Joint Committee on Vaccination and Immunisation

Advice on influenza vaccines for 2024/25

Prepared by the Joint Committee on Vaccination and Immunisation (JCVI) Scientific Secretariat

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JCVI advice on influenza vaccines for the 2024/25 influenza season

JCVI reviewed the latest UK influenza surveillance vaccine effectiveness (VE) data for the 2022/23 season at the 7 June 2023 JCVI meeting. VE against hospitalisation is important for determining vaccines for use in the programme.

The 2022/23 influenza season was the first season since the COVID-19 pandemic with widespread transmission and since the introduction of the requirement that laboratories report negative influenza results. This improvement in UK hospital surveillance has supported informative comparison between vaccine types. For 2022/23 preliminary data in older adults in England showed a higher central estimate of VE against hospitalisation for quadrivalent recombinant influenza vaccine (QIVr) than other first or second line vaccines and a negative central estimate of VE for quadrivalent influenza egg-culture vaccine (QIVe). It was noted that confidence intervals for QIVr overlapped with the point estimates for adjuvanted quadrivalent inactivated influenza vaccine (aQIV) and quadrivalent influenza cell-culture vaccine (QIVc). The low QIVe VE estimate reinforces the current JCVI advice not to use this vaccine for this age group.

JCVI would like to see more use of QIVr in the programme to improve estimates of VE and have data over multiple seasons on the performance of this vaccine. In those groups where the use of QIVe remains an option this should only be in circumstances where the preferred first line influenza vaccines are not available, and efforts should be made to use the best available influenza vaccines, particularly in at risk groups. Where quadrivalent is indicated, the committee also considers trivalent formulations of the advised vaccines containing B/Victoria equally suitable, should these become available.

The advice below represents the JCVI's scientific view on the use of influenza vaccines in the UK for the 2024/25 influenza season.

Adults 65 years of age and over

For vaccination of those aged 65 years and over JCVI advises the use of the following vaccines:

- Adjuvanted quadrivalent inactivated influenza vaccine (aQIV)
- High-dose quadrivalent inactivated influenza vaccine (QIV-HD)
- Quadrivalent recombinant influenza vaccine (QIVr)

The quadrivalent influenza cell-culture vaccine (QIVc) can also be considered for use in this age group if the above options are not available subject to the considerations below.

The quadrivalent influenza egg-culture vaccine (QIVe) is not advised for use in this age group.

Considerations

The available evidence indicates additional benefit from the use of aQIV or QIV-HD in those aged 65 years and over, compared with standard dose egg-culture inactivated trivalent and quadrivalent vaccines (TIVe/QIVe).

When considering a preference between QIV-HD and aQIV, the available data comparing these are few, somewhat inconsistent, are not available over multiple seasons, are at risk of bias, and are limited by the use of non-laboratory confirmed influenza endpoints. The level of uncertainty in the available evidence is considered too great to allow for a preferential recommendation between the vaccines.

The Committee is also of the view that there is enough supporting evidence for QIVr to be considered as equivalent to aQIV and QIV HD for use in those aged 65 years and older.

This evidence includes that QIVr has a higher antigen content (45 µg) than QIVc (15 µg) and standard egg based quadrivalent vaccines (15 µg), as well as immunogenicity, efficacy, and effectiveness data in favour of its use in the elderly alongside aQIV and QIV HD.

If aQIV, QIV-HD, or QIVr are not available, QIVc is considered an acceptable alternative and is suitable for use in this age group. The JCVI strongly advises against the use of standard egg-culture influenza vaccines in the elderly.

At-risk adults (including pregnant women) aged less than 65 years of age

For vaccination of adults aged 18 to less than 65 years of age in an at-risk group JCVI advises the use of the influenza vaccines below:

- Quadrivalent influenza cell-culture vaccine (QIVc)
- Quadrivalent recombinant influenza vaccine (QIVr)

The Quadrivalent influenza egg-culture vaccine (QIVe) can also be considered for use in this age group if all the above are not available subject to the considerations below.

Considerations

There is a potential advantage to using influenza vaccines which do not use eggs in the manufacturing process (cell-culture or recombinant) compared with egg-cultured influenza vaccines, due to the possible impact of “egg-adaptation” on the effectiveness of influenza vaccines, particularly against A(H3N2) strains. The evidence on additional benefit is available for only a few seasons but the issue of egg adaptation remains a real concern, particularly for the A(H3N2) virus which is the more virulent influenza subtype in terms of morbidity and mortality.

There is limited, but good, evidence that the recombinant vaccine QIVr, which also is not affected by egg adaptation, is more effective than QIVe in adults under 65 years age. Therefore, QIVr is also preferred over QIVe in adults under 65 years old.

Based on the available evidence the Committee supports a clear preference for QIVc and QIVr over QIVe and these are the vaccines of choice for this vulnerable group. QIVe can also be considered for use in this group, if all other options are not available, because any impact of egg adaptation will likely be limited to seasons in which the influenza season is dominated

by well- matched H3N2 strains.

Children aged two to less than 18 years of age in an at-risk group

The live attenuated influenza vaccine (LAIV) is the vaccine of choice for the childhood influenza programme. Therefore, children aged two years to less than 18 years in clinical risk groups should be offered LAIV unless it is medically contraindicated or otherwise unsuitable. In those for whom LAIV is not suitable, JCVI advises the use of QIVc. JCVI therefore advises the influenza vaccines below in the following order of preference:

1. Live attenuated influenza vaccine (LAIV)
2. Quadrivalent influenza cell-culture vaccine (QIVc)[1]

The Quadrivalent influenza egg-culture vaccine (QIVe) can also be considered for use in this age group if the above are not available.

Children aged less two years old

For vaccination of at-risk children aged less than 2 years of age in an at-risk group JCVI advises the use of the following vaccine:

- Quadrivalent influenza cell-culture vaccine (QIVc)

This is an off-label recommendation which is supported by unpublished data which shows non inferiority immunogenicity and a very similar safety profile for QIVc compared with QIVe in children less than two years old.

The Quadrivalent influenza egg-culture vaccine (QIVe) can also be considered for use in this age group if all other options are not available.

Generating real world evidence in the UK

Further comparative data are required, preferably from the same country over multiple seasons and with laboratory confirmed influenza endpoints, to support consideration of the relative effectiveness of the influenza vaccines available in the UK across the different age and risk groups in which they are licensed. The Committee would like to see high quality comparative data generated in the UK. Most of these data can potentially be generated from the monitoring and surveillance of VE in primary and secondary care for those influenza vaccines delivered through the influenza vaccination programme.

The COVID-19 pandemic has provided much greater insight into the importance of virologically confirmed VE studies for hospitalisation and death, the use of NHS data to drive this, and how a hospital admission clinical endpoint may give very divergent results from community-based VE testing. COVID-19 has also shown the potential of real time data being

[1] The quadrivalent influenza cell-culture vaccine (QIVc) is egg free and egg allergic individuals can be safely vaccinated in any setting with this vaccine, including those who have required admission to intensive care for a previous severe anaphylaxis to egg.

available through improvements in NHS data linkage, which now need to be applied to influenza. Therefore, the Committee would like to see the existing influenza surveillance system for generating influenza VE enhanced to generate adequately powered data to inform future JCVI decisions which will benefit public health in the longer term. The Committee agrees that enhancing the existing surveillance system is critical to ensure the UK population receives the best possible clinical benefit from the available influenza vaccines and notes that improvements have been made linking vaccination records with laboratory data and hospital admissions This should form part of the longer-term planning for a first-class influenza programme as a whole alongside other research initiatives.

Other research initiatives could also contribute to improving evaluation of influenza vaccines in the UK and the Committee notes the close working of industry, regulators, government and public funded research behind the rapid introduction and real-time evaluation of COVID-19 vaccines. The Committee would support similar initiatives applied to evaluating influenza vaccines.

The Committee would like to see all the available vaccines which it has advised in preference to standard egg-based vaccines used in the UK so they can be properly evaluated through the programme but understands that this is subject to NHS negotiations (see below). There might be important differences in the products which could lead to a differential impact on winter pressures, and it would be difficult to evaluate the significance of this for the NHS unless all the advised products are available in the programme.

Operational considerations

The Committee is mindful that factors other than purely scientific and clinical advice need to be considered from an operational perspective, including availability of supply and affordability, and which will contribute to the decisions on which vaccines are purchased for the 2024/25 season. JCVI's advice outlines the preferred vaccines that should be made available for the individual being vaccinated, subject to vaccine availability. The aim of this advice is to provide a framework from which NHS England, the Devolved Administrations, and UKHSA can plan the ordering of vaccines and delivery of the influenza programme in 2024/25 and communicate this clearly to providers and the public. A well-planned and orchestrated programme that results in the timely delivery of vaccination is important to ensure the eligible population is protected as early as possible before influenza activity starts to increase in the winter months.

Summary table of influenza vaccines for 2024/25

Programme	Age/Risk group	Preference	If the preferred vaccine is not available
Routine	≥65 years	aQIV, QIVr, QIV-HD	QIVc
	18-64 years in risk groups	QIVc or QIVr	QIVe
	2-17 years	LAIV	
	2-17 years in risk groups but unable to have LAIV†	QIVc	QIVe
	6 months-2 years in risk groups	QIVc (off label)	QIVe

† LAIV the vaccine of choice for the children's programme 2- to 17-year-olds

Background

The considerations of JCVI with regards to the use of influenza vaccines are published in the minutes of JCVI and the Influenza sub-committee

The advice of JCVI is based on discussions at JCVI and the Influenza sub-committee:

1. adjuvanted influenza vaccines were discussed in the June and October 2017 JCVI meetings, and the September 2019 Influenza sub-committee
2. high dose influenza vaccines were discussed in the June 2018 JCVI meeting, the September 2018 Influenza sub-committee, and the September 2019 Influenza sub-committee
3. cell-culture vaccines were discussed in the September 2018 Influenza sub-committee meeting, the October 2018 JCVI meeting, and the September 2019 Influenza sub-committee
4. advice for the 2021/22 season was discussed via teleconference with the JCVI and invited experts from influenza subcommittee on 27 October 2020. The minutes of this meeting were published on the 8 December 2020
5. advice for the 2022/23 season was discussed via teleconference with the JCVI Influenza subcommittee on 3 September 2021 and subsequently ratified by the main JCVI Committee via correspondence. The minutes of the subcommittee were published on the 10 February 2022
6. advice for the 2023/24 season was discussed via teleconference with the JCV

Influenza subcommittee on 14 September 2022 and subsequently ratified by the main JCVI Committee via correspondence

7. advice for the 2024/25 season was discussed and confirmed at the 7 June 2023 JCVI meeting

The minutes of JCVI and influenza sub-committee meetings are available through the JCVI webpage at https://www.gov.uk/government/groups/joint-committee-on-vaccination-and-immunisation

Glossary

JCVI – Joint Committee on Vaccination and Immunisation

aQIV - Adjuvanted egg-cultured quadrivalent inactivated influenza vaccine

QIVc - Cell-cultured quadrivalent inactivated influenza vaccine

QIVe - Egg-cultured quadrivalent inactivated influenza vaccine

QIVr – Recombinant quadrivalent inactivated influenza vaccine

TIVe - Egg-cultured trivalent inactivated influenza vaccine

QIV-HD - High-dose egg-cultured quadrivalent inactivated influenza vaccine

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