

**Title: Conversations with healthy teenagers and their families about Covid-19 vaccines:
What do we need to know?**

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On 13th September 2021, the United Kingdom (UK) Chief Medical Officers (CMOs) recommended all 12-15 year olds be offered a single dose of Pfizer-BioNTech covid-19 vaccine.¹ This followed the Joint Committee on Vaccination and Immunisation's (JCVI)² recommendation *not* to offer covid-19 vaccines to healthy teenagers. The UK now joins a growing list of nations offering the vaccine to teenagers 12 and above— however only one dose will be offered rather than two doses as in other countries – due to concerns over rare side effects such as heart inflammation.^{3,4} Health benefits of covid-19 vaccination for healthy teenagers aged 12 years and older are small, given covid-19 infection does not pose a serious threat for them.⁵ However, the UK CMOs' decision was influenced by the wider benefit of reducing further disruption to education. Parents are understandably concerned about vaccine safety. How will schools and healthcare professionals cope with delivering up to 2.6 million covid-19 vaccines, addressing parents' questions⁶ and supporting teenagers to make informed vaccine decisions?

What are the pros and cons of vaccinating healthy teenagers?

The case for offering covid-19 vaccines to healthy teenagers is less compelling compared with other routine childhood vaccine programmes, that have years of safety data and direct benefits for individuals. Healthy teenagers are at extremely low risk of hospitalisation and death from covid-19 infection compared with adults,⁵ but vaccines protect against symptoms of covid 19 infection including headache and fatigue that can last beyond 12-16 weeks in a very small proportion of teenagers.⁷ Additional benefits of vaccination may be limited, as 30-50% of teenagers may already have acquired natural immunity to covid-19.⁸ Most teenagers aged 12-15 who received the Pfizer-BioNTech vaccine in clinical trials and mass vaccination in North America^{3,4} reported minor side effects such as fainting and pain at the injection site (79-86%).⁹ Other effects including fever, fatigue, and muscle pains (64%) and headache (49%) resolved within a few days.^{3,4,9} However, a small number of cases of heart inflammation (pericarditis and myocarditis) have been reported, affecting boys more than girls.¹⁰ The risk of myocarditis after this vaccine rises from 3-17 cases per million after one dose to 12-34 cases per million after a second dose.^{2,4} This informed the CMOs' decision to offer one initial dose to teenagers. No reports of death to date are thought to be the result of myocarditis following the vaccine, but long-term effects are unknown. The risk of myocarditis associated with covid-19 infection may be higher than that following vaccination but more research is needed. Parents can be assured that past covid-19 infection does not appear to confer a higher risk of myocarditis following vaccination.²

Vaccine conversations with teenagers and parents.

Conversations about vaccinating teenagers aged 12-15 against covid-19 may be more challenging for health professionals because the scientific case is weaker than for adults. Over half of parents in UK secondary schools report they definitely want their child to be vaccinated against covid-19, but a further 40% are unsure.¹¹ By contrast, 89% of UK youth aged 16 and 17 report no hesitation about covid 19 vaccine¹¹ aside from minor concerns such as anxiety about needles, and over half had their first dose within a month of becoming eligible. Several surveys are now inviting views from 12-15s. Thus, there is potential for teenagers and parents to disagree or for teenagers and families to perceive pressure or stigma if their decisions differ from their peers and school community. Consent procedures for covid-19 vaccines in schools will be managed by School Age Immunisation Service Teams (SAIST),¹² experienced in obtaining informed consent for Human Papillomavirus (HPV) vaccination and other programmes.¹³ Parents will be asked for prior consent, but under 16s with capacity to understand the risks and benefits, can provide consent.^{12,14} Experts have questioned the validity of informed consent during a pandemic when safety data are still emerging. Hence, some families may delay or refuse consent if queries or conflicts cannot be resolved before SAIST are on site.

Public Health England has published information for teenagers¹⁵ and parents¹⁶ but families may still opt to seek advice from trusted health professionals such as general practitioners and practice nurses who have always been key facilitators of vaccine decision making.¹⁷ Communicating with families, consenting and vaccinating up to 2.6 million teenagers will add significantly to existing workload pressures of general practitioners, nurses and SAIST, who are already overstretched catching up with routine vaccination disrupted by the pandemic.¹³ Tailored or communications and community engagement may be needed for some communities for whom English language or digital literacy are barriers.¹⁸ The UK could look to other nations' for accessible resources in friendly formats on social media to assist teenagers and families to make informed decisions about vaccination. Over seven million teenagers in the USA aged 12 and older have received one covid-19 vaccine dose.¹⁹ The USA introduced peer-to-peer vaccine advocate programmes such as the covid-19 Student Corps,²⁰ and high school students have set up the VaxTeen site²¹ providing resources for teens on subjects such as how to talk to your parents about vaccines. National Health Service health professionals and SAIST need protected time and resources to facilitate informed vaccine conversations with teenagers and their parents without pressure or judgment. Whatever teenagers or families decide, their views must be heard and respected.

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