Notes on COVID-19

Part 30: 2021-11-01 to 2022-02-28

Peter Bernard Ladkin
2022-02-28

2021-11-13 An observational study in The Lancet of Israeli data, including 728,000+ individuals in the third-dose group as well as the control group, both previously twice-vaccinated at least 5 months previously, shows vaccine effectiveness evaluated at least 7 days after receipt of the third dose,estimated to be 93% (95% CI 88–97) for admission to hospital, 92% (95% CI 82–97) for severe disease, and 81% (95% CI 59–97) for COVID-19-related death. Barda N, Dagan N, et al, Effectiveness of a third dose of the BNT162b2 mRNA COVID-19 vaccine for preventing severe outcomes in Israel: an observational study, The Lancet 2021-10-29, doi: 10.1016/S0140-6736(21)02249-2 https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)02249-2/fulltext Comment by Reddy KS, Boosters appear effective, but are they always needed? The Lancet 2021-10-29, doi: 10.1016/S0140-6736(21)02388-6 https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)02388-6/fulltext

2021-11-13 The ATACCC study at Imperial College looked at household transmission of Covid-19 amongst both vaccinated and unvaccinated index cases, between September 2020 and September 2021. Both secondary attack rates and peak viral load were similar. However, vaccination reduces the risk of infection (obviously), and accelerates viral clearance. Singanayagam A, Hakki S, et al, Community transmission and viral load kinetics of the SARS-CoV-2 delta (B.1.617.2) variant in vaccinated and unvaccinated individuals in the UK: a prospective, longitudinal, cohort study, The Lancet Infectious Diseases, 2021-10-29, doi: 10.1016/S1473-3099(21)00648-4 , https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(21)00648-4/fulltext Comment by Wilder-Smith A, What is the vaccine effect on reducing transmission in the context of the SARS-CoV-2 delta variant?, The Lancet Infectious Diseases, 2021-11-13, doi: 10-1016/S1473-3099(21)00690-3 , https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(21)00690-3/fulltext

2021-11-13 A Belgian study in The Lancet Respiratory Medicine found that "[d]*rugs targeting IL-1 or IL-6 did not shorten the time to clinical improvement in this sample of patients with COVID-19, hypoxic respiratory failure, low SOFA score, and low baseline mortality risk.*" The blockers were anakinra for IL-1 and tocilizumab or siltuximab for IL-6. Declerq J, Van Damme KFA, et al, Effect of anti-interleukin drugs in patients with COVID-19 and signs of cytokine release syndrome (COV-AID): a factorial, randomised, controlled trial, The Lancet Respiratory Medicine, 2021-10-29, doi: 10-1016/S2213-2600(21)00377-5 , https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(21)00377-5/fulltext The comment by Cavalli and Dagna notes the partial contrast with existing results, especially those of RECOVERY and REMAP-CAP concerning tocilizumab. Different enrollment conditions and

different outcome definitions might have something to do with it. Cavalli G and Dagna L, The course of action for effective anti-cytokine treatment in COVID-19, The Lancet Respiratory Diseases, 2021-10-29, doi 10.1016/S2213-2600(21)00405-7
https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(21)00405-7/fulltext

2021-11-13 A study of 134 patients in France has led to a characterisation of severe Covid-19, as in the title of the paper. Bonnet B, Cosme J, et al, Severe COVID-19 is characterized by the co-occurrence of moderate cytokine inflammation and severe monocyte dysregulation, EBioMedicine 73(103622), 2021-10-19, doi: 10.1016/S2352-3964(21)00415-1
https://www.thelancet.com/journals/ebiom/article/PIIS2352-3964(21)00415-1/fulltext

2021-11-13 A study of health-care workers in the UK showed that those exposed who did not get Covid-19 compared with those who did suffer from Covid-19 may have shown a different reaction associated with T-cells, that maybe enabled them to clear the virus before getting infected. There are caveats, of course. Description in Kozlov M, How do people resist COVID infections? Hospital workers offer a hint, Nature 2021-11-11, https://www.nature.com/articles/d41586-021-03110-4

2021-11-13 Antivirals are on the march! This time, another pill to be taken at home for a few days. Pfizer's Paxlovid (ritonavir) showed 89% efficacy in Phase 2/3 trial on high-risk individuals. News release 2021-11-05 https://www.pfizer.com/news/press-release/press-release-detail/pfizers-novel-covid-19-oral-antiviral-treatment-candidate

2021-11-18 A meta-analysis in the BMJ of various non-pharmaceutical measures concluded that compulsory mask-wearing and handwashing were each about 50% effective in reducing transmission of Covid-19; physical distancing less so (about 25%). The 95% CI for handwashing was, though, rather large. The study is significant for its careful use of statistical techniques, but it is unclear what practical conclusions may be drawn from it. The qualitative facts are obvious: a medical mask stops people directionally spraying virus; besides that, an FFP2 mask helps filter air breathed in; a well-fitted FFP3 mask reduces the intake of virions from a virion-laden environment considerably. These are all obvious, well-known physical properties. What else does anyone need to know? Similarly, hands are generally the only part of the body which touches the vulnerable bodily intake positions for SARS-CoV-2 and other respiratory virions. Hands collect virions from fomites and, one may suppose, as deposits from aerosols. I have personal experience of how avoiding touching communal hand-operated artefacts such as hand grips and stop buttons in buses, trams and trains, as well as door knobs and opening grips in public buildings, and using hand disinfectant at appropriate times, reduced the incidence of colds I suffer annually from about 2 down to generally none. How diligent one is in using these measures will surely affect one's chances of catching Covid-19 far more than any general assessment such as this is likely to show. Talic S, Shah S, et al, Effectiveness of public health neausre in reducing the incidence of covid-19, SARS-CoV-2 transmission, and covid-19 mortality: systematic review and meta-analysis,
BMJ 2021;375:e068302, https://www.bmj.com/content/375/bmj-2021-068302

2021-11-19 A paper by Michael Worobey in Science looks at the history of the earliest hospital patients in the Covid-19 outbreak in Wuhan and concludes the disease is very likely to have come

from zoonotic spillover associated with the Huanan Market. Worobey is most well-known for research into the origins of HIV and a thesis about that which is nowadays the most generally accepted. Worobey M, Dissecting the early Covid-19 cases in Wuhan, Science 2021-11-18 https://www.science.org/doi/10.1126/science.abm4454

2021-11-20 The RECOVERY Group's results on aspirin are out. It doesn't help much if at all. "*In patients hospitalised with COVID-19, aspirin was not associated with reductions in 28 day mortality or in the risk of progressing to invasive mechanical ventilation or death, but was associated with a small increase in the rate of being discharged alive within 28 days.*" RECOVERY Collaborative Group, Aspirin in patients admitted to hospital with COVID-19 (RECOVERY): a randomised, controlled, open-label, platform trial, The Lancet, 2021-11-17, doi: 10.1016/S0140-6736(21)01825-0
https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)01825-0/fulltext

2021-11-20 The Lancet has a Commission on Vaccine Refusal, Acceptance and Demand in the US. Its first report is available. Moer SB, Benjamin RM et al, Promoting COVID-19 vaccine acceptance: recommendations from the Lancet Commission on Vaccine Refusal, Acceptance, and Demand in the USA, The Lancet, 2021-11-15, doi: 10.1016/S0140-6736(21)02507-1
https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)02507-1/fulltext

2021-11-20 Does the administration of intravenous immunoglobilins help severely ill Covid-19 patients? The answer is no. Mazeraud A, Jamme M, et al, Intravenous immunoglobulins in patients with COVID-19-associated moderate-to-severe acute respiratory distress syndrome (ICAR): multicentre, double-blind, placebo-controlled, phase 3 trial. The Lancet Respiratory Diseases, 2021-11-11, doi 10.1016/S2213-2600(21)00440-9
https://www.thelancet.com/journals/lanres/article/PIIS2213-2600(21)00440-9/fulltext

2021-11-20 A survey (called a "Viewpoint") of VITT has been published in The Lancet Haematology. Klok FA, Pai M, et al, Vaccine-induced immune thrombotic thrombocytopenia, The Lancet Haematology, 2021-11-11, doi: 10.1016/S2352-3026(21)00306-9
https://www.thelancet.com/journals/lanhae/article/PIIS2352-3026(21)00306-9/fulltext

2021-12-03 Very good news about boosters. The Cov-Boost RCT trial enrolled about 3,000 participants. Boosters were given after 2-3 months. BioNTech after AZ raised antibody levels 25 times compared with controls; Moderna after AZ 32 times (both full doses as booster). BioNTech after BioNTech only 8 times; Moderna after BioNTech 11 times; but antibody levels were higher in controls to begin with. Some of the usual side-effects (fatigue, headache, arm pain), but no safety concerns. T-cell levels also were raised, and this is important because the T-cell response is just as effective against the known variants as against the original Wuhan edition (it is not yet known concerning Omicron). https://www.theguardian.com/world/2021/dec/02/covid-booster-shots-significantly-strengthen-immunity-trial-finds Original paper: Munro APS, Janani L, et al, Safety and immunogenicity of seven COVID-19 vaccines as a third dose (booster) following two doses of ChAdOx1 nCov-19 or BNT162b2 in the UK (COV-BOOST): a blinded, multicentre, randomised, controlled, phase 2 trial, The Lancet 2021-12-02, doi: 10.1016/S0140-6736(21)02717-3,

https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)02717-3/fulltext

2021-12-05 Jeremy Farrar writes in The Guardian that "*progress*" on dealing with Covid-19, in particular the development and deployment of vaccines, "*is being squandered*". https://www.theguardian.com/world/commentisfree/2021/dec/04/omicron-proves-were-not-in-control-of-covid-only-global-action-can-stop-this-pandemic His main point is that none of us are safe until we are all safe. If there are large pockets of unvaccinated people somewhere in the world, mutants may develop that not only are more transmissible or more severe but may well evade current vaccines. It is not yet known if Omicron is one such. Current political reactions to Covid-19 developments are largely national, and international efforts are being squandered, in part by underfunding. (PBL note: it has been pointed out many times how early and decisive coordinated international intervention would have been so much cheaper than what we have all ended up doing.) A key observation: "... *the urgent things haven't changed: wearing masks indoors, increasing testing, social distancing, isolating if positive (with support to do so) and vaccination ..... we must continue to protect the most vulnerable as a priority, including immune-compromised people, the elderly and healthcare workers.*"

Sir Jeremy is one of the three people most responsible for getting the sequenced genome of SARS-CoV-2 out to the scientific databases, along with Eddie Holmes and Yong-Zhen Zhang, who sequenced it during 40 hours of work between receiving a sample on 3 January and 0200 (CST = UTC+8) on 5 January. All animately told in Sir Jeremy's book "Spike – The Virus vs the People", Profile Books, 2021.

His view in a nutshell: "*.... we must do everything we can to avoid a return to lockdowns – a sign that public health has failed. World leaders, by continuing to ignore the warnings and focusing only on their national populations, are playing with fire and putting our hard-won progress at risk. It is unbelievable that the* ACT-Accelerator *is still having to plead for the funding urgently needed to end this pandemic. This political drift and lack of leadership is prolonging the pandemic for everyone, with governments unwilling to really address inequitable access to the vaccines, tests and treatment.*"

2021-12-08 Sotrovimab (formerly VIR-7831) reduces the risk of progression of at-risk symptomatic Covid-19 patients to hospitalisation or death by 85% (97.24% CI 44 to96). The RCT was conducted on 583 patients. 500mg Sotrovimab, or placebo, was infused once in the study. It neutralises sarbecoviruses, including SARS-CoV-1 and -2. Gupta A, Gonzalez-Rojas Y, et al, Early Treatment for Covid-19 with SARS-CoV-2 Neutralizing Antibody Sotrovimab, N. Engl. J. Med. 2021; 385:1941-1950, 2021-11-18, doi: 10.1056/NEJMoa2107934, https://www.nejm.org/doi/full/10.1056/NEJMoa2107934

2021-12-08 The SPRING trial was conducted in Paris on May 29, 2021 to see if an indoor gathering (a concert) could safely be held under controlled conditions. The answer (then, without Delta or Omicron variants around) was yes. They had a non-recirculation ventilation system suitable for 20,000 people; there were less than a quarter of that number attending. No alcohol, masks required, also pre-attendance tests. Delaugerre C, Foissac F, et al, Prevention of

SARS-CoV-2 transmission during a large, live, indoor gathering (SPRING): a non-inferiority, randomised, controlled trial, The Lancet Infectious Diseases, 2021-11-26, doi: 10.1016/ S1473-3099(21)00673-3
https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(21)00673-3/fulltext Comment by Schlagenhauf P, Deuel J, Concerts and COVID: can the beat go on? The Lancet Infectious Diseases 2021-11-26, doi: 10.1016/S1473-3099(21)00721-0
https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(21)00721-0/fulltext

2021-12-08 An article on national prophylactic stockpiles by Jane Feinmann adduces many of the problems in procurement and substainability and responses to those requirements. It is a non-trivial technical issue. Feinmann J, What happened to our national emergency stockpiles? BMJ 2021;375:n2849, 2021-11-30, doi: 10.1136/bmj.n2849
https://www.bmj.com/content/375/bmj.n2849

2021-12-08 Indoor air quality is still very much an issue, and will continue to be so. The kit, especially retrofitted, is expensive as well as energy-consuming. Dancer SJ, Bluyssen PM, Li Y, Tang JW, Why don't we just open the windows? BMJ 2021;375:n2895 , 2021-11-26, doi: 10.1136/bmj.n2895 https://www.bmj.com/content/375/bmj.n2895

2021-12-09 A couple of experts have said recently in opinion pieces for TheG that we have all the tools we need to contain Covid-19 in spite of the Omicron variant; that we just need to use them. Eric Topol, founder of the Scripps Research Translational Institute in San Diego, wrote on 2021-12-01 https://www.theguardian.com/commentisfree/2021/dec/01/we-can-prevail-over-omicron-use-tools-we-have Gabriel Scally, visiting professor of public health at Uni Bristol, and member of Independent SAGE, saying much the same; that prevention, vaccination and control are the three facets of countermeasures and England is using just one of them
https://www.theguardian.com/commentisfree/2021/dec/07/british-government-effective-covid-strategy-omicron

2021-12-09 More good news about boosters: that 3 doses of BNT162b2 neutralise Omicron (whereas two doses doesn't appear to do so). https://www.pfizer.com/news/press-release/press-release-detail/pfizer-and-biontech-provide-update-omicron-variant I am thinking that likely goes for my 2 doses of AZD1222 followed by an mRNA-1273 booster (full dose). And so everyone is hoping. Bielefeld's reconstituted Vaccination Centre (Impfzentrum) reopens today and will ramp up to full capacity this weekend.

2021-12-15 My state of North-Rhine-Westphalia in Germany issued an edict on Monday 2021-12-13 that everyone over 4 weeks from "full vaccination" can receive a "booster" jab. The StIKo recommendation is 6 months "as a rule" and 5 months "in particular cases"; this is the first instance I know of a state going against the StIKo recommendation. But StIKo has come in for criticism recently, from professionals, and it is clear that many doctors are not abiding by the StIKo recommendation (including those in the action in which I participated on 2021-12-01), although until now the city-run vaccination points were doing so. There is "current wisdom" that boosters protect some against Omicron infection, whereas the "full vaccination" doses don't much. This was

substantiated by news reports on Friday 2021-12-10 that Sandra Ciesek's group in Frankfurt has found that two-dose vaccination "hardly" offers any protection, but with booster about 25% (Stefan Troendle, Ralf Kölbel and Carla Vinetta Richter, Was schützt vor Omikron? Tagesschau 2021-12-10, https://www.tagesschau.de/inland/gesellschaft/omikron-faq-101.html). These are said to be "preliminary" results, and they are in vitro, but it does cohere with the current wisdom. The Economist Espresso daily newsletter is also reporting today that Pfizer has said that its antiviral drug Paxlovid appeared to offer good protection against Omicron; "*initial tests found it 89% effective at reducing the risk of hospitalisation and death in high-risk adults*". The Economist Espresso is also saying that "*a preliminary study by a private-health insurer in South Africa found that two doses of the Pfizer-BioNTech vaccine gives 70% protection against hospitalisation, for those infected with Omicron.*" (There does not seem to be an archive of these daily briefings; I have retained this copy.)

2021-12-19 The UK Health Security Agency has performed a cohort study involving about 45m recipients of vaccines in the UK, concerning the prevalence of symptoms of VITT. The Findings (quoted in full) are as follows. "RI" is an acronym for "relative incidence". "*The RI for CVT after a first ChAdOx1 dose in 15-39 and 40-64 year olds was 8.7 (95% confidence interval 5.8-13.0) and 2.2 (1.4-3.2) respectively, p<0.001. The elevated risk period in 15-39 year olds was highest 4-13 days post-vaccination (16.3, 9.9-27.0). The attributable risk (AR) was 16.1 per million doses for 15-39 and 3.2 per million for 40-64 year olds. RIs for other thrombosis admissions were elevated in these age groups with ARs of 36.3 and 16.4 per million respectively as were RIs for thrombocytopenia, with ARs of 11.3 and 10.1 per million respectively. No elevated RIs were found for 65+ year olds or after a second ChAdOx1 dose, nor for BNT162b2 vaccine recipients of any age.*" Andrews NJ, Stowe J, Ramsay MEB and Miller E, Risk of venous thrombotic events and thrombocytopenia in sequential time periods after ChAdOx1 and BNT162b2 COVID-19 vaccines: A national cohort study in England, The Lancet Regional Health Europe, 2021-12-13, doi: 10.1016/j.lanepe.2021.100260
https://www.thelancet.com/journals/lanepe/article/PIIS2666-7762(21)00246-5/fulltext

2021-12-21 Eric Topol, founder of Scripps Research Translational Institute, writes in TheG that paxlovid "changes everything" about Covid-19 prophylaxis and it needs urgently to be made in bulk and distributed. He suggests invoking the US Defense [sic] Production Act. It is a solution because it aims at the Mpro protease, which has only mutated once in the history of SARS-CoV-2, rather than, like vaccines, generating an antibody response to variously mutated/mutating Spike proteins. Lab studies have it working as well against Omicron as against any other variants.
https://www.theguardian.com/commentisfree/2021/dec/21/paxlovid-anti-covid-pill-why-not-available I was wondering why people were not seeing paxlovid as a Covid-19 prophylactic solution and I have my answer: they are.

2021-12-23 Astrazeneca put out a press release this morning, which said that sera taken from individuals a month after a third dose of ChAdOx1-S neutralised Omicron to a "broadly similar" degree to which two doses neutralised Delta one month after the second dose.
https://www.astrazeneca.com/media-centre/press-releases/2021/vaxzevria-significantly-boosted-antibody-levels-against-omicron.html Preprint: Dejnirattisai W, Huo J et al, Omicron-B.1.1.529

leads to widespread escape from neutralizing antibody responses , 2021-12-22, BoRXiv
doi: https://doi.org/10.1101/2021.12.03.471045
https://www.biorxiv.org/content/10.1101/2021.12.03.471045v2.full.pdf AstraZeneca believes that it will be shown that their vaccine leads to a durable T-cell response which will be resistant to and retained against many variants of the spike protein.

2021-12-23 Imperial College (the Ferguson team) studied hospitalisation risk for Omicron versus Delta, in England between 2021-12-01 and 2021-12-14. They counted 56K Omicron sufferers and 269K Delta sufferers. Risk of attendance at hospital was 20%-25% lower with Omicron. Risk of at least one overnight stay in hospital was 40%-45% lower with Omicron. For not previously infected, non-vaccinated patients the risk of hospitalisation was 11% lower with Omicron (that is still a sizeable risk). WHO Collaborating Centre for Infectious Disease Modelling, MRC Centre for Global Infectious Disease Analysis, Jameel Institute, Imperial College London, Report 50 – Hospitalisation risk for Omicron cases in England, 2021-12-22. Available from https://www.imperial.ac.uk/mrc-global-infectious-disease-analysis/covid-19/report-50-severity-omicron/

2021-12-23 The Eave II study in Scotland, using PHS data between 2021-11-23 and 2021-12-19, indicated that risk of hospitalisation was 70% less with Omicron than with Delta. No direct citation; info from Sample I and Stewart H, Risk of hospital stay 40% lower with Omicron than Delta, UK data suggests, The Guardian 2021-12-22, https://www.theguardian.com/world/2021/dec/22/risk-of-hospital-stay-40-lower-with-omicron-than-delta-uk-data-suggests

2021-12-24 Paxlovid was approved Wednesday 2021-12-22 by the US FDA under EUA, and molnupiravir Thursday 2021-12-23. https://www.theguardian.com/world/2021/dec/24/covid-treatment-antiviral-fda-monoclonal-shortage

2021-01-16 A news article in Nature on 2022-01-11 points out that various virologists have found that the T-cell response to vaccination or previous infection retains its power also against the Omicron variant in vitro. It cites four preprints with such results. The majority of sites that T-cells recognise are present in Omicron. A quote: *"The picture that's emerging is that [new] variants remain highly susceptible to T-cell responses," says Dan Barouch, director of the Center for Virology and Vaccine Research at Harvard Medical School in Boston, Massachusetts. "That includes Omicron."*
Heidi Ledford, 'Killer' immune cells still recognize Omicron variant, Nature
doi: https://doi.org/10.1038/d41586-022-00063-0
https://www.nature.com/articles/d41586-022-00063-0

2021-01-19 A systematic review and meta-analysis of 12 articles reporting adverse events (AE) after vaccination for 45,380 trial participants has shown that systemic AEs were experienced by 35% of placebo recipients after the first dose and 32% after the second. Significantly more AEs were reported in the vaccine groups, but AEs in placebo arms ("nocebo responses") accounted for 76% of systemic AEs after the first COVID-19 vaccine dose and 52% after the second dose. So most of the systemic responses were "nocebo" effects. Haas JW, Bender FL et al, Frequency of

Adverse Events in the Placebo Arms of COVID-19 Vaccine TrialsA Systematic Review and Meta-analysis, JAMA Network Open. 2022;5(1):e2143955. doi:10.1001/jamanetworkopen.2021.43955 https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2788172 Also reported by Ian Sample in The Guardian, 'Nocebo effect': two-thirds of Covid jab reactions not caused by vaccine, study suggests, 2022-01-18 https://www.theguardian.com/science/2022/jan/18/nocebo-effect-two-thirds-of-covid-jab-reactions-not-caused-by-vaccine-study-suggests

2022-01-19 Virions rapidly lose their viability in aerosols, according to a study out of Bristol, reported in Linda Geddes, Covid loses 90% of ability to infect within 20 minutes in air – study, The Guardian 2022-01-11 https://www.theguardian.com/world/2022/jan/11/covid-loses-90-of-ability-to-infect-within-five-minutes-in-air-study The study was started in September 2020: Linda Geddes, UK scientists begin study of how long Covid can survive in the air, The Guardian, 2020-09-25, https://www.theguardian.com/world/2020/sep/25/uk-scientists-begin-study-of-how-long-covid-can-survive-in-the-air The apparatus used is quite ingenious. The study found that half the virions lost viability within seconds in conditions of less than 50% humidity, and two thirds after five minutes. It suggests that maintaining distance, wearing FFP2 masks, and good ventilation are key to not being infected in the presence of shedding others. I think we already knew that, but not from such direct investigation of viability. There is a preprint: Oswin HP, Haddrell AE et al, The Dynamics of SARS-CoV-2 Infectivity with Changes in Aerosol Microenvironment, 2022-01-10, medRxiv preprint doi: https://doi.org/10.1101/2022.01.08.22268944 https://www.medrxiv.org/content/10.1101/2022.01.08.22268944v1.full.pdf

2022-01-24 About two-thirds of people who had Covid-19 in the first wave experience some form of olfactory disfunction 18 months later, according to a study from the Karolinska Institute in Stockholm. There were 100 participants and 44 controls. Tognetti A, Thunell E, et al, High prevalence of olfactory disorders 18 months after contracting COVID-19, preprint on medRXiv, 2022-01-20, doi: 10.1101/2022.01.20.22269490 , https://www.medrxiv.org/content/10.1101/2022.01.20.22269490v1

2022-01-24 According to a very brief report in TheG, Israel's health ministry has said that a fourth vaccine dose for over-60's makes them twice as resistant to infection as those with "only" three doses, and three times less likely to contract serious illness https://www.theguardian.com/world/live/2022/jan/24/covid-live-news-omicron-could-mean-pandemic-endgame-in-europe-who-says?page=with:block-61ee1ff98f08885cb3c9a1cb#block-61ee1ff98f08885cb3c9a1cb

2022-01-26 When combined with age, symptoms and a possible history of asthma, low levels of IgM and IgG3 are a predictor of Long Covid, according to research at the University Hospital in Zürich, reported in Ian Sample, Long Covid: doctors find 'antibody signature' for patients most at risk, TheG 2022-01-25 https://www.theguardian.com/society/2022/jan/25/doctors-find-antibody-signature-long-covid The paper is Cervia C, Zurbuchen Y et al, Immunoglobulin signature predicts risk of post-acute COVID-19 syndrome, Nature Communications 13, 446 (2022), 2022-01-25, doi: 10.1038/s41467-021-27797-12022-01-25 , https://www.nature.com/articles/s41467-021-27797-1

2022-01-26 Kate Connolly reports in The Guardian on 2022-01-25 on the German phenomenon of "Spaziergänger", people gathering for a de facto demonstration against Covid-19 regulations who arrange them on social media but do not follow the requirement of registering the demonstration with the local authorities. Participants say "we are just going for a walk". We have them in Bielefeld. The last one, last Friday evening, attracted some 2,000 participants. They are exhibiting forms of civil disobedience, namely not registering as demonstrations (despite that they are) and not wearing masks or maintaining distance (despite the Covid regulations saying they must).

The rationale behind any of this is hard to discern. Connolly doesn't seem to find any https://www.theguardian.com/world/2022/jan/25/peace-freedom-no-dictatorship-germans-protest-against-covid-restrictions

There is a little local, personal, twist to the tale. It's more of a story than anything much concerning Covid-19, so I've written it up separately.

2022-01-27 A preprint on medRXiv describes an Israeli study on the effect of vaccination on post-acute Covid-19 symptoms, aka Long Covid. The results are worth quoting in full: "*We included 951 infected and 2437 uninfected individuals. Of the infected, 637(67%) were vaccinated. The most commonly reported symptoms were; fatigue (22%), headache (20%), weakness (13%), and persistent muscle pain (10%). After adjusting for follow-up time and baseline symptoms, those who received two doses less likely than unvaccinated individuals to report any of these symptoms by 64%, 54%, 57%, and 68% respectively, (Risk ratios 0.36, 0.46, 0.43, 0.32, p<0.04 in the listed sequence). Those who received two doses were no more likely to report any of these symptoms than individuals reporting no previous SARS-CoV-2 infection.*" They conclude that vaccination brings the occurrence of typical Long-Covid symptoms "*back to baseline*". Kuodi P, Gorelik Y et al, Association between vaccination status and reported incidence of post-acute COVID-19 symptoms in Israel: a cross-sectional study of patients tested between March 2020 and November 2021, medRXiv 2022-01-17, doi: 10.1101/2022.01.05.22268800 , https://www.medrxiv.org/content/10.1101/2022.01.05.22268800v2

2022-01-29 A Nature news article by Clare Watson considers what is known to date about the immunity conferred by a "booster" jab, and whether a fourth "booster" is advisable; generally what is going to happen with vaccines. There are ten references to pertinent articles – rather than citing articles individually, it seems more efficient to cite just this one news article. Clare Watson, Three, four or more: what's the magic number for booster shots?, Nature, 2022-02-28 doi: *https://doi.org/10.1038/d41586-022-00200-9*

2022-02-05 The COVID-19 National Preparedness Collaborators have produced a cross-country analysis of correlations of socioeconomic and sociopolitical factors with infection rates and infection/fatality ration (IFR). Just under 90% of the variation in infection rates could not be explained. "*The factors that explained the most variation in cumulative rates of SARS-CoV-2 infection between Jan 1, 2020, and Sept 30, 2021, included the proportion of the population living below 100 m (5·4% [4·0–7·9] of variation), GDP per capita (4·2% [1·8–6·6] of variation), and the*

proportion of infections attributable to seasonality (2·1% [95% uncertainty interval 1·7–2·7] of variation). Most cross-country variation in cumulative infection rates could not be explained." Just under half (44.4%) of the cross-country variation in infection/fatality ratios could not be explained. "*The factors that explained the most variation in COVID-19 IFR over the same period were the age profile of the country (46·7% [18·4–67·6] of variation), GDP per capita (3·1% [0·3–8·6] of variation), and national mean BMI (1·1% [0·2–2·6] of variation).*" The authors suggest that interpersonal trust and trust in government is important: "*Measures of trust in the government and interpersonal trust, as well as less government corruption, had larger, statistically significant associations with lower standardised infection rates.*"

COVID-19 National Preparedness Collaborators, Pandemic preparedness and COVID-19: an exploratory analysis of infection and fatality rates, and contextual factors associated with preparedness in 177 coutries, from Jan 1, 2020 to Sept 30, 2021, The Lancet, 2022-02-01, doi: 10.1016/S0140-6736(22)00172-6, *https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(22)00172-6/fulltext*

2022-02-25 A small Israeli study has shown that a fourth vaccine dose raises antibody levels to roughly the same as the third dose, but offers only mildly improved protection against infection (30% for BNT162b2 and 11% for mRNA-1273. Smriti Mallapaty, Fourth dose of COVID vaccine offers only slight boost against Omicron infection, Nature, 2022-02-23, *https://www.nature.com/articles/d41586-022-00486-9*

2022-02-27 Some "big names" have concluded through spatial analysis that the pandemic indeed began in the Huanan market. Worobey M, Levy JI, The Huanan market was the epicenter of SARS-CoV-2 emergence, preprint 2022-02-26, *https://zenodo.org/record/6299116#.YhstRi1h0Wq* , very likely through two zoonotic events: Pekar JE, Magee A, et al, SARS-CoV-2 emergence very likely resulted from at least two zoonotic events, preprint 2022-02-26 *https://zenodo.org/record/6291628#.Yhs09y1h0Wp* Because of the eminence of many of the contributors, I give the author lists in full. Notice the number who are authors of both. For the first paper, Michael Worobey; Joshua I. Levy; Lorena M. Malpica Serrano; Alexander Crits-Christoph; Jonathan E. Pekar; Stephen A. Goldstein; Angela L. Rasmussen; Moritz U. G. Kraemer; Chris Newman; Marion P. G. Koopmans; Marc A. Suchard; Joel O. Wertheim; Philippe Lemey; David L. Robertson; Robert F. Garry; Edward C. Holmes; Andrew Rambaut; Kristian G. Andersen. For the second, Pekar, Jonathan E.; Magee, Andrew; Parker, Edyth; Moshiri, Niema; Izhikevich, Katherine; Havens, Jennifer L.; Gangavarapu, Karthik; Malpica Serrano, Lorena M.; Crits-Christoph, Alexander; Matteson, Nathaniel L.; Zeller, Mark; Levy, Joshua I.; Wang, Jade C.; Hughes, Scott; Lee, Jungmin; Park, Heedo; Park, Man-Seong; Ching Zi Yan, Katherine; Tzer Pin Lin, Raymond; Mat Isa, Mohd Noor; Muhammad Noor, Yusuf; Vasylyeva, Tetyana I.; Garry, Robert F.; Holmes, Edward C.; Rambaut, Andrew; Suchard, Marc A.; Andersen, Kristian G.; Worobey, Michael; Wertheim, Joel O.

A summary of the results appeared in The Guardian: Martin Pengelly, Coronavirus came from Wuhan market and not Chinese lab, twin studies say, 2022-02-26, https://www.theguardian.com/world/2022/feb/26/coronavirus-wuhan-market-chinese-lab-studies