JCVI statement on the COVID-19 vaccination programme for 2023: 8 November 2022

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Overview

Since the first COVID-19 vaccine was authorised for use in the UK in December 2020, the aim of the COVID-19 vaccination programme has been, and continues to be, the reduction of severe disease (hospitalisation and mortality) across the population, while protecting the NHS.

As the transition continues away from a pandemic emergency response towards pandemic recovery, the Joint Committee on Vaccination and Immunisation (JCVI) has begun to consider the 2023 COVID-19 vaccination programme. The current Omicron era is characterised by:

- high levels of population immunity acquired through vaccination and/or natural infection
- lower disease severity compared to infection due to previous SARS-CoV-2 variants

During this time, the risk of severe COVID-19 continues to be disproportionately greater in those from older age groups, residents in care homes for older adults, and persons with certain underlying health conditions. Compared to the initial phases of the pandemic, much more is now understood regarding SARS-CoV2 infection. However, there remains ongoing uncertainty regarding virus evolution, the durability and breadth of immunity, and the epidemiology of

infection. These uncertainties limit the immediate development of a routine immunisation programme against COVID-19.

Advice

JCVI's interim advice for planning purposes ahead of 2023 is that:

- in autumn 2023, persons at higher risk of severe COVID-19 could be offered a booster vaccine dose in preparation for winter 2023 to 2024
- in addition, for a smaller group of persons (such as persons of older age and those who are immunosuppressed) an extra booster vaccine dose may be offered in spring 2023
- emergency surge vaccine responses may be required should a novel variant of concern emerge with clinically significant biological differences compared to the Omicron variant

JCVI also advises that:

- the 2021 booster offer (third dose) for persons aged 16 to 49 years who are not in a clinical risk group should close in alignment with the close of the autumn 2022 vaccination campaign[footnote 1]
- otherwise healthy persons aged 5 to 49 years who develop a new health condition in 2023 that places them in a clinical risk group would be offered primary vaccination and/or a booster vaccine during the next seasonal vaccination campaign, as appropriate. Vaccination outside these campaign periods would be subject to individual clinical judgement
- primary course COVID-19 vaccination should move, over the course of 2023, towards a more targeted offer during vaccination campaigns to protect those persons at higher risk of severe COVID-19. This would include:
    - residents in a care home for older adults and staff working in care homes for older adults
    - frontline health and social care workers
    - all adults aged 50 years and over

        - persons aged 5 to 49 years in a clinical risk group, as set out in the Green Book
        - persons aged 12 to 49 years who are household contacts of people with immunosuppression
        - persons aged 16 to 49 years who are carers, as set out in the Green Book
    - research should be considered to inform the optimal timing of booster vaccinations to protect against severe COVID-19 (hospitalisations and deaths) for groups who are at different levels of clinical risk

Considerations

It is estimated that over 97% of adults in England had SARS-CoV-2 antibodies, either from infection or vaccination, by the end of August 2022 (reference 1). In Great Britain, an estimated 93 to 99% of children aged 12 to 15 years, and 74 to 98% of children aged 8 to 11 years, had antibodies against SARS-CoV-2 at the end of August 2022 (references 1 and 2). Natural immunity alone provides good levels of protection against severe COVID-19 while the combination of natural and vaccine-induced immunity (hybrid immunity) is associated with even higher levels of protection (references 3,4 and 5). This high level of strong population immunity developed over the past 2 and a half years is under regular monitoring through UK Health Security Agency (UKHSA) public health surveillance programmes.

Not all hospitalisations and deaths ascribed to SARS-CoV-2 infection are vaccine-preventable events. Due to the high transmissibility of the Omicron variant, together with infection that can be asymptomatic or only mildly symptomatic, persons who require hospital care for non-COVID-19 reasons may be coincidentally infected with SARS-CoV-2. Such hospitalisations are not preventable through COVID-19 vaccination. In contrast, some highly vulnerable individuals may develop severe COVID-19 despite being vaccinated; these individuals often have underlying health conditions that confer high susceptibility to severe disease from other infections as well. In the UK, during the Omicron era (up to week 43, 2022), the highest rates of

hospitalisations were consistently observed in persons aged 75 years and over, while rates of infection (non-severe illness) were high across all ages and especially among younger persons (references 6 and 7).

Revised estimates of the number needed to vaccinate (NNV) to prevent one hospitalisation during the Omicron era indicate that 800 persons aged 70 years and above would need to be given a booster in autumn 2022 (a fourth dose) to prevent one hospitalisation from COVID-19. The corresponding NNV for persons aged 50 to 59 years is 8,000 and for persons aged 40 to 49 years who are not in a clinical risk group is 92,500 (Appendix 1).

In November 2021, JCVI advised boosters for healthy adults aged 40 to 49 years due to the epidemiology at the time. With the emergence of the Omicron variant in late November 2021, the offer was extended to healthy individuals aged 16 to 39 years as part of an emergency surge response (see JCVI update on advice for COVID-19 vaccination of children and young people and UK vaccine response to the Omicron variant: JCVI advice). Since April 2022, uptake of the initial booster dose of COVID-19 vaccine has been less than 0.1% per week in all eligible people under 50 years of age (Figure 62c in reference 8). Based on the current data, keeping the booster (third dose) offer open to these groups is considered of limited ongoing value and the overall impact on vaccine coverage is negligible.

The offers of primary course vaccination have been widely available since 2021. Uptake of these vaccine offers have plateaued in recent months across all age groups (Figure 62a in reference 8). Since the beginning of 2022, less than 0.01% of eligible individuals per week over the age of 12 years, received a first COVID-19 vaccine dose. A more targeted offer of primary course vaccination during vaccination campaign periods will enable these efforts to be more focused and allow more efficient use of NHS resources.

Although the COVID-19 vaccination programme has been very successful overall, there are some socioeconomic and ethnic groups where vaccine coverage remains lower (reference 6). Addressing health inequalities is a long-term effort that is relevant to all UK immunisation programmes. Building trust, and specifically vaccine confidence, requires steady determined investments of time, resources and persons. Appropriate and adequate communication

should be provided in advance of changes to the primary course vaccination offer to optimise uptake among those who are eligible but have yet to accept the offer of vaccination.

Future variants and their impact on epidemiology

As the virulence of any new emergent variant cannot be reliably predicted, rapid response measures may be required should there be substantial changes in population immunity against the dominant circulating variant, including any new variant of concern.

JCVI will keep the epidemiology of COVID-19 under review and will provide advice for a surge response, as required.

References

1. Office for National Statistics (ONS) Coronavirus (COVID-19) latest insights: antibodies.
2. UK Health Security Agency unpublished data.
3. Protective effectiveness of prior SARS-CoV-2 infection and hybrid immunity against Omicron infection and severe disease: a systematic review and meta-regression.
4. Risk of SARS-CoV-2 reinfection and COVID-19 hospitalisation in individuals with natural and hybrid immunity: a retrospective, total population cohort study in Sweden.
5. Protection against Omicron (B.1.1.529) BA.2 reinfection conferred by primary Omicron BA.1 or pre-Omicron SARS-CoV-2 infection among health-care workers with and without mRNA vaccination: a test-negative case-control study.
6. National flu and COVID-19 surveillance reports: 2022 to 2023 season.
7. Coronavirus (COVID-19) in the UK dashboard.
8. National flu and COVID-19 surveillance report: 27 October 2022 (week 43).
1. For those eligible for vaccination in autumn 2022, including adults over 50 years, individuals under 50 years in clinical risk

groups, and health and social care workers, the 2021 booster offer was superseded by the autumn 2022 campaign. ↩