the pandemic, particularly during the 2020/21 season (Figure 3), with the elderly population experiencing the highest uptake. However, uptake began to decrease in subsequent seasons, 2021/22 and 2022/23 specifically, with uptake returning on par with the 2019/20 season.

For other age groups the picture is less delineated. For example, for the younger population, in some countries (eg, US) we saw a decline in vaccination rates during the pandemic.

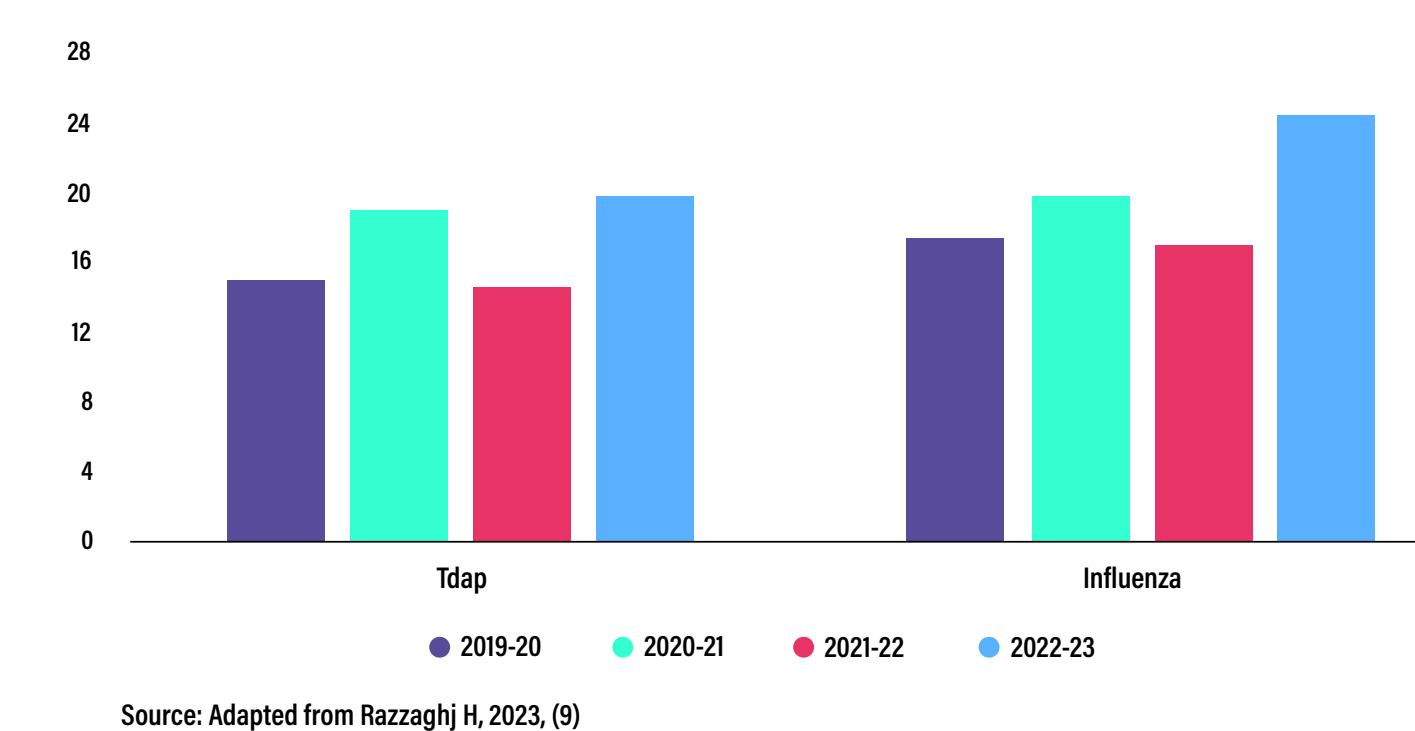
Differences across countries remained noticeable.

Figure 3. Influenza vaccination uptake among ages >65 years across key countries (2018–2023)



Data for pregnant women show that the pertussis vaccination rate either stayed stable or decreased during the years of the pandemic in the UK. In the US, a recent study showed that the percentage of pregnant women who are very hesitant to receive an influenza or a Tdap vaccination increased over the pandemic period (Figure 4).

Figure 2. Vaccination hesitancy (very high hesitancy) among US pregnant women (%; 2019–2023)



LIMITATIONS

- Lack of consistency in data reporting and key national immunization strategies between countries
- There was a lack of identifiable trends across Shingrix, Tdap, and HPV vaccination pre-pandemic and post-pandemic, due to variations in available data

CONCLUSIONS

Our study demonstrated that opportunities remain to assess the pandemic's impact on vaccine willingness. There is a clear lack of data to monitor vaccination trends for important immunization strategies like HPV and Shingrix. We encourage countries to collect and share data, so it is possible to understand how far or close countries are in achieving vaccination targets.

On averaged we saw a relationship between COVID-19 and influenza vaccination uptake during and post pandemic

Immunization is a key element of global health and development policy, saving millions of lives every year. Vaccination was essential for ending the pandemic across the globe.

With an increase in vaccination hesitancy and outbreaks for preventable diseases, there is a need for a continuous effort in tracking and monitoring vaccination uptake across various diseases as well as increasing awareness and education.

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