This research was commissioned and funded by Moderna

INSIGHTS FOR HEALTHCARE RESILIENCE AND ECONOMIC PERFORMANCE

The Broader Economic Benefits of COVID-19 Vaccination in the UK

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COVID-19 continues to impose a significant **burden on healthcare systems and the national economy**, particularly when other infectious diseases like **influenza and RSV** co-circulate. Access to annual vaccinations remains essential to sustain population immunity, curb variant emergence, and mitigate its burden on the economy.

Our approach

We used a cost-of-illness analysis (COI) to quantify the economic burden of COVID-19 and assess the broader economic benefits of immunisation using three main scenarios:

- No further routine vaccinations
- Annual autumn vaccination of population aged 65+ years and high-risk groups (in line with the UKHSA's 2023 recommendations)
- Extended annual autumn vaccination of the general population aged 50+ and 18+

Key takeaways

Despite current COVID-19 vaccination efforts, a substantial economic burden persists.

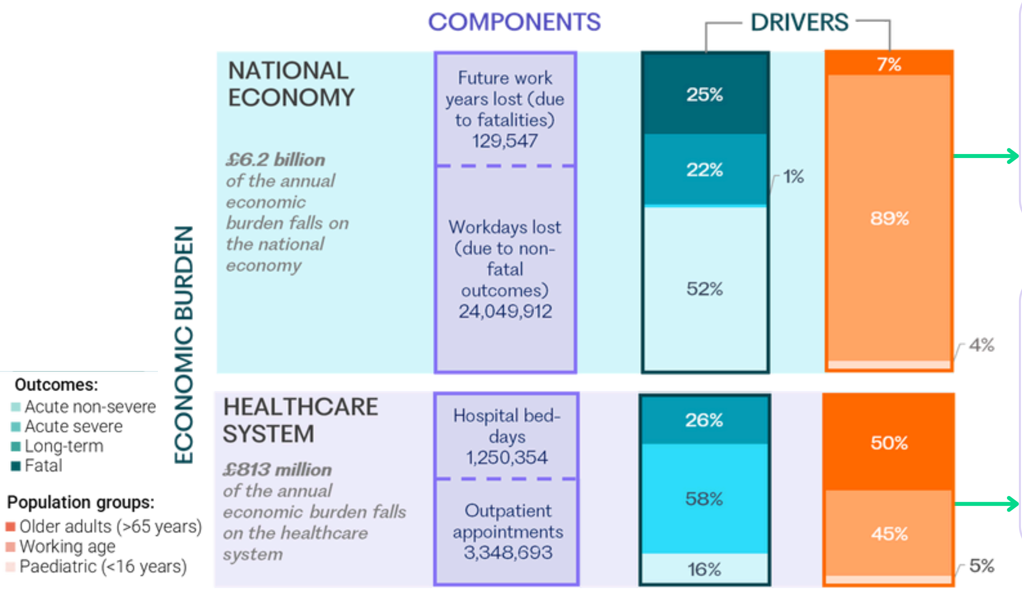
- The **total economic burden** of COVID-19 without annual autumn vaccination is approximately **£7 billion per year.**
- The cost to the healthcare system is large (£813 million); the cost to the national economy is about 7.5 times larger (£6.2 billion).
- This is driven by substantial productivity losses from acute and long-term COVID-19 infections, especially among the working-age population.

Annual autumn COVID-19 vaccination of the population aged 65+ and high risk groups saves approximately £838 million per year, or **12%** of the total economic burden of £7 billion

- Of the £838 million, the healthcare system saves £233 million yearly (29% of its COVID-19 burden) and the national economy benefits £603 million (10% of its burden).

Economic burden of COVID-19 in the UK with no further routine vaccination

Without annual autumn vaccination, modelled estimates suggest that COVID-19 could cost the UK approximately **£7 billion** annually (0.26% of GDP). This is similar in magnitude to other national challenges, such as climate-related impacts[1].



Productivity losses are mostly (52%) due to non-severe illness. Cases in the working age population drive **89%** of the national economy burden.

Healthcare utilisation is mostly (58%) driven by acute severe infections. Cases in the working age population drive almost half (**45%**) of healthcare system costs.

[1] Rising, J., Dietz, S., Dumas, M., Khurana, R., Kikstra, J., Lenton, T., Taylor, C. and Ward, B., 2022. What will climate change cost the UK?

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Economic benefits of COVID-19 vaccination in the UK

Modelled scenarios suggest that vaccination programmes may help reduce healthcare utilisation and productivity losses associated with COVID-19.

Annual autumn COVID-19 vaccination targeting individuals aged 65+ and high-risk groups, in line with the UKHSA 2023 recommendations, would generate

£838 million

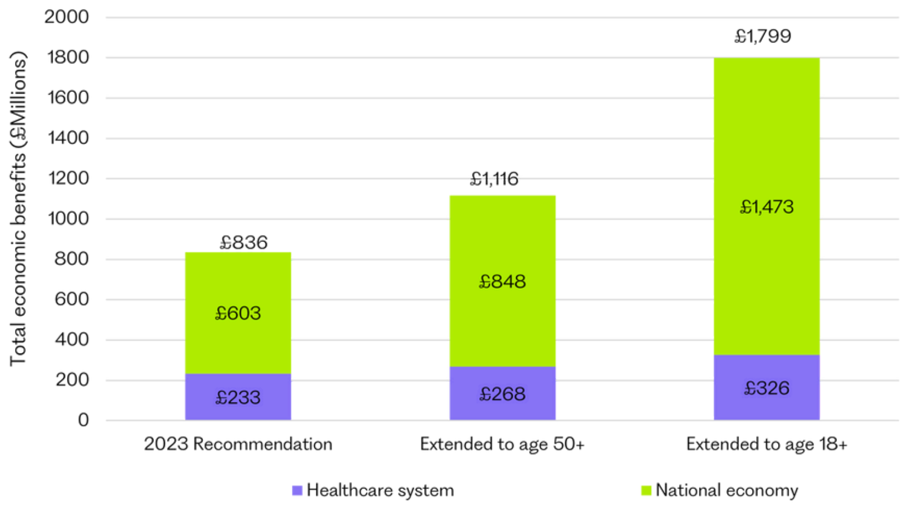
in annual economic benefits, reducing 12% of the total COVID-19 economic burden.

Extending COVID-19 vaccination eligibility to the general population aged **50+** and **18+** would increase the total economic benefit to

£1.1 billion & £1.8 billion per year

respectively, which equals 16% and 26% of the COVID-19 total economic burden.

Averted **productivity losses** are the major driver of the economic benefits across all vaccination scenarios...



Note: All vaccination scenarios include eligibility for high-risk groups, such as immunocompromised individuals, frontline health and social care workers and care home residents.

This analysis indicates that:

- **Continued investment in endemic COVID-19 vaccination programs** and pandemic preparedness could safeguard economic resilience and public health.
- Policymakers may wish to adopt a decision-making and funding approach to routine immunisation that **recognises the broader economic benefits**.

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