Joint Committee on Vaccination and Immunisation

Advice on influenza vaccines for 2021/22

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Prepared by the Joint Committee on Vaccination and Immunisation scientific secretariat

Contents

JCVI advice on influenza vaccines for the 2021/2022 influenza season

JCVI has reviewed the latest evidence on influenza vaccines. The advice below represents the JCVI's scientific view on the use of influenza vaccines in the UK for the 2021/2022 influenza season. This includes vaccines anticipated for licensure before or during the ordering window for the 2021/22 influenza season. Vaccines should normally only be considered for use in the relevant populations once licensed. Changes to the vaccine portfolio available for 2021/22 include the replacement of trivalent for quadrivalent formulations for the adjuvanted and high dose influenza vaccines and the expected licensure of a recombinant quadrivalent vaccine in November 2020. The cell based quadrivalent vaccine is now licensed from the age of two years and above.

The advice below represents the JCVI's scientific view on the use of influenza vaccines in the UK for the 2021/22 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)

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.

If aQIV or QIV-HD are not available, the quadrivalent influenza cell-culture vaccine (QIVc) and the Quadrivalent Recombinant Influenza Vaccine (QIVr) are considered acceptable alternatives and are suitable for use in this age group. QIVc and QIVr are considered preferable to standard egg-culture influenza vaccines (TIVe/QIVe) in this age group, for reasons outlined below.

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 aQIV, compared with QIV-HD and for QIVc and QIVr.

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 other options are not available subject to the considerations below.

Considerations

Evidence from recent influenza seasons indicate a clear additional benefit in the use of quadrivalent influenza vaccines in those less than 65 years of age in an at-risk group, compared with trivalent influenza vaccines.

There is a potential advantage to using influenza vaccines which do not use egg in the manufacturing process (cell-culture or recombinant) compared with egg-cultured influenza vaccines, due to the possible impact of “egg-adaption” on the effectiveness of influenza vaccines, particularly against A(H3N2) strains. The evidence on additional benefit is available for only very few seasons but the issue of egg adaptation remains a real concern particularly for the AH3N2 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 adaption, is more effective than QIVe in adults under 65 years age. Therefore, QIVr is also preferred over QIVe in adults under 65 years old. The Committee notes that, QIVc has also been used more extensively than QIVr in the UK and there is more real-world effectiveness data in support of this vaccine.

Of the two non-egg manufactured vaccines the Committee notes that QIVc contains whole inactivated virus while QIVr contains only the haemagglutinin protein and not the neuraminidase subunit protein. JCVI undertook a further review of the available data on neuraminidase, as planned at the meeting on October 27 (minute to be published on 8 December), and noted that while there was some evidence of a role in protection after infection, JCVI did not find strong supporting evidence for the role of neuraminidase in vaccine protection. Whilst there may be a theoretical advantage for an influenza vaccine that contains neuraminidase there is uncertainty about the quantity of neuraminidase or the presence of antigenic epitopes contained in current products. In view of this review, JCVI considers that QIVc and QIVr should be considered acceptable alternatives. The Committee will keep this issue under review and look for more evidence on the role of neuraminidase and its quantification in influenza vaccines.

Based on the available evidence the Committee supports a preference for QIVc and QIVr over QIVe. The quadrivalent egg-culture inactivated vaccine (QIVe) can also be considered for use in this group 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

For vaccination of children aged two to less than 18 years of age in an at-risk group, the live attenuated influenza vaccine (LAIV) is the first choice. In those for whom LAIV is not suitable, JCVI advises the use of the influenza vaccines below in the following order of preference:

1. Quadrivalent influenza cell-culture vaccine (QIVc)[1]
2. Quadrivalent influenza egg-culture vaccine (QIVe)

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 egg-culture vaccine (QIVe)[2]

Operational considerations

The Committee is mindful that other factors than purely scientific and clinical advice need to be considered from an operational perspective, which include availability of supply and affordability, which will contribute to the decisions on which vaccines are purchased for the 2021/22 season. The aim of this advice is to provide a framework from which NHS England and PHE can take forward planning for the delivery of the Influenza programme in 2021/22 and communicate this clearly to providers and the public.

[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.

[2] The quadrivalent influenza egg culture vaccine (QIVe) is the only available influenza vaccine licensed for use in children aged less than two years old

Background

The considerations of JCVI with regards to use of these 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 will be published on the 8 December 2020.

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

Glossary

aQIV - Adjuvanted egg-cultured quadrivalent inactivated influenza vaccine

LAIV - Live attenuated egg-cultured intranasal 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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