JOINT COMMITTEE ON VACCINATION AND IMMUNISATION

Minute of the COVID-19 sub-committee
Thursday 20 May 2021 08:00-11:00

Members

Prof Wei Shen Lim (Chair)
Prof Anthony Harnden
Prof Jeremy Brown
Prof Simon Kroll
Dr Rebecca Cordery
Prof Matt Keeling
Prof Adam Finn
Prof Anthony Scott
Prof Rob Read
Dr Maggie Wearmouth
Dr Kevin Brown
Prof Maarten Postma

Co-opted members

Dr Jillian Johnston (NI)
Dr Lorna Willocks (Scotland)
Mrs Anne McGowan (Wales)
Dr Julie Yates (England)

Medical Advisor

Prof Jonathan Van Tam

Secretariat

Andrew Earnshaw
Ruth Parry
Jonathan Crofts
Dr Mary Ramsay
Dr Gayatri Amirthalingam

Presenters

Pfizer-BioNTech representatives
Dr Edwin VanLeeuwen
Prof Matt Keeling

Invited observers from Devolved Administrations

Syed Ahmed (Scotland)
Sharron Roberts (Wales)
Gillian Armstrong (NI)

Other invited observers

Jacqui Dunn (IoM)
Alex Hawkins-Drew (Guernsey)
Maria Zambon (PHE)
Louise Newport (DHSC)
Stacey Jones (PHE)
Julie Alexander (DHSC)
David Irwin (NI)
Richard Roberts (PHW)
Lucy Jessop (Eire)
David Green (PHE)
Louise Letley (PHE)
Suzanna Macdonald (PHE)
Claire Cameron (PHS)
Louise Letley (PHE)

Martin Coleman (NI)
Alison Daykin (DHSC)
Margaret Boyle (NI)
Stuart Carroll (BEIS)
Jenn Matthiessen (MHRA)
Frank Sandmaan (PHE)
Laura Craig (PHE)
Arne Blackman (Go-Science)
Charlotte Gower (PHE)
Sema Mandal (PHE)
Nick Andrews (PHE)

I. Welcome and Introduction

1. The Chair welcomed everyone to the meeting and thanked them for attending the COVID-19 sub-committee.
2. The Chair reminded attendees of the confidential nature of the discussions, presentations and papers for the meeting. None of the information could be shared outside of the meeting. It was noted that the data provided was under a non-disclosure agreement.
3. The Chair asked Members to indicate any additional conflicts of interest over and above those declared at the last meeting. None were declared.
4. Apologies were noted from Alison Lawrence and Robert Dingwall.
5. It was noted that SPI-M had been modelling surge vaccination and this could be considered at a future meeting.

II. Modelling the impact of childhood vaccination

PHE modelling

6. The Committee noted modelling from PHE on the impact of childhood vaccination on COVID-19 in the UK.
7. The work explored a number of scenarios and parameters. It was assumed natural immunity remained constant until such time as childhood vaccination was completed. Any wave ahead of childhood vaccination would alter the results of the modelling. Changes to non-pharmaceutical interventions were not modelled. It was assumed that vaccination did not provide complete protection against infection and onwards transmission, with a range of levels of protection modelled. Vaccination scenarios included vaccination of those aged 16-17, 12-15, 0-1 and 0-11 years. It was assumed that schools remained open.
8. Parameterisation of the model was noted, including on vaccine efficacy, efficacy against transmission, infection fatality ratios, and susceptibility (including alternative parameters for SARS-CoV-2 variants on infection and transmission).
9. The main results indicated that vaccination of those over 12 years had a slightly greater impact on the reproduction number than vaccinating younger children. There was little difference in mortality and hospitalisations from vaccinating any specific childhood age group. Vaccinating all age groups could have some impact on mortality in older adults, although primarily only where vaccination had a reduced impact on transmission (vaccine escape).
10. Members considered the parameterisation of the model, and the results, including on the impact on mortality from vaccinating all children (0-17 years). It was noted that if the reproduction number was reduced below 1, then the impact on mortality would be larger. Vaccination of those over 12 years had little impact on adult mortality and disease. It was noted that deaths would

primarily be in vaccinated elderly populations (given estimates of vaccine efficacy).

11. Members commented that vaccine offered to children could instead be offered to the elderly populations to boost protection. It was noted modelling on the impact of booster vaccinations was being prepared and would be presented at a future meeting.

12. Natural immunity to infection in children was included in the model, and was based on a PHE/Cambridge real time model used by SPI-M. It was noted that attack rates in younger children were relatively low (<20%).

13. Members commented on the large sensitivity of the model to vaccine escape parameters. It was noted that for the B1.617.2 variant, current estimates of vaccine effectiveness were around 35% after one dose and were high after a second dose. It was considered that more optimistic parameter assumptions would be appropriate regarding vaccine escape.

14. Members asked for comparisons between the number of hospitalisations seen in the model and hospitalisations seen in the second wave. Implications for childhood vaccination on NHS winter pressures 2021/22 were considered very important to understand fully.

15. Members commented that the model could be underestimating vaccine efficacy.

16. Members commented on model sensitivity to work and leisure contacts. It was noted that many workplaces were now more COVID-19 secure than they were previously.

17. The Committee asked that work be undertaken to align with contact modelling undertaken through SPI-M and SAGE. It was noted that surveys on contacts were likely prone to bias. It was considered very difficult to robustly factor COVID-19 precautions into the modelling.

18. It was agreed that the middle ground on contact tracing and vaccine escape were the most realistic scenarios.

19. The Committee agreed that the modelling indicated that vaccinating specific age groups amongst children had little overall impact on hospitalisations and deaths in older adults.

University of Warwick modelling

20. The Committee noted modelling from the University of Warwick on the impact of childhood vaccination on COVID-19 in the UK.

21. It was noted that the impact of schools opening and the role of children in transmission was a highly debated topic. Data to inform on this were limited, although the data available tended towards a smaller role for children in transmission. The model included seasonality.

22. The direct impact of vaccination of children on the risk from COVID-19 in children was very small. The modelling indicated that this meant that there would need to be greater certainty on vaccine safety in this age group in any risk-benefit considerations.

23. There was little impact on the next wave of COVID-19 unless children could be vaccinated in the very near future. Speeding up the rollout of the adult programme could increase the impact of the rollout of vaccine to children, although it was noted that vaccine supply was a key factor in the speed of the rollout.

24. Overall, the modelling indicated minimal impact of vaccinating children on the reproduction number. Improving uptake in adults was considered to have a greater impact than the vaccination of children. It was noted that some children would be finishing their exams and would not be in school going forward, reducing options for delivery in the short term

25. Modelling indicated that a summer wave was likely to occur in England, during the school summer holidays, which reduced the impact of vaccinating children.

26. Evidence on the impact of the use of facemasks and rapid testing in reducing transmission in schools was debated.

27. Members commented on the longer-term effects of any programme, as the modelling generally looked at around the next six months. Members commented that natural infection in children could have substantial long-term benefits on COVID-19 in the UK.

28. It was considered that the modelling indicated minimal impact of vaccinating children, where this took place after the next wave of disease in the population. It was noted that vaccine supply and NHSE&I planning indicated a programme in children would be unlikely to begin until September 2021.

29. It was agreed that the modelling would be updated with the very latest assumptions.

III. Pfizer-BioNTech presentation

30. The Chair welcomed representatives from Pfizer-BioNTech. It was noted that data on durability of protection, immunogenicity of a third dose booster, and vaccination in those aged 12-15 were to be presented.

31. The information provided was considered commercially confidential and was not recorded in the Minutes.

32. Members questioned the rate of reactogenicity in children and the likelihood of children accepting a second dose. Data on reactogenicity of the first dose in children was requested. It was noted that reactogenic events were of short duration (1-2 days).

33. On efficacy of a first dose, it was noted that some published results included cases in the first 11 days.

34. It was noted that antibody was only one component of the immune response to vaccination, and that cellular responses could also have an important role in providing protection. Members asked around the role of non-neutralising antibody in protection, and whether there was any evidence of the role of non-neutralising antibody in adverse events.

35. Members asked whether a correlate of protection had been calculated.

36. Members commented that any trial would be unlikely to identify very rare adverse events. Members requested data on anaphylaxis events in the trial. Questions were asked on absenteeism from school following vaccination.

37. Members commented on the small number of serious adverse events reported in the trial, and the biological plausibility of these being associated with vaccination. Members were reassured that these were being carefully assessed by the company.

38. Members asked around platelet counts in those vaccinated. It was agreed these data would be provided to the committee by correspondence.

39. Pfizer-BioNTech representatives left the meeting at this time.

IV. Vaccination in children

40. In response to a question, members noted that the remit of JCVI was UK wide.

41. Members commented that the vaccination of children was unlikely to have a substantial impact on a fourth wave. The longer-term benefit of a childhood programme should be a key consideration, and members questioned whether there were reasons to defer the development of advice. Key issues included the impact of a fourth wave and the availability of alternative vaccines in the future.

42. It was generally agreed that the longer-term impact of vaccination of children was of importance, and the potential for alternative vaccines in future should be carefully considered.

43. It was generally considered that any vaccination programme in children, at this time, would require the use of mRNA vaccines. Safety data in this age group were considered limited.

44. Members commented on the reactogenicity of the vaccines in children, and the potential impact of vaccination on absenteeism from school. Comments were noted on the impact of COVID-19 disease and post-acute COVID-19 syndrome in children on absenteeism.

45. It was noted that deliverability of the programme was a key issue, and that it could be challenging to deliver a programme outside of a school setting.

46. It was considered that as there were no data on the safety, efficacy or immunogenicity of COVID-19 vaccines in children less than 12 years of age, that discussions should be limited to vaccination of those children 12 years of age and over.

47. It was considered that vaccination could be considered in some or all of three distinct groups, those aged 12-15, those aged 16-17, and those aged 12-15 in a high-risk group (if any high-risk groups were apparent).

48. Members commented that given the very low risk of serious disease in children, that routine vaccination of those aged 12-15 years may not be necessary. The theoretical advantages of exposure to natural infection (with very low risk of serious disease) were noted. Those aged 16-17 years could be a potential group for vaccination, particularly given that vaccination in this group could reduce the risk of outbreaks in higher education settings.

49. Members commented that increasing uptake in adults would be preferable to vaccination of those aged 12-15 years.

50. Key factors to consider included whether vaccination was indicated, vaccine efficacy, vaccine safety and whether the benefits outweighed the risks/costs (considered similar to considering assessing cost-effectiveness). The costs in this circumstance would include the opportunity costs of running the programme.

51. It was noted that although the vaccines had already been purchased in sufficient quantities to offer vaccination to children (negating the need for formal cost-effectiveness), that other costs should be considered, including opportunity costs in delivery of a childhood COVID-19 vaccination programme on delivery of other services, including the offer of routine vaccinations.

52. It was noted that there was a very small number of children who died following infection. A small number of children infected presented with PIMS-TS. It was noted there were no clear risk factors for PIMS-TS. Data from the US indicated the condition was less severe in young children. Members considered that the condition was less serious than initially thought.

53. Members considered issues regarding vaccine safety including initial reactogenicity, and temporally associated myocarditis and thrombosis/thrombocytopenia in younger adults. The limited experience of the use of vaccines in young people also meant there were potentially unknown issues.

54. It was considered that there should be a net benefit individually to vaccination. The potential benefits of vaccination in supporting the school system were of clear importance, although considered an issue of policy.

55. Data on hospitalisations and mortality in children were noted. It was considered it would be very challenging to analyse the data broken down by CEV and non-CEV. Members commented that children who were shielding

would be likely to be at substantially lower risk of infection, which would reduce the usability of such data.

56. Members commented that the data available indicated almost all children were at very low risk from COVID-19, and that those designated as clinically extremely vulnerable were likely to have been identified through an abundance of caution.

57. Members considered that in the absence of vaccination, future generations would be exposed to COVID-19 in childhood, with a relatively mild disease. This early infection would then provide protection against severe disease throughout life. Circulation of COVID-19 in childhood could therefore periodically boost immunity in adults through exposure. As some people would not be exposed in childhood, through chance, a school leaver dose of COVID-19 vaccine could be appropriate.

58. Members questioned, given the long-term picture for children, whether any decision to vaccinate children for non-health reasons could in part be a matter for policy makers.

59. Members considered that medium-term aims were also important, in terms of ending the pandemic situation more quickly. It was considered a key question whether vaccination of children could contribute to achieving this aim.

60. Members considered that there could be demand for vaccination of children, with the aim of reducing the risk of post-acute COVID-19 syndrome. It was considered important to understand the risk of, and morbidity associated with post-acute COVID-19 syndrome. It was considered that data on this syndrome were currently limited. Studies were underway to examine this, primarily focussed on adolescent age groups. A key additional question was whether vaccination would reduce the risk of post-acute COVID-19 syndrome.

61. Members questioned whether any survey data were available on attitudes to vaccination in children. It was agreed any data available would be shared with the Committee.

62. It was agreed that communications would be important in explaining the risk from COVID-19 in children.

63. The Committee agreed that there was little direct or indirect benefit from routinely vaccinating children aged 12-15 years. It was agreed that more data should be identified on whether any specific groups of children were at increased risk. It was agreed that more discussion would be undertaken in the development of advice at future meetings.

64. It was agreed that the team responsible for policy of CEV should be contacted to access data underpinning decisions on those considered CEV under 18 years of age. Data on the risk of post-acute COVID-19 syndrome in children should also be identified.

65. It was considered that the hospitalisation and mortality data should be carefully considered ahead of any advice. Members considered that Berkson's bias could play a role in hospitalisation rates, with those who tested positive for SARS-CoV-2 being more likely to seek hospital care if they had another underlying health condition. It was also possible that some children identified in the data only had coincidental infection, rather than admission or care specifically for COVID-19.

66. The risk-benefit of vaccinating children was a considered a clear question, including the unknown of whether there were any unidentified risks.

V. AOB

67. Members noted questions raised with them on the prioritisation of pregnant women. It was agreed this would be considered at the next meeting.

Declarations – (Conflicts of interest specific to COVID-19 vaccines)

Prof Wei Shen Lim (CHAIR)
Professor Lim has no registered conflicts of interest Other information Professor Lim's institution has received unrestricted investigator-initiated research funding from Pfizer for a study in pneumonia in which Professor Lim is the Chief Investigator (non-vaccine related), and from NIHR HTA for clinical trials in which Professor Lim is the Chief Investigator. Professor Lim is: Co-investigator of the NIHR-funded (COVID19) RECOVERY Trial. Member of the New and Emerging Respiratory Viral Threats Advisory Group (NERVTAG) and occasionally sits on SAGE. Member of UK-CTAP anti-virals sub-group Member of UK Specialist Commissioning Group - Remdesivir National Lead, NCEPOD Pneumonia National Lead, National CQUIN in Community Acquired Pneumonia National Lead, British Thoracic Society Community Acquired Pneumonia Audit Programme
Prof Anthony Harnden (Deputy Chair)
Professor Harnden has no registered conflicts of interest.
Prof Adam Finn
Professor Adam Finn receives no personal payments from the manufacturers of vaccines. Non personal interests: Professor Finn is chief investigator in the Valneva COVID19 vaccine clinical trials programme in the UK and in the Sanofi COVID19 booster vaccine clinical trial in the UK. He is also local Principal or Co-investigator in the Oxford-Astra Zeneca COV001, COV002 and COV006 studies and the National Immunisation Schedule Evaluation Consortium study ComFluCov.
Prof Matt Keeling
Professor Matt Keeling has no registered conflicts of interest. Other information Member of SPI-M and occasionally sits on SAGE
Prof Jeremy Brown
Professor Brown has no registered conflicts of interest
Dr Martin Williams

Professor Martin Williams has no registered conflicts of interest. Other information Professor Williams holds a contract for work with Public Health England.
Dr Fiona Van der Klis
Dr Fiona van der Klis has no registered conflicts of interest
Ms Alison Lawrence
Ms Alison Lawrence has no registered conflicts of interest
Prof Maarten Postma
Professor Postma has no registered conflicts of interest
Prof Robert Read
Professor Read receives no payments from the manufacturers of vaccines. Professor Read has no registered conflicts of interest
Prof Anthony Scott
Professor Scott receives no payments from the manufacturers of vaccines. Professor Scott has no registered conflicts of interest Other information Professor Scott is Director of the Health Protection Research Unit at the London School of Hygiene and Tropical Medicine. He receives research funding from the National Institute for Health Research, the Medical Research Council, the Wellcome Trust and Gavi, The Vaccine Alliance, and the Bill & Melinda Gates Foundation.
Dr Maggie Wearmouth
Dr Wearmouth has no registered conflicts of interest
Professor Simon Kroll
Professor Kroll has no registered conflicts of interest Other information He is the Honorary Medical Director of Meningitis Now
Dr Rebecca Cordery

Dr Cordery has no registered conflicts of interest Other information Dr Cordery works for Public Health England
Dr Kevin Brown
Dr Brown has no registered conflicts of interest Other information Dr Brown works for Public Health England
Dr Jillian Johnston (co-opted member)
Dr Jillian Johnston has no registered conflicts of interest
Mrs Anne McGowan (co-opted member)
Mrs McGowan receives no payments from the manufacturers of vaccines Mrs McGowan has no registered conflicts of interest
Dr Lorna Willocks (co-opted member)
Dr Lorna Willocks has no registered conflicts of interest
Ms Julie Yates (co-opted member)
Ms Julie Yates has no registered conflicts of interest