

# **Covid-19 Vaccination- Information/Links for Parents and Teens**

# Key issues for parents and children to consider before making a decision

- 1. Very little direct benefit to healthy children from Covid-19 vaccination
- Latest data confirms children and young adults are at extremely low risk of from severe Covid-19. Most children experience very mild symptoms and recover within a week. <a href="https://www.bristol.ac.uk/news/2021/july/ncmd-covidrisks.html">https://www.bristol.ac.uk/news/2021/july/ncmd-covidrisks.html</a>
- Latest study shows children are at very small risk from Long Covid-19 and most recover within a week https://www.bbc.co.uk/news/health-58071898
- At least 70% of teens have now been infected and have already developed natural immunity through infection, which is thought to be more robust, comprehensive, and long-lasting than vaccine derived immunity. <a href="https://www.medrxiv.org/content/10.1101/2021.09.12.21263461v1">https://www.medrxiv.org/content/10.1101/2021.09.12.21263461v1</a>

#### 2. Known and unknown risks to children from Covid-19 vaccines

- There are risks attached to any new drug or vaccine and Covid-19 vaccines have limited short-term and no long-term safety data. The children's study used for emergency authorisation was small and short in duration to show up rare adverse events or any delayed reactions. Several risks have been identified since the roll out of these vaccines which were not identified in the trials eg myocarditis and clots but long term effects remain unknown. Please see section 4 of PIL <a href="https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/1016212/Temporary\_Authorisation\_Patient\_Information\_BNT162\_-09-09-2021.pdf">https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/1016212/Temporary\_Authorisation\_Patient\_Information\_BNT162\_-09-09-2021.pdf</a>
- The JCVI did not recommend mass roll out of Covid-19 vaccines for healthy 12-15 year olds. In their statement of Sept 3 they stated: "Overall, the committee ...acknowledges that there is considerable uncertainty regarding the magnitude of the potential harms. The margin of benefit, based primarily on a health perspective, is considered too small to support advice on a universal programme of vaccination of otherwise healthy 12 to 15-year-old children at this time. As longer-term data on potential adverse reactions accrue, greater certainty may allow for a reconsideration of the benefits and harms. Such data may not be available for several months." <a href="https://www.gov.uk/government/publications/jcvi-statement-september-2021-covid-19-vaccination-of-children-aged-12-to-15-years/jcvi-statement-on-covid-19-vaccination-of-children-aged-12-to-15-years/jcvi-statement-on-covid-19-vaccination-of-children-aged-12-to-15-years-3-september-2021-
- 3. Unethical to vaccinate children for the benefit of society and the vulnerable are (in any case) protected by their own vaccine or by naturally acquired immunity
- Up to 23 August, across the four UK countries, 81.7% to 86.7% were fully vaccinated, the rate is
  over 90% in the most vulnerable. <a href="https://www.ons.gov.uk/peoplepopulationandcommunity/">https://www.ons.gov.uk/peoplepopulationandcommunity/</a>
  healthandsocialcare/conditionsanddiseases/articles/coronaviruscovid19latestinsights/vaccines



- According to the latest ONS data, at least 91.2% of the adult population in UK tested positive for Covid-19 antibodies in the week beginning 23 August 2021 <a href="https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/coronaviruscovid19latestinsights/vaccines">https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/coronaviruscovid19latestinsights/vaccines</a>
- Some scientists argue that given how mild Covid-19 is for the young, allowing them to develop natural immunity is a good way of 'topping up' immunity in the population in the long run. <a href="https://www.thetimes.co.uk/article/children-better-off-catching-covid-naturally-than-having-a-jab-xx7kmwxrd">https://www.thetimes.co.uk/article/children-better-off-catching-covid-naturally-than-having-a-jab-xx7kmwxrd</a>
- Contrary to claims in the media, whilst children can catch and transmit Covid-19, children and schools have not been key drivers of transmission of Covid -19 and transmissions tend to follow community transmission. <a href="https://www.thetimes.co.uk/article/study-shows-schools-do-not-spread-covid-vmzgitckw">https://www.thetimes.co.uk/article/study-shows-schools-do-not-spread-covid-vmzgitckw</a>\
- The vaccinated can still catch and transmit Covid and a recent study has shown that once infected, the vaccinated are as likely to infect others as unvaccinated. <a href="https://www.medrxiv.org/content/10.1101/2021.07.31.21261387v1?">https://www.medrxiv.org/content/10.1101/2021.07.31.21261387v1?</a>

#### 4. The Science is not settled:

Scientists and medics worldwide are divided on extending the vaccines to under 18s. While several countries have already started vaccinating over 12's, UK's Joint Committee for Vaccination and Immunisations (JCVI) has stopped short of recommending mass roll out to healthy 12-15 year olds based on direct health benefits alone. <a href="https://www.gov.uk/">https://www.gov.uk/</a> government/publications/jcvi-statement-september-2021-covid-19-vaccination-of-childrenaged-12-to-15-years/jcvi-statement-on-covid-19-vaccination-of-children-aged-12-to-15years-3-september-2021 but the 4 CMO's overruled their decision on 13 September and recommended the vaccine to prevent 'further disruption to education' and protect children's mental health https://www.gov.uk/government/publications/universal-vaccination-of-childrenand-young-people-aged-12-to-15-years-against-covid-19/universal-vaccination-of-children-andyoung-people-aged-12-to-15-years-against-covid-19? However this has received much criticism given the uncertainty over the effect of vaccinating 12-15 on overall transmissions. As JCVI stated "There is considerable uncertainty regarding the impact of vaccination in children and young people on peer-to-peer transmission and transmission in the wider (highly vaccinated) population. Estimates from modelling vary substantially, and the committee is of the view that any impact on transmission may be relatively small, given the lower effectiveness of the vaccine against infection with the Delta variant."

The following pages outline some of the concerns raised by the international medical and scientific community around rolling out Covid-19 vaccines to children



# **UK Doctors and Scientists on Covid-19 Vaccines and Children**

JCVI Statement of Sept 3 stated: "Overall, the committee ...acknowledges that there is considerable uncertainty regarding the magnitude of the potential harms. The margin of benefit, based primarily on a health perspective, is considered too small to support advice on a universal programme of vaccination of otherwise healthy 12 to 15-year-old children at this time. As longer-term data on potential adverse reactions accrue, greater certainty may allow for a reconsideration of the benefits and harms. Such data may not be available for several months." <a href="https://www.gov.uk/government/publications/jcvi-statement-september-2021-covid-19-vaccination-of-children-aged-12-to-15-years/jcvi-statement-on-covid-19-vaccination-of-children-aged-12-to-15-years-3-september-2021">https://www.gov.uk/government/publications/jcvi-statement-on-covid-19-vaccination-of-children-aged-12-to-15-years-3-september-2021</a>

Professor Adam Finn of JCVI told The Times: "Parents are justified in waiting until the risks are clearer before getting their teenagers vaccinated and the NHS needs to spell out the uncertainty over long-term effects better" Writing with Guido Pieles, the consultant cardiologist who advised the JCVI, Finn explains that U.S. cardiologists are seeing signs of scarring in the hearts of otherwise healthy teenagers who suffer rare post-vaccine inflammation...they warn that such scarring is known to carry a risk of "life-threatening arrhythmias or sudden cardiac arrest". Finn and Pieles suggest that parents consider waiting six months or so until the longer-term consequences of heart changes start to become clear. <a href="https://dailysceptic.org/2021/09/18/covid-vaccines-for-children-would-not-be-approved-before-full-investigation-in-normal-times-says-government-advisor">https://dailysceptic.org/2021/09/18/covid-vaccines-for-children-would-not-be-approved-before-full-investigation-in-normal-times-says-government-advisor</a>

Adam Finn of JCVI: 'We could be doing more harm than good' by vaccinating healthy children' -latest data from paediatric cardiologists in the US shows that there are concerns about the long-term side effects of COVID-19 vaccine for children <a href="https://news.sky.com/video/covid-19-we-could-be-doing-more-harm-than-good-by-vaccinating-healthy-children-says-jcvi-member-12398939">https://news.sky.com/video/covid-19-we-could-be-doing-more-harm-than-good-by-vaccinating-healthy-children-says-jcvi-member-12398939</a>

**Prof Anthony Harnden deputy chair of JCVI:** My responsibility is to children not government' — JCVI deputy chair defends JCVI vaccine decision against mass roll out <a href="https://www.channel4.com/news/my-responsibility-is-to-children-not-government-jcvi-deputy-chair-defends-vaccine-decision">https://www.channel4.com/news/my-responsibility-is-to-children-not-government-jcvi-deputy-chair-defends-vaccine-decision</a>

**Professor Sarah Gilbert** of Oxford Vaccine Group -"if you can't prevent transmission by vaccination and the children are not at risk of severe disease and hospitalisation and death, which the vast majority of children are not, you have to ask yourself, what would be the benefits of vaccinating children" <a href="https://www.repubblica.it/esteri/2021/07/17/news/">https://www.repubblica.it/esteri/2021/07/17/news/</a> interview prof sarah gilbert astrazeneca oxford uk vaccines covid coronavirus pfizer jenner institute-310621042/

**Professor Andrew Pollard Oxford-jab chief and head of JCVI** has warned that herd immunity is not possible with Delta variant and even if all children were vaccinated, that wouldn't stop transmission of the virus.https://www.bbc.co.uk/news/health-58159573

**Prof Eleanor Riley** professor of immunology and infectious disease at Edinburgh University, said routine vaccination of healthy children and teenagers against Covid is of little benefit to them and would not protect adults from the virus, such a policy would only make sense if it completely



stopped the spread of the virus <a href="https://www.heraldscotland.com/news/19515018.covid-scotland-vaccinating-children-protect-adults-wont-work/">https://www.heraldscotland.com/news/19515018.covid-scotland-vaccinating-children-protect-adults-wont-work/</a>

**Professor John Edmunds**, epidemiologist at the London School of Hygiene and Tropical Medicine, told The Times: "Even if we started (vaccinating all teenagers) immediately it's not going to have much of an impact on the epidemiology in the next couple of months because they will only get a single dose and one dose isn't terribly effective at preventing infection with the Delta variant." <a href="https://www.thetimes.co.uk/article/covid-vaccines-for-teenagers-already-too-late-to-blunt-autumn-wave-6k0pmsjgz">https://www.thetimes.co.uk/article/covid-vaccines-for-teenagers-already-too-late-to-blunt-autumn-wave-6k0pmsjgz</a>

**Professor Harnden** Deputy chair of JCVI: "parents need to understand what the risks are, what the benefits are and make up their own mind about whether they offer consent or not... vaccinating 12-15 year-olds is not a black and white decision" <a href="https://www.bbc.co.uk/news/uk-58447040">https://www.bbc.co.uk/news/uk-58447040</a>

Professor David Livermore, a medical microbiologist at the University of East Anglia, told MailOnline: 'It is true that schoolchildren will mostly catch Covid, if unvaccinated. But it is a poor reason to vaccinate them. 'First, vaccines provide only limited protection against infection and transmission, so children are going to be infected over time anyway regardless of whether they have been vaccinated. At most, vaccinating them will only delay this. Secondly, Covid infection does healthy children little harm. They suffer mild disease and recover swiftly. Thirdly, evidence from Israel shows natural immunity — which children will acquire from infection — is 13-fold more protective than vaccination.' <a href="https://www.dailymail.co.uk/news/article-10021243/Scientists-slam-Chris-Whitty-scare-mongering-unjabbed-children-Covid.html">https://www.dailymail.co.uk/news/article-10021243/Scientists-slam-Chris-Whitty-scare-mongering-unjabbed-children-Covid.html</a>

Professor David Livermore, said "having a generation of children with natural immunity would help prevent cases spiralling later down the line"...."There is no direct reason to vaccinate children and adolescents against Covid. They are extremely unlikely to suffer severe disease if infected"...."Rare but serious side effects have been associated with the vaccines, including blood clots and myocarditis....for children the risk/benefit ratio is far less clear, and may reverse. 'Taking these three points together I can see no good reason to vaccinate under-18s, let alone 12-year-olds." <a href="https://www.dailymail.co.uk/news/article-9955325/JCVI-WONT-recommend-giving-Covid-vaccine-healthy-children-aged-12-15.html">https://www.dailymail.co.uk/news/article-9955325/JCVI-WONT-recommend-giving-Covid-vaccine-healthy-children-aged-12-15.html</a>

Professor Paul Hunter, epidemiologist at the University of East Anglia, told MailOnline: "If we are going to be vaccinating these children it has got to be in their interest, not in ours...it is one thing to say have a vaccine to protect your health, but quite another thing to persuade you to have a vaccine to protect my health. One is entirely ethical and the other is dubious." <a href="https://www.dailymail.co.uk/news/article-9956419/Shock-JCVI-experts-decide-NOT-recommend-Covid-jabs-healthy-children-aged-12-15.html">https://www.dailymail.co.uk/news/article-9956419/Shock-JCVI-experts-decide-NOT-recommend-Covid-jabs-healthy-children-aged-12-15.html</a>

**Professors Gupta and Heneghan from Oxford University**: Why we should not target children with Covid-19 vaccination policies. "First, they are unlikely to benefit from Covid-19 vaccination directly. Second, the collective benefit would likely be very limited. Third, we have already imposed very large costs on children during this pandemic through indiscriminate restrictions, using them as mere means to others' ends."

https://jme.bmj.com/content/medethics/early/2021/07/06/medethics-2021-107700.full.pdf



**Alberto Giubilini** of University of Oxford: The double ethical mistake of vaccinating children against Covid <a href="http://blog.practicalethics.ox.ac.uk/2021/09/the-double-ethical-mistake-of-vaccinating-children-against-covid-19/">http://blog.practicalethics.ox.ac.uk/2021/09/the-double-ethical-mistake-of-vaccinating-children-against-covid-19/</a>

**British Medical Journal (BMJ)**: Covid-19 vaccines for children: hypothetical benefits to adults do not outweigh risks to children

https://blogs.bmj.com/bmj/2021/07/13/covid-19-vaccines-for-children-hypothetical-benefits-to-adults-do-not-outweigh-risks-to-children/

**BMJ** - Vaccinating children against SARS-CoV-2 - Hard to justify right now for most children in most countries

https://www.bmj.com/content/373/bmj.n1197

**BMJ** – Covid-19 vaccines for children should not get emergency use authorization <a href="https://blogs.bmj.com/bmj/2021/05/07/covid-vaccines-for-children-should-not-get-emergency-use-authorization/">https://blogs.bmj.com/bmj/2021/05/07/covid-vaccines-for-children-should-not-get-emergency-use-authorization/</a>

**BMJ** Webinar with several key vaccine scientists including Adam Finn of JCVI: Covid19 vaccination in children: evidence, ethics, and equity - on YouTube search for video y6l9w3TlpyM

**BMJ** article: Public health logic of Covid-19 vaccinations: From a public health standpoint, it makes poor sense to impose vaccine side- effects on people at minimal risk of severe COVID-19. <a href="https://www.bmj.com/content/374/bmj.n2180/rr-4">https://www.bmj.com/content/374/bmj.n2180/rr-4</a>

**BMJ**: Covid-19 vaccines for teenagers: conversations and consent - The case for offering covid-19 vaccines to healthy teenagers is less compelling than the case for routine childhood vaccinations <a href="https://www.bmj.com/content/374/bmj.n2312">https://www.bmj.com/content/374/bmj.n2312</a>

Professor Adam Finn, JCVI member: "There is not enough evidence to justify vaccinating children against Covid-19, we cannot vaccinate children simply for the benefit of adults." <a href="https://news.sky.com/story/covid-19-children-are-less-infectious-with-coronavirus-so-shouldnt-have-a-vaccine-jcvi-expert-says-12359525">https://news.sky.com/story/covid-19-children-are-less-infectious-with-coronavirus-so-shouldnt-have-a-vaccine-jcvi-expert-says-12359525?</a>

**Professor Adam Finn** and **Professor Andrew Pollard**, JCVI members: " ...now, we should protect those at high risk of serious disease and death from covid-19 wherever they live in the world before widespread use of doses among low-risk children in high-income countries." <a href="https://www.tandfonline.com/doi/pdf/10.1080/14760584.2021.1951245?needAccess=true">https://www.tandfonline.com/doi/pdf/10.1080/14760584.2021.1951245?needAccess=true</a>&

**Professor Adam Finn of JCVI on BBC Radio 4**: If we can control the virus without immunising children, we shouldn't vaccinate children as a matter of principle because of possible side effects <a href="https://lockdownsceptics.org/2021/05/20/we-shouldnt-vaccinate-children-as-a-matter-of-principle-because-of-the-side-effects-says-government-vaccine-adviser/">https://lockdownsceptics.org/2021/05/20/we-shouldnt-vaccinate-children-as-a-matter-of-principle-because-of-the-side-effects-says-government-vaccine-adviser/</a>

**HART group**: Chris Whitty Ignores JCVI advice - 12-15-year-olds now offered COVID-19 vaccines 'to avoid educational disruptions' and 'for their mental health'

https://www.hartgroup.org/whitty-ignores-jcvi-advice/ https://www.hartgroup.org/unnecessary-for-healthy-children/



**HART group**: Recent deaths in young people in England and Wales - Increase in male mortality in 15-19 year olds should be investigated <a href="https://www.hartgroup.org/recent-deaths-in-young-people-in-england-and-wales/">https://www.hartgroup.org/recent-deaths-in-young-people-in-england-and-wales/</a>

**UKMFA** Urgent Email to UK Chief Medical Officers re Covid-19 Vaccine Rollout to Children 12-15 years <a href="https://www.ukmedfreedom.org/open-letters/ukmfa-urgent-email-to-uk-chief-medical-officers-re-covid-19-vaccine-rollout-to-children-12-15-years">https://www.ukmedfreedom.org/open-letters/ukmfa-urgent-email-to-uk-chief-medical-officers-re-covid-19-vaccine-rollout-to-children-12-15-years</a>

**Retired Paediatrician Dr Ros Jones of HART Group** – "Covid-19 Vaccination in children - major ethical concerns" <a href="https://www.hartgroup.org/covid-19-vaccination-in-children/">https://www.hartgroup.org/covid-19-vaccination-in-children/</a> and "It's against international law to vaccinate children to protect adults" <a href="https://youtu.be/-JKOJanzdt8">https://youtu.be/-JKOJanzdt8</a>

**HART Group** – "Covid-19 Vaccination in Children - irresponsible, unethical and unnecessary" https://www.hartgroup.org/child-vaccination-irresponsible/

**Prof Calum Semple**, a member of the Scientific Advisory Group for Emergencies (Sage), said not enough was known about possible side-effects if children were given Covid-19 jabs. <a href="https://www.theguardian.com/society/2021/jul/01/not-enough-evidence-to-back-covid-jabs-for-children-says-uk-expert">https://www.theguardian.com/society/2021/jul/01/not-enough-evidence-to-back-covid-jabs-for-children-says-uk-expert</a>

**Professor Robert Dingwall** said children may be "better protected by natural immunity generated through infection than by asking them to take the 'possible' risk of a vaccine". <a href="https://www.thetimes.co.uk/article/children-better-off-catching-covid-naturally-than-having-a-jab-xx7kmwxrd">https://www.thetimes.co.uk/article/children-better-off-catching-covid-naturally-than-having-a-jab-xx7kmwxrd</a>

**Health experts** urge caution on giving Covid-19 vaccines to UK children <a href="https://www.theguardian.com/society/2021/may/29/health-experts-urge-caution-on-giving-covid-vaccines-to-uk-children">https://www.theguardian.com/society/2021/may/29/health-experts-urge-caution-on-giving-covid-vaccines-to-uk-children</a>

**Professor Viner** and Robert Booy - suggest a "pause for thoughtful discussion" when direct and indirect benefits are limited and long-term safety and immunogenicity still to be determined mja.com.au/2021/29/covid-19-and-vaccination-in-children/

Interview with Dr Tony Hinton – "What is the point of jabbing teenagers?" <a href="https://www.pscp.tv/danjgregory/1ypKdgkeonoxW">https://www.pscp.tv/danjgregory/1ypKdgkeonoxW</a>

**Interview with GP and politician Dr David Bull:** Children should not be vaccinated <a href="https://youtu.be/SRBBAyp-Skg">https://youtu.be/SRBBAyp-Skg</a>

**Interview with 3 British Doctors** providing Guidance for Parents <a href="https://youtu.be/JN6fn33kolc">https://youtu.be/JN6fn33kolc</a>

Interview with NHS GP Dr Renee Hoenderkamp - full vaccine information is not being given: "I'm heartbroken for children and parents." <a href="http://youtu.be/4LBSC\_ZwffY">http://youtu.be/4LBSC\_ZwffY</a>



## International Doctors and Scientists on Covid-19 Vaccines and Children

Why are we vaccinating children against Covid-19? Clinical trials for these inoculations were very short-term and did not address long-term effects most relevant to children, high post-inoculation deaths reported in VAERS <a href="https://www.sciencedirect.com/science/article/pii/">https://www.sciencedirect.com/science/article/pii/</a> \$221475002100161X#!

This video by **Steve Kirsch** on myocarditis rates based on the US VAERS data <a href="https://rumble.com/vn50ns-tfnt10-myocarditis-deception.html">https://rumble.com/vn50ns-tfnt10-myocarditis-deception.html</a>

A diverse, multi-disciplined group from both Europe and the U.S. recently raised questions about COVID-19 vaccination in children.

https://trialsitenews.com/serious-group-of-scientists-declare-covid-19-vaccine-risks-too-high-to-ignore/

**Geert Vanden Bossche**: The unforgettable sin "By vaccinating our youngsters, children and, even more generally, all people in excellent health, we deprive an important part of the population from its 'anti-viral' capacity and instead turn them into a breeding ground for more infectious and increasingly NAb-resistant variants"

https://www.geertvandenbossche.org/post/the-unforgivable-sin

**Doctors for COVID Ethics**: Expert evidence regarding Comirnaty (Pfizer) Covid-19 Vaccine for Children <a href="https://doctors4covidethics.org/expert-evidence-regarding-comirnaty-covid-19-mrna-vaccine-for-children/">https://doctors4covidethics.org/expert-evidence-regarding-comirnaty-covid-19-mrna-vaccine-for-children/</a>

**Dr Peter McCullough and Jessica Rose PhD** analysis reveals a strong signal from the VAERS data that the risk of suffering CIRM – especially males is unacceptably high. <a href="https://www.sciencedirect.com/science/article/pii/S0146280621002267">https://www.sciencedirect.com/science/article/pii/S0146280621002267</a>

mRNA inventor Dr Robert Malone says young adults and teens should not be forced to have Covid-19 vaccine due to risk/benefit profile <a href="https://www.dailymail.co.uk/news/article-9719891/">https://www.dailymail.co.uk/news/article-9719891/</a> <a href="https://www.dailymail.co.uk/news/article-9719891/">https://www.dailymail.co.uk/n

**Dr Byram Bridle** - associate professor and viral immunologist — "Children and Covid-19 vaccines - A scientist's guide for parents" <a href="https://www.docdroid.net/RpGaw8t/2021-06-15-children-and-covid-19-vaccines-full-guide-final-pdf">https://www.docdroid.net/RpGaw8t/2021-06-15-children-and-covid-19-vaccines-full-guide-final-pdf</a>

**Dr Andrew Bostom** - Academic internist & epidemiologist: "Burgeoning Evidence of Myopericarditis after Covid-19 Vaccination in Young People" <a href="https://www.andrewbostom.org/2021/06/burgeoning-evidence-of-myopericarditis-after-covid-19-vaccination-in-young-people-a-call-for-acknowledgment-pause-and-serious-study/">https://www.andrewbostom.org/2021/06/burgeoning-evidence-of-myopericarditis-after-covid-19-vaccination-in-young-people-a-call-for-acknowledgment-pause-and-serious-study/</a>

**Dr. Bhattacharya** - Stanford Epidemiologist: "Dr. Fauci is just dead wrong re kids' vaccination" <a href="https://video.foxnews.com/v/6253600009001">https://video.foxnews.com/v/6253600009001</a> - sp=show-clips



**Professor Peter McCullough MD** – "Why Kids Must Avoid the mRNA Covid-19 Shot" <a href="https://rumble.com/vjd0bp-why-kids-must-avoid-the-mrna-covid-shot.html">https://rumble.com/vjd0bp-why-kids-must-avoid-the-mrna-covid-shot.html</a>

**Dr Robert Malone** inventor of mRNA technology believes the risk/benefit does not work in favour of vaccinating the young

https://video.foxnews.com/v/6260751069001 - sp=show-clips

https://podcasts.apple.com/ca/podcast/mrna-inventor-robert-malone-backs-up-prof-byram-bridle/id1513237951?i=1000526212312

https://www.lifesitenews.com/news/inventor-of-mrna-vaccine-jabs-not-justified-for-young-data-for-informed-consent-lacking

**Doctors for COVID Ethics**: Expert evidence regarding Comirnaty (Pfizer) Covid-19 Vaccine for Children

https://doctors4covidethics.org/expert-evidence-regarding-comirnaty-covid-19-mrna-vaccine-for-children/

**Dr Charles Hoffe** explains why you must say 'No' to child vaccination <a href="https://childrenshealthdefense.eu/aiovg\_videos/dr-charles-hoffe-explains-why-you-must-say-no-to-child-vaccination/">https://childrenshealthdefense.eu/aiovg\_videos/dr-charles-hoffe-explains-why-you-must-say-no-to-child-vaccination/</a>?

**Exclusive Interview with Prof Sukharit Bhakdi** "Parents are willingly allowing their children to be killed if they allow them to have the Covid Vaccine"

https://dailyexpose.co.uk/2021/05/16/exclusive-interview-with-dr-bhakdi-parents-are-willingly-allowing-their-children-to-be-killed-if-they-allow-them-to-have-the-covid-vaccine/

**Dr. Paul Elias Alexander**, a former senior adviser to Covid-19 pandemic policy in the U.S: Children and teens do not need Covid-19 vaccines and can be harmed by them <a href="https://www.lifesitenews.com/news/no-covid-19-vaccines-needed-for-children-and-teens-former-hhs-advisor-and-epidemiologist/">https://www.lifesitenews.com/news/no-covid-19-vaccines-needed-for-children-and-teens-former-hhs-advisor-and-epidemiologist/</a>

America's Frontline Doctors restraining order against Covid-19 vaccines for children <a href="https://americasfrontlinedoctors.org/frontlinenews/americas-frontline-doctors-files-lawsuit-to-stop-child-covid-shots/">https://americasfrontlinedoctors.org/frontlinenews/americas-frontline-doctors-files-lawsuit-to-stop-child-covid-shots/</a>

Canadian doctors: Guide to Covid-19 vaccines for Parents <a href="https://www.lifesitenews.com/images/pdfs/2021-05-31">https://www.lifesitenews.com/images/pdfs/2021-05-31</a> - Guide to COVID-19 vaccines for parents - FINAL.pdf

**Dr Zelenko** calls child vaccine mandate "coercive human experimentation, crimes against humanity" <a href="https://americasfrontlinedoctors.org/frontlinenews/dr-zelenko-calls-child-vaccine-mandate-coercive-human-experimentation-crimes-against-humanity/">https://americasfrontlinedoctors.org/frontlinenews/dr-zelenko-calls-child-vaccine-mandate-coercive-human-experimentation-crimes-against-humanity/</a>



## **Known Risks and Adverse Events**

- 1. Myocarditis (heart inflammation)
- CDC Covid-19 report: Vaccine Safety in US Adolescents aged 12-17 years Of the 9246 reports
  of adverse events reported up to July 16 2021, 9.3% of reports have been serious events
  including 397 reports of Myocarditis and 14 deaths. <a href="https://www.cdc.gov/mmwr/volumes/70/wr/mm7031e1.htm">https://www.cdc.gov/mmwr/volumes/70/wr/mm7031e1.htm</a>
- The latest data from US VAERS shows alarming rates among teens <a href="https://openvaers.com/covid-data/myo-pericarditis">https://openvaers.com/covid-data/myo-pericarditis</a>
- UK health chiefs now say rates of myocarditis ARE higher than expected among young adults https://www.dailymail.co.uk/news/article-9725051/UK-health-chiefs-say-rates-myocarditis-higher-expected-amoung-young-adults.html
- MHRA adds warning re Pfizer and Moderna and risk of Myocarditis <a href="https://www.dailymail.co.uk/news/article-9765259/British-health-chiefs-sneak-warnings-Pfizer-Modernas-Covid-vaccines.html">https://www.dailymail.co.uk/news/article-9765259/British-health-chiefs-sneak-warnings-Pfizer-Modernas-Covid-vaccines.html</a>
- We do not know long term effects. **Adam Finn** of the JCVI on This Morning 8 September 2021: "There is quite a high level of uncertainty around the safety of the vaccine in this age group...It does cause side effects - rare, occasional side effects - that could turn out to be serious...It wouldn't be scientifically honest to say this was absolutely fine when we really don't know for sure that it is." When asked about cases of inflammation of the heart: "These are rare cases. And the good news about those cases is that the children affected - they can be quite ill, but they do get better quite quickly and go home from hospital seemingly well. So far we have no real concerns about this. The problem is though, that the investigations done on the hearts of these children do show some changes on the scans. And it will take some time to find out whether those changes resolve and they end up with a perfectly normal heart with no risk of future problems - or not." ... "We can't be absolutely sure [there's no long-term damage to children from the vaccine]. And that's why indeed the JCVI has hesitated to make a clear recommendation to immunise all these children. Because it is conceivable that it will turn out that there will be a small number of children who could have long-term injury as a consequence of this. We are very definite in this country that we don't recommend vaccination routinely unless we're really sure that the benefits outweigh the risks."
- Israel reports link between myocarditis and Pfizer vaccine <a href="https://www.sciencemag.org/news/2021/06/israel-reports-link-between-rare-cases-heart-inflammation-and-covid-19-vaccination">https://www.sciencemag.org/news/2021/06/israel-reports-link-between-rare-cases-heart-inflammation-and-covid-19-vaccination</a>
- Latest studies and data shows Myocarditis risk is higher in the young and 6 x more likely after second shot, more prevalent in boys and long term risks unknown <a href="https://jamanetwork.com/journals/jamacardiology/journals/jamacardiology/fullarticle/2783052?">https://jamanetwork.com/journals/jamacardiology/fullarticle/2783052?</a>, <a href="https://www.nejm.org/doi/full/10.1056/NEJMoa2109730">https://www.nejm.org/doi/full/10.1056/NEJMoa2109730</a>
- This study shows higher risk of myocarditis after Covid-19 vaccines than risk of hospitalisations from Covid in teens. SARS-CoV-2 mRNA Vaccination-Associated Myocarditis in Children Ages



# 12-17: A Stratified National Database Analysis <a href="https://www.medrxiv.org/content/10.1101/2021.08.30.21262866v1">https://www.medrxiv.org/content/10.1101/2021.08.30.21262866v1</a>

- The risk can't be dismissed as a mild and limiting condition <a href="https://www.hartgroup.org/myocarditis-side-effect/">https://www.hartgroup.org/myocarditis-side-effect/</a>
- There has been numerous reports of athletes suffering from cardiac events in the media.
   Doctors in Belgium have advised against intensive sport after Covid Vaccination <a href="https://www.brusselstimes.com/belgium/181660/doctors-advise-against-intensive-sport-after-covid-vaccination/">https://www.brusselstimes.com/belgium/181660/doctors-advise-against-intensive-sport-after-covid-vaccination/</a>
- CDC slides on adverse events and myocarditis from p 14 onwards showing higher rates in the young and especially males <a href="https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2021-06/03-COVID-Shimabukuro-508.pdf">https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2021-06/03-COVID-Shimabukuro-508.pdf</a>
- Israel reports link between rare cases of heart inflammation and Covid-19 vaccination in young men, the rate among those vaccinated was somewhere between 5 and 25 times the background rate <a href="https://www.science.org/news/2021/06/israel-reports-link-between-rare-cases-heart-inflammation-and-covid-19-vaccination">https://www.science.org/news/2021/06/israel-reports-link-between-rare-cases-heart-inflammation-and-covid-19-vaccination</a>
- This study from Israel gives rates of 1 in 7283 for second dose in 16-19s <a href="https://www.nejm.org/doi/full/10.1056/NEJMoa2109730?">https://www.nejm.org/doi/full/10.1056/NEJMoa2109730?</a>
- This report by Rose and McCullough shows 19x increase in myocarditis over background rates in 12-15s in the 8 weeks after vaccine rollout. <a href="https://www.sciencedirect.com/science/article/abs/pii/S0146280621002267">https://www.sciencedirect.com/science/article/abs/pii/S0146280621002267</a>
- In Canada, up to 7 August, Over 100 Ontario youth were sent to hospital for heart problems https://www.publichealthontario.ca/-/media/documents/ncov/epi/covid-19-myocarditispericarditis-vaccines-epi.pdf?, <a href="https://torontosun.com/news/provincial/over-100-ontario-youth-have-been-sent-to-hospital-for-vaccine-related-heart-problems">https://torontosun.com/news/provincial/over-100-ontario-youth-have-been-sent-to-hospital-for-vaccine-related-heart-problems</a>

### 2. Blood Clots

- According to the latest study, Pfizer's coronavirus vaccine is just as likely to trigger blood clots as AstraZeneca's <a href="https://www.dailymail.co.uk/news/article-9838639/AstraZeneca-vaccine-risk-blood-clots-Pfizers-study-finds.html">https://www.dailymail.co.uk/news/article-9838639/AstraZeneca-vaccine-risk-blood-clots-Pfizers-study-finds.html</a>
- While Astra Zeneca vaccines have been stopped for under 40s due to risk of blood clots, latest studies show that Pfizer vaccine carries the same risk of blood clots. <a href="https://www.dailymail.co.uk/news/article-9838639/AstraZeneca-vaccine-risk-blood-clots-Pfizers-study-finds.html">https://www.dailymail.co.uk/news/article-9838639/AstraZeneca-vaccine-risk-blood-clots-Pfizers-study-finds.html</a>



## 3. Bell's Palsy

Pfizer vaccine is linked to Bell's Palsy (one sided facial drooping) and it is listed as a rare side
effect in the patient information leaflet <a href="https://www.telegraph.co.uk/news/2021/07/19/pfizer-vaccine-linked-bells-palsy-man-suffers-facial-paralysis/">https://www.telegraph.co.uk/news/2021/07/19/pfizer-vaccine-linked-bells-palsy-man-suffers-facial-paralysis/</a>

#### 4. Menstrual Issues

 35000 women have so far reported period problems after Covid-19 jabs in the UK. A study has been launched to investigate this effect <a href="https://www.bmj.com/content/374/bmj.n2211">https://www.bmj.com/content/374/bmj.n2211</a>

## 5. Eye inflammation

• Pfizer Covid-19 vaccine linked to rare cases of eye inflammation <a href="https://www.jpost.com/health-science/pfizer-covid-19-vaccine-linked-to-rare-cases-of-eye-inflammation-study-675839">https://www.jpost.com/health-science/pfizer-covid-19-vaccine-linked-to-rare-cases-of-eye-inflammation-study-675839</a>

## 6. Skin and Kidney disorders

EU is looking at possible link to a skin condition and 2 kidney disorders from mRNA vaccines
 <a href="https://www.reuters.com/business/healthcare-pharmaceuticals/eu-drugs-regulator-looking-new-possible-side-effects-mrna-vaccines-2021-08-11/">https://www.reuters.com/business/healthcare-pharmaceuticals/eu-drugs-regulator-looking-new-possible-side-effects-mrna-vaccines-2021-08-11/</a>

#### 7. Other

- UK Yellow Card adverse events monitoring system received 118970 reports of adverse events following Pfizer vaccine up to 30 September including 552 fatal full breakdown <a href="https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/998073/COVID-19">https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/998073/COVID-19</a> mRNA Pfizer-BioNTech Vaccine Analysis Print DLP 23.06.2021.pdf
- This page provides a quick summary taken from UK government data <a href="https://yellowcard.ukcolumn.org/yellow-card-reports">https://yellowcard.ukcolumn.org/yellow-card-reports</a>
- An overview on Covid-19 vaccine adverse events Swiss Policy Research <a href="https://swprs.org/the-latest-on-covid-vaccine-adverse-events/">https://swprs.org/the-latest-on-covid-vaccine-adverse-events/</a>
- Video of US Senator Ron Johnson with families of vaccine victims on adverse reactions to Covid-19 vaccines <a href="https://www.youtube.com/watch?v=6mxqC9SiRh8&t=752s">https://www.youtube.com/watch?v=6mxqC9SiRh8&t=752s</a>



# Individual Adverse Event Stories relating to Children/Young Adults in the Media

Giulia Lucenti: 16 year old girl dies 1 day after Prizer vaccine

https://thecovidworld.com/giulia-lucenti-16-year-old-dies-1-day-after-receiving-her-second-pfizer-covid-19-vaccine/

Joshua Henry: 14-Year-Old Boy in Guyana Dies From Massive Brain Bleed Hours After Receiving His Second Pfizer COVID-19 Vaccine <a href="https://thecovidworld.com/joshua-henry-14-year-old-boy-dies-from-massive-brain-bleed-hours-after-receiving-his-second-pfizer-covid-19-vaccine/">https://thecovidworld.com/joshua-henry-14-year-old-boy-dies-from-massive-brain-bleed-hours-after-receiving-his-second-pfizer-covid-19-vaccine/</a>

Arianna: 13 year old girl dies less than 24 hours after second Pfizer vaccine <a href="https://thecovidworld.com/13-year-old-girl-dies-24-hours-after-receiving-her-second-pfizer-covid-19-vaccine/">https://thecovidworld.com/13-year-old-girl-dies-24-hours-after-receiving-her-second-pfizer-covid-19-vaccine/</a>

'I Just Want My Life Back' Says 16-Year-Old Who Developed Neurological Symptoms After Pfizer Vaccine <a href="https://childrenshealthdefense.org/defender/sarah-green-16-year-old-neurological-symptoms-pfizer-vaccine/">https://childrenshealthdefense.org/defender/sarah-green-16-year-old-neurological-symptoms-pfizer-vaccine/</a>

18-year-old Teen Suffers Severe Heart Damage After Second Pfizer Dose, Mother Says Hospital 'Clueless' About Reporting to VAERS

https://childrenshealthdefense.org/defender/david-mallozzi-myocarditis-pfizer-vaccine-hospital-not-reporting-vaers/

18 Connecticut Teens Hospitalised for Heart Problems after Covid-19 Vaccines <a href="https://childrenshealthdefense.org/defender/18-connecticut-teens-hospitalized-heart-problems-covid-vaccines/">https://childrenshealthdefense.org/defender/18-connecticut-teens-hospitalized-heart-problems-covid-vaccines/</a>

Teen suffers Guillain-Barre Syndrome after Covid-19 shot <a href="https://childrenshealthdefense.org/defender/teen-guillain-barre-covid-vaccine/">https://childrenshealthdefense.org/defender/teen-guillain-barre-covid-vaccine/</a>

CDC reports 2 more infant deaths following Covid-19 shots during clinical trials <a href="https://healthimpactnews.com/2021/cdc-reports-2-more-infant-deaths-following-experimental-covid-injections-during-clinical-trials/">https://healthimpactnews.com/2021/cdc-reports-2-more-infant-deaths-following-experimental-covid-injections-during-clinical-trials/</a>

US Teen hospitalised with blood clots in brain after first dose of Pfizer vaccine <a href="https://childrenshealthdefense.org/defender/teen-hospitalized-brain-blood-clots-after-pfizer-vaccine/">https://childrenshealthdefense.org/defender/teen-hospitalized-brain-blood-clots-after-pfizer-vaccine/</a>

Singapore Doctors Demand Halt of Covid-19 Vaccination of Teens Following unexplained Death of 13-year-old Boy

https://greatgameindia.com/singapore-halt-vaccination-teens/

Singapore Teen With Cardiac Arrest After Vaccine Gets \$166,000 <a href="https://www.bloomberg.com/news/articles/2021-08-16/singapore-teen-with-cardiac-arrest-after-vaccine-gets-166-000">https://www.bloomberg.com/news/articles/2021-08-16/singapore-teen-with-cardiac-arrest-after-vaccine-gets-166-000</a>



Mother of Covid-19 vaccine-injured teen tells RFK Jr she was "gaslighted by doctors" <a href="https://childrenshealthdefense.org/defender/rfk-jr-the-defender-podcast-marie-follmer-mom-pfizer-vaccine-injured-teen/">https://childrenshealthdefense.org/defender/rfk-jr-the-defender-podcast-marie-follmer-mom-pfizer-vaccine-injured-teen/</a>

13-year-old dies in sleep after receiving Pfizer shot <a href="https://www.newsweek.com/13-year-old-dies-sleep-after-receiving-pfizer-covid-vaccine-cdc-investigating">https://www.newsweek.com/13-year-old-dies-sleep-after-receiving-pfizer-covid-vaccine-cdc-investigating</a>

Dad: "My son's school made him a get a Covid vaccine, now he has a heart condition" <a href="https://childrenshealthdefense.org/defender/teen-heart-condition-pfizer-covid-vaccine-fabio-berlingieri-fox-friends/">https://childrenshealthdefense.org/defender/teen-heart-condition-pfizer-covid-vaccine-fabio-berlingieri-fox-friends/</a>

Majda El Azrak 14 year old who went into a coma two days after receiving her second Pfizer vaccine <a href="https://thecovidworld.com/majda-el-azrak-14-year-old-who-went-into-a-coma-two-days-after-receiving-her-second-pfizer-covid-19-vaccine-has-died/">https://thecovidworld.com/majda-el-azrak-14-year-old-who-went-into-a-coma-two-days-after-receiving-her-second-pfizer-covid-19-vaccine-has-died/</a>

California teen died of heart condition two days after Covid vaccine <a href="https://www.lifesitenews.com/news/california-teenager-died-of-heart-condition-two-days-after-covid-vaccine-death-report/">https://www.lifesitenews.com/news/california-teenager-died-of-heart-condition-two-days-after-covid-vaccine-death-report/</a>

16 year old boys during online class after second Pfizer jab <a href="https://www.lifesitenews.com/news/healthy-16-year-old-boy-dies-during-online-class-after-second-pfizer-jab-vaers-database/">https://www.lifesitenews.com/news/healthy-16-year-old-boy-dies-during-online-class-after-second-pfizer-jab-vaers-database/</a>



# Open Letters by Medics/Scientists against rollout of Covid-19 Vaccines to Children

Open letter by 60 Medics to UK's MHRA

https://www.hartgroup.org/unnecessary-for-healthy-children/https://www.hartgroup.org/open-letter-child-vaccination/

Open letter by **Dr Tess Lawrie** from The Evidence Base Centre to UK's MHRA asking to halt the Covid-19 vaccine rollout due to safety concerns <a href="https://ebmcsquared.org/wp-content/uploads/2021/08/UpdatedReportYellowCardData">https://ebmcsquared.org/wp-content/uploads/2021/08/UpdatedReportYellowCardData</a> 20210809.pdf

Open letter by **UK Medical Freedom Alliance** to MHRA re emergency authorisation of the Pfizer vaccine for children

https://www.ukmedfreedom.org/open-letters/ukmfa-urgent-open-letter-to-the-mhra-re-emergency-authorisation-of-the-pfizer-covid-19-vaccine-for-children

Open letter by **93 Israeli doctors** not to use Covid-19 vaccine in children https://www.israelnationalnews.com/News/News.aspx/304124

Open letter by **Swedish doctors** against blanket vaccination of children <a href="https://sputniknews.com/europe/202105061082813839-do-not-vaccinate-young-and-healthy-swedish-doctors-pen-open-letter-against-blanket-inoculation/">https://sputniknews.com/europe/202105061082813839-do-not-vaccinate-young-and-healthy-swedish-doctors-pen-open-letter-against-blanket-inoculation/</a>

Open letter by UK parent group **UsforThem** to Boris Johnson signed by over 11k including medics/scientists/academics to halt the rollout <a href="https://usforthem.co.uk/notforthem/">https://usforthem.co.uk/notforthem/</a>

Open letter to Headteachers by **UK Medical Freedom Alliance** re Covid-19 Vaccination in Schools <a href="https://www.ukmedfreedom.org/open-letters/open-letter-to-headteachers-and-teachers-re-covid-19-vaccination-of-children-in-schools">https://www.ukmedfreedom.org/open-letters/open-letter-to-headteachers-and-teachers-re-covid-19-vaccination-of-children-in-schools</a>

Open letter to Government and vaccine advisors by anonymous **NHS consultant** to officially record some professional concerns

https://tcp.art.blog/2021/07/06/covid-vax-kids-consent-a-redline-to-the-rubicon/



## Media Articles and Videos - Covid-19 vaccines and Children

Are children better protected by natural immunity than vaccination? Natural Covid infections produce a stronger secondary immune response than the vaccine study claims <a href="https://www.dailymail.co.uk/news/article-10075577/Natural-Covid-infection-produces-stronger-secondary-immune-response-vaccine-study-claims.html">https://www.dailymail.co.uk/news/article-10075577/Natural-Covid-infection-produces-stronger-secondary-immune-response-vaccine-study-claims.html</a>

Boys more at risk from Pfizer jab side-effect than Covid, suggests study <a href="https://www.theguardian.com/world/2021/sep/10/boys-more-at-risk-from-pfizer-jab-side-effect-than-covid-suggests-study?">https://www.theguardian.com/world/2021/sep/10/boys-more-at-risk-from-pfizer-jab-side-effect-than-covid-suggests-study?</a>

MARYANNE DEMASI PhD: "Should we be vaccinating 12–15-year-olds?" <a href="https://maryannedemasi.com/blog/f/covid-19---should-we-be-vaccinating-12-to-15-year-olds">https://maryannedemasi.com/blog/f/covid-19---should-we-be-vaccinating-12-to-15-year-olds</a>

PANDATA: "10 reasons why we shouldn't vaccinate children - All risk zero benefit" <a href="https://www.pandata.org/allrisk-zerobenefit/">https://www.pandata.org/allrisk-zerobenefit/</a>?

13 reasons why you should not allow your child to get the Covid-19 Vaccine <a href="https://theexpose.uk/2021/09/14/13-reasons-why-you-should-not-allow-your-child-to-get-the-covid-19-vaccine/">https://theexpose.uk/2021/09/14/13-reasons-why-you-should-not-allow-your-child-to-get-the-covid-19-vaccine/</a>

Children vaccines: High Court asked to pause Covid jab rollout for kids <a href="https://www.express.co.uk/">https://www.express.co.uk/</a> <a

Arguing children need vaccines for their mental health & social development is scientifically illiterate & morally reprehensible <a href="https://www.rt.com/op-ed/534696-covid-uk-vaccination-children/">https://www.rt.com/op-ed/534696-covid-uk-vaccination-children/</a>

Healthy kids DO NOT need vaccinating whatever the Government, says ESTHER MCVEY <a href="https://www.express.co.uk/comment/expresscomment/1489737/heath-ministers-children-overrule-parents-covid-vaccine-esther-mcvey">https://www.express.co.uk/comment/expresscomment/1489737/heath-ministers-children-overrule-parents-covid-vaccine-esther-mcvey</a>

BBC: "Should all Children get the vaccine" <a href="https://www.bbc.co.uk/news/health-57203521">https://www.bbc.co.uk/news/health-57203521</a>

AIER: "Why are We Vaccinating Children against Covid-19?" https://www.aier.org/article/why-are-we-vaccinating-children-against-covid-19/

CONSERVATIVE WOMAN: "Why are we risking our children's health with unnecessary vaccine?" <a href="https://www.conservativewoman.co.uk/why-are-we-risking-our-childrens-health-with-unnecessary-vaccine/">https://www.conservativewoman.co.uk/why-are-we-risking-our-childrens-health-with-unnecessary-vaccine/</a>



THE CRITIC: Should we be jabbing children?

https://thecritic.co.uk/should-we-be-jabbing-children/?

SPIKED ONLINE: The madness of vaccinating teenagers

https://www.spiked-online.com/2021/06/07/the-madness-of-vaccinating-teenagers/

Deaths among teenagers up 56% since vaccine roll out began

https://dailysceptic.org/2021/10/01/deaths-among-teenagers-up-56-since-vaccine-rollout-began/

FDA Committee Discussion Opines Men Under 40 at Greater Risk of Vaccine-Related Myocarditis than COVID Itself. <a href="https://www.zerohedge.com/news/2021-09-19/fda-committee-discussion-opines-men-under-40-greater-risk-vaccine-related">https://www.zerohedge.com/news/2021-09-19/fda-committee-discussion-opines-men-under-40-greater-risk-vaccine-related</a>

The Ethical Bankruptcy of Vaccinating 12-15 year olds against Covid-19 <a href="https://dailysceptic.org/the-ethical-bankruptcy-of-vaccinating-12-15-year-olds-against-sars-cov-2/">https://dailysceptic.org/the-ethical-bankruptcy-of-vaccinating-12-15-year-olds-against-sars-cov-2/</a>