**Previous inclusion criteria**

Previous inclusion criteria from 28/09/2020 to 04/12/2020:

1. Adults aged 18-55 years (groups 4, 5, 6 and 11)

2. Adults aged 56-69 years (groups 1, 7 and 9)

3. Adults aged 70 years and older (groups 2, 8 and 10)

4. Children aged 5-12 years inclusive (group 3)

5. Able and willing (in the Investigator’s opinion) to comply with all study requirements

6. Willing to allow the investigators to discuss the volunteer’s medical history with their General Practitioner and access all medical records when relevant to study procedures

7. For females of childbearing potential only, willingness to practice continuous effective contraception (see below) during the study and a negative pregnancy test on the day(s) of screening and vaccination

8. Agreement to refrain from blood donation during the course of the study

9. Provide written informed consent

10. Parent/guardian provides informed consent

Additional Inclusion criteria for Group 12 (HIV sub-study):

1. HIV positive

2. Receiving antiretroviral therapy

3. Undetectable HIV viral load

4. CD4 >350 cells/ml

Previous inclusion criteria from 30/07/2020 to 28/09/2020:

1. Adults aged 18-55 years (groups 4, 5, 6 and 11)

2. Adults aged 56-69 years (groups 1, 7 and 9)

3. Adults aged 70 years and older (groups 2, 8 and 10)

4. Children aged 5-12 years inclusive (group 3)

5. Able and willing (in the Investigator’s opinion) to comply with all study requirements

6. Willing to allow the investigators to discuss the volunteer’s medical history with their General Practitioner and access all medical records when relevant to study procedures

7. For females of childbearing potential only, willingness to practice continuous effective contraception (see below) during the study and a negative pregnancy test on the day(s) of screening and vaccination

8. Agreement to refrain from blood donation during the course of the study

9. Provide written informed consent

10. Parent/guardian provides informed consent

Previous inclusion criteria from 15/06/2020 to 24/06/2020:

1. Adults aged 18 years or older (groups 4 and 6); aged 18-55 years (group 5)

2. Adults aged 56 years or older (groups 1 and 2)

3. Children aged 5-12 years inclusive (group 3)

4. Able and willing (in the Investigator’s opinion) to comply with all study requirements

5. Willing to allow the investigators to discuss the volunteer’s medical history with their General Practitioner and access all medical records when relevant to study procedures

6. For females of childbearing potential only, willingness to practice continuous effective contraception (see below) during the study and a negative pregnancy test on the day(s) of screening and vaccination

7. Agreement to refrain from blood donation during the course of the study

8. Provide written informed consent

9. Parent/guardian provides informed consent

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Previous inclusion criteria as of 22/05/2020:

1. Adults aged 18 years or older (group 4); aged 18-55 years (group 5)

2. Adults aged 56 years or older (groups 1 and 2)

3. Children aged 5-12 years inclusive (group 3)

4. Able and willing (in the Investigator’s opinion) to comply with all study requirements

5. Willing to allow the investigators to discuss the volunteer’s medical history with their General Practitioner and access all medical records when relevant to study procedures

6. For females of childbearing potential only, willingness to practice continuous effective contraception (see below) during the study and a negative pregnancy test on the day(s) of screening and vaccination

7. Agreement to refrain from blood donation during the course of the study

8. Provide written informed consent

9. Parent/guardian provides informed consent

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Previous inclusion criteria:

1. Adults aged 18 or older (group 4)

2. Adults aged 56 or older (groups 1 and 2)

3. Children aged 5-12 inclusive (group 3)

4. Able and willing (in the Investigator’s opinion) to comply with all study requirements

5. Willing to allow the investigators to discuss the volunteer’s medical history with their General Practitioner and access all medical records when relevant to study procedures

6. For females of childbearing potential only, willingness to practice continuous effective contraception (see below) during the study and a negative pregnancy test on the day(s) of screening and vaccination

7. Agreement to refrain from blood donation during the course of the study

8. Provide written informed consent

9. Parent/guardian provides informed consent

**Previous exclusion criteria**

Previous exclusion criteria from 28/09/2020 to 21/10/2020:

1. Participation in COVID-19 prophylactic drug trials for the duration of the study

Note: Participation in COVID-19 treatment trials is allowed in the event of hospitalisation due to COVID-19. The COV002 study team should be informed as soon as possible

2. Participation in SARS-CoV-2 serological surveys where participants are informed of their serostatus for the duration of the study

Note: Disclosure of serostatus post enrolment may accidently unblind participants to group allocation. Participation in COV002 can only be allowed if volunteers are kept blinded to their serology results from local/national serological surveys

3. Receipt of any vaccine (licensed or investigational) other than the study intervention within 30 days before and after each study vaccination, with the exception of the licensed seasonal influenza vaccination. Participants will be encouraged to receive this vaccination at least 7 days before or after their study vaccine

4. Prior or planned receipt of an investigational or licensed vaccine or product likely to impact on interpretation of the trial data (e.g. Adenovirus vectored vaccines, any coronavirus vaccines). This exclusion criteria will not apply to group 11, as recruitment will be targeted at those volunteers who previously received a ChAdOx1 vectored vaccine.

5. Administration of immunoglobulins and/or any blood products within the three months preceding the planned administration of the vaccine candidate

6. Any confirmed or suspected immunosuppressive or immunodeficient state (except group 12, where HIV infected participants are allowed); asplenia; recurrent severe infections and use of immunosuppressant medication within the past 6 months, except topical steroids or short-term oral steroids (course lasting ≤14 days)

7. History of allergic disease or reactions likely to be exacerbated by any component of ChAdOx1 nCoV-19 or MenACWY

8. Any history of angioedema

9. Any history of anaphylaxis

10. Pregnancy, lactation or willingness/intention to become pregnant during the study

11. Current diagnosis of or treatment for cancer (except basal cell carcinoma of the skin and cervical carcinoma in situ)

12. History of serious psychiatric condition likely to affect participation in the study

13. Bleeding disorder (e.g. factor deficiency, coagulopathy or platelet disorder), or prior history of significant bleeding or bruising following IM injections or venepuncture

14: Continuous use of anticoagulants, such as coumarins and related anticoagulants (i.e. warfarin) or novel oral anticoagulants (i.e. apixaban, rivaroxaban, dabigatran and edoxaban)

15. Suspected or known current alcohol or drug dependency

16. Any other significant disease, disorder or finding which may significantly increase the risk to the volunteer because of participation in the study, affect the ability of the volunteer to participate in the study or impair interpretation of the study data

17. Severe and/or uncontrolled cardiovascular disease, respiratory disease, gastrointestinal disease, liver disease, renal disease, endocrine disorder and neurological illness (mild/moderate well-controlled comorbidities are allowed)

18. History of laboratory-confirmed COVID-19 (except groups 5d, 9, 10 and 11).

18.1 Seropositivity to SARS-CoV-2 before enrolment (except groups 5d, 9 and,10 and 11)

Additional exclusion criteria for Groups 4, 6, 9 and 10:

19. History of allergic disease or reactions likely to be exacerbated by paracetamol. Note: Caution should be taken when recommending paracetamol to adults who already take paracetamol chronically

Additional exclusion criteria for Group 3:

20. Chronic medical conditions such as chronic lung disease, chronic liver disease, chronic renal failure, chronic heart disease, congenital genetic syndromes (e.g. Trisomy 21)

21. Fulfil any of the contraindications to vaccination as specified in The Green Book

NB: volunteers with previous PCR-positive results are also allowed in groups 9, 10 and 11

Previous exclusion criteria from 25/08/2020 to 28/09/2020:

1. Participation in COVID-19 prophylactic drug trials for the duration of the study

Note: Participation in COVID-19 treatment trials is allowed in the event of hospitalisation due to COVID-19. The COV002 study team should be informed as soon as possible

2. Participation in SARS-CoV-2 serological surveys where participants are informed of their serostatus for the duration of the study

Note: Disclosure of serostatus post enrolment may accidently unblind participants to group allocation. Participation in COV002 can only be allowed if volunteers are kept blinded to their serology results from local/national serological surveys

3. Receipt of any vaccine (licensed or investigational) other than the study intervention within 30 days before and after each study vaccination, with the exception of the seasonal influenza vaccination. Participants will be encouraged to receive this vaccination at least 7 days before or after their study vaccine

4. Prior or planned receipt of an investigational or licensed vaccine or product likely to impact on interpretation of the trial data (e.g. Adenovirus vectored vaccines, any coronavirus vaccines). This exclusion criteria will not apply to group 11, as recruitment will be targeted at those volunteers who previously received a ChAdOx1 vectored vaccine.

5. Administration of immunoglobulins and/or any blood products within the three months preceding the planned administration of the vaccine candidate

6. Any confirmed or suspected immunosuppressive or immunodeficient state; asplenia; recurrent severe infections and use of immunosuppressant medication within the past 6 months, except topical steroids or short-term oral steroids (course lasting ≤14 days)

7. History of allergic disease or reactions likely to be exacerbated by any component of ChAdOx1 nCoV-19 or MenACWY

8. Any history of angioedema

9. Any history of anaphylaxis

10. Pregnancy, lactation or willingness/intention to become pregnant during the study

11. Current diagnosis of or treatment for cancer (except basal cell carcinoma of the skin and cervical carcinoma in situ)

12. History of serious psychiatric condition likely to affect participation in the study

13. Bleeding disorder (e.g. factor deficiency, coagulopathy or platelet disorder), or prior history of significant bleeding or bruising following IM injections or venepuncture

14: Continuous use of anticoagulants, such as coumarins and related anticoagulants (i.e. warfarin) or novel oral anticoagulants (i.e. apixaban, rivaroxaban, dabigatran and edoxaban)

15. Suspected or known current alcohol or drug dependency

16. Any other significant disease, disorder or finding which may significantly increase the risk to the volunteer because of participation in the study, affect the ability of the volunteer to participate in the study or impair interpretation of the study data

17. Severe and/or uncontrolled cardiovascular disease, respiratory disease, gastrointestinal disease, liver disease, renal disease, endocrine disorder and neurological illness (mild/moderate well controlled comorbidities are allowed)

18. History of laboratory confirmed COVID-19

18.1 Seropositivity to SARS-CoV-2 before enrolment (except groups 5d, 9 and,10 and 11)

Additional exclusion criteria for Groups 4, 6, 9 and 10:

19. History of allergic disease or reactions likely to be exacerbated by paracetamol. Note: Caution should be taken when recommending paracetamol to adults who already take paracetamol chronically

Additional exclusion criteria for Group 3:

20. Chronic medical conditions such as chronic lung disease, chronic liver disease, chronic renal failure, chronic heart disease, congenital genetic syndromes (e.g. Trisomy 21)

21. Fulfil any of the contraindications to vaccination as specified in The Green Book

Previous exclusion criteria as of 22/05/2020:

1. Participation in COVID-19 prophylactic drug trials for the duration of the study

Note: Participation in COVID-19 treatment trials is allowed in the event of hospitalisation due to COVID-19. The COV002 study team should be informed as soon as possible

2. Participation in SARS-CoV-2 serological surveys where participants are informed of their serostatus for the duration of the study

Note: Disclosure of serostatus post enrolment may accidently unblind participants to group allocation. Participation in COV002 can only be allowed if volunteers are kept blinded to their serology results from local/national serological surveys

3. Receipt of any vaccine (licensed or investigational) other than the study intervention within 30 days before and after each study vaccination

4. Prior or planned receipt of an investigational or licensed vaccine or product likely to impact on interpretation of the trial data (e.g. Adenovirus vectored vaccines, any coronavirus vaccines)

5. Administration of immunoglobulins and/or any blood products within the three months preceding the planned administration of the vaccine candidate

6. Any confirmed or suspected immunosuppressive or immunodeficient state; asplenia; recurrent severe infections and use of immunosuppressant medication within the past 6 months, except topical steroids or short-term oral steroids (course lasting ≤14 days)

7. History of allergic disease or reactions likely to be exacerbated by any component of ChAdOx1 nCoV-19 or MenACWY

8. Any history of angioedema

9. Any history of anaphylaxis

10. Pregnancy, lactation or willingness/intention to become pregnant during the study

11. Current diagnosis of or treatment for cancer (except basal cell carcinoma of the skin and cervical carcinoma in situ)

12. History of serious psychiatric condition likely to affect participation in the study

13. Bleeding disorder (e.g. factor deficiency, coagulopathy or platelet disorder), or prior history of significant bleeding or bruising following IM injections or venepuncture

14: Continuous use of anticoagulants, such as coumarins and related anticoagulants (i.e. warfarin) or novel oral anticoagulants (i.e. apixaban, rivaroxaban, dabigatran and edoxaban)

15. Suspected or known current alcohol or drug dependency

16. Any other significant disease, disorder or finding which may significantly increase the risk to the volunteer because of participation in the study, affect the ability of the volunteer to participate in the study or impair interpretation of the study data

17. Severe and/or uncontrolled cardiovascular disease, respiratory disease, gastrointestinal disease, liver disease, renal disease, endocrine disorder and neurological illness (mild/moderate well controlled comorbidities are allowed)

18. History of laboratory confirmed COVID-19

19. Seropositivity to SARS-CoV-2 before enrolment

Additional Exclusion criteria to Group 4:

20. History of allergic disease or reactions likely to be exacerbated by Paracetamol

Additional Exclusion Criteria to Group 3:

21. Chronic medical conditions such as chronic lung disease, chronic liver disease, chronic renal failure, chronic heart disease, congenital genetic syndromes (e.g. Trisomy 21)

22. Fulfil any of the contraindications to vaccination as specified in The Green Book

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Previous exclusion criteria:

1. Current or planned participation in other clinical trial of an investigational medicinal product

2. Prior receipt of any vaccines (licensed or investigational) ≤30 days before enrolment

3. Planned receipt of any vaccine other than the study intervention within 30 days before and after each study vaccination

4. Prior receipt of an investigational or licensed vaccine likely to impact on interpretation of the trial data (e.g. Adenovirus vectored vaccines, any coronavirus vaccines)

5. Administration of immunoglobulins and/or any blood products within the three months preceding the planned administration of the vaccine candidate

6. Any confirmed or suspected immunosuppressive or immunodeficient state, including HIV infection; asplenia; recurrent severe infections and chronic use (more than 14 days) immunosuppressant medication within the past 6 months (topical steroids are allowed)

7. History of allergic disease or reactions likely to be exacerbated by any component of ChAdOx1 nCoV-19 or MenACWY

8. Any history of hereditary angioedema or idiopathic angioedema

9. Any history of anaphylaxis

10. Pregnancy, lactation or willingness/intention to become pregnant during the study

11. Current diagnosis of or treatment for cancer (except basal cell carcinoma of the skin and cervical carcinoma in situ)

12. History of serious psychiatric condition likely to affect participation in the study

13. Bleeding disorder (e.g. factor deficiency, coagulopathy or platelet disorder), or prior history of significant bleeding or bruising following IM injections or venepuncture

14. Suspected or known current alcohol abuse as defined by an alcohol intake of greater than 42 units every week

15. Suspected or known injecting drug abuse in the 5 years preceding enrolment

16. Any other significant disease, disorder or finding which may significantly increase the risk to the volunteer because of participation in the study, affect the ability of the volunteer to participate in the study or impair interpretation of the study data

17. History of laboratory-confirmed COVID-19

18. New onset of fever or a cough or shortness of breath since February 2020

19. Those who have been at high risk of exposure before enrolment, including but not limited to: close contacts of confirmed COVID-19 cases, anyone who had to self-isolate as a result of a symptomatic household member, frontline healthcare professionals working in A&E, ICU and other higher-risk areas and significant exposure associated with travel abroad to high incidence areas since January 2020

20. Continuous use of anticoagulants, such as coumarins and related anticoagulants (i.e. warfarin) or novel oral anticoagulants (i.e. apixaban, rivaroxaban, dabigatran and edoxaban)

Additional exclusion criteria for Groups 1 and 2:

1. Chronic respiratory disease, including asthma

2. Severe and/or uncontrolled cardiovascular disease, gastrointestinal disease, liver disease, renal disease, endocrine disorder and neurological illness (mild well-controlled comorbidities are allowed)

3. Seriously overweight (BMI ≥40 kg/m²)

4. History of auto-immune disease

Additional exclusion criteria for Group 3:

1. Chronic medical conditions such as chronic lung disease, chronic liver disease, chronic renal failure, chronic heart disease, congenital genetic syndromes (e.g. Trisomy 21)

2. Fulfil any of the contraindications to vaccination as specified in The Green Book

**Previous interventions**

Previous interventions as of 06/11/2020:

Group 1

80 participants aged 56-69 years will receive either single-dose ChAdOx1 nCoV-19 5x10(10) virus particles (vp) (Abs 260) or MenACWY at day 0, or two-dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime followed by 2.2x10(10) (qPCR) boost or two-dose MenACWY (4-6 weeks apart), then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42. All group 1 volunteers that were originally randomised to single-dose subgroups will now be offered a booster vaccination. Once boosted, these remaining volunteers will instead be followed up on a schedule relative to the boost dose which will be POST BOOST+28 days, POST BOOST +90, POST BOOST +182 and POST BOOST +364 days.

Group 2

120 participants aged 70 years or older will receive ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) or MenACWY at day 0, or two-dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime followed by 2.2x10(10) (qPCR) boost or two-dose MenACWY (4-6 weeks apart), then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42. All group 2 volunteers that were originally randomised to single-dose subgroups will now be offered a booster vaccination. Once boosted, these remaining volunteers will instead be followed up on a schedule relative to the boost dose which will be POST BOOST+28 days, POST BOOST +90, POST BOOST +182 and POST BOOST +364 days.

Group 3

60 participants aged 5 to 12 years will receive ChAdOx1 nCoV-19 2.5x10(10) vp (qPCR) or MenACWY at day 0 and day 28, then followed up at days 3, 7, 28, 182 and 364

Group 4

Up to 3550 participants aged 18-55 years will receive either single-dose ChAdOx1 nCoV-19 5x10(10) virus particles (vp) (Abs 260) or MenACWY at day 0, or two-dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime followed by 2.2x10(10) (qPCR) boost or two-dose MenACWY (4-12 weeks apart, +2 weeks), then followed up at days 28, 90, 182 and 364. Two dose subgroups will have additional visits at day 42 and 56. A further prime/boost subgroup will receive a two-dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime and 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80) boost or ChAdOx1 nCoV-19 5x10(10) vp (qPCR) boost at day 0 and day 28, respectively, or two-dose MenACWY, (4-12 weeks apart, +2 weeks). The booster subgroup will be further followed up at days 28, 90, 182 and 365 after booster.

Group 5

200 participants aged 18-55 will receive ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) or ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY at day 0 or two-dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80), or two-dose MenACWY, (4-6 weeks apart) then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at day 31, 35 and 42. All group 5a volunteers that were originally randomised to single-dose subgroups will now be offered a booster vaccination. Once boosted, these remaining volunteers will instead be followed up on a schedule relative to the boost dose which will be POST BOOST+28 days, POST BOOST +90, POST BOOST +182 and POST BOOST +364 days.

Group 6

Up to 6000 participants aged 18-55 years will receive ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY at day 0 or two dose ChAdOx1 nCoV-19 5x10(10) vp (qPCR) prime and 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80) boost or ChAdOx1 nCoV-19 5x10(10) vp (qPCR) boost or two-dose MenACWY, (4-12 weeks apart, +2 weeks), then followed up at days 28, 90, 182 and 364. Two dose subgroups will have additional visits at day 42 and 56. Booster subgroup will be further followed up at days 28, 90, 182 and 365 after booster.

Group 7

80 participants aged 56-69 years will receive either single dose ChAdOx1 nCoV-19 5x10(10) virus particles (vp) (qPCR) or single dose MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY (4-6 weeks apart), then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 8

120 participants aged 70 years or older will receive single dose ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or single dose MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (qPCR) prime and (3.5 – 6.5 × 1010 vp, Abs 260, corrected for PS80) boost OR ChAdOx1 nCoV-19 5x1010vp (qPCR) boost (4-6 weeks apart), OR two-dose MenACWY (4-6 weeks apart) then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 9

Approximately 1000 participants aged 56-69 will receive two-dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp, (Abs 260, corrected for PS80) or two-dose MenACWY (4-6 weeks apart), then followed up at days 28, 56, 118, 210 and 364.

Group 10

Approximately 1000 participants aged 70 years and over will receive two-dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp, (Abs 260, corrected for PS80) or two-dose MenACWY (4-6 weeks apart), then followed up at days 28, 56, 118, 210 and 364.

Group 11

Up to 60 participants aged 18-55 who previously received a ChAdOx1 vectored vaccine will receive two-dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80) (4-6 weeks apart), then followed up at days 14, 28, 56, 118, 210 and 364.

Group 12

Up to 60 HIV infected individuals aged 18-55 will receive two dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80) at day 0 and day 28, then followed up at days 3, 7, 14, 28, 31, 35, 42, 56, 182 and 364.

Volunteers will stay in the trial site for observation for a minimum of 15 minutes (+15 minutes), in case of immediate adverse events.

In groups 1-3, 5, 7, 8, 11 and 12 and in a subset of volunteers in groups 4,6, 9 and 10 (n=1000, each groups 4 and 6 and up to 500 in each of groups 9 and 10), participants will be given an oral thermometer, tape measure and diary card (paper or electronic), with instructions on use. All participants will be given the emergency 24-hour telephone number to contact the on-call study physician if needed.

Safety will be assessed in real time. The DSMB will periodically assess safety and efficacy data every 4-8 weeks and/or as required.

Participants will be followed over the duration of the study to record adverse events and episodes of virologically confirmed symptomatic COVID-19 cases. Participants will be tested for COVID-19 if they present with a new onset of fever OR cough OR shortness of breath.

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Previous interventions as of 28/09/2020:

Group 1

80 participants aged 56-69 years will receive either single-dose ChAdOx1 nCoV-19 5x10(10) virus particles (vp) (Abs 260) or MenACWY at day 0, or two-dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime followed by 2.2x10(10) (qPCR) boost or two-dose MenACWY (4-6 weeks apart), then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42. All group 1 volunteers that were originally randomised to single-dose subgroups will now be offered a booster vaccination. Once boosted, these remaining volunteers will instead be followed up on a schedule relative to the boost dose which will be POST BOOST+28 days, POST BOOST +90, POST BOOST +182 and POST BOOST +364 days.

Group 2

120 participants aged 70 years or older will receive ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) or MenACWY at day 0, or two-dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime followed by 2.2x10(10) (qPCR) boost or two-dose MenACWY (4-6 weeks apart), then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42. All group 2 volunteers that were originally randomised to single-dose subgroups will now be offered a booster vaccination. Once boosted, these remaining volunteers will instead be followed up on a schedule relative to the boost dose which will be POST BOOST+28 days, POST BOOST +90, POST BOOST +182 and POST BOOST +364 days.

Group 3

60 participants aged 5 to 12 years will receive ChAdOx1 nCoV-19 2.5x10(10) vp (qPCR) or MenACWY at day 0 and day 28, then followed up at days 3, 7, 28, 182 and 364

Group 4

Up to 3550 participants aged 18-55 years will receive either single-dose ChAdOx1 nCoV-19 5x10(10) virus particles (vp) (Abs 260) or MenACWY at day 0, or two-dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime followed by 2.2x10(10) (qPCR) boost or two-dose MenACWY (4-12 weeks apart, +2 weeks), then followed up at days 28, 90, 182 and 364. Two dose subgroups will have additional visits at day 42 and 56. A further prime/boost subgroup will receive a two-dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime and 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80) boost or ChAdOx1 nCoV-19 5x10(10) vp (qPCR) boost at day 0 and day 28, respectively, or two-dose MenACWY, (4-12 weeks apart, +2 weeks). The booster subgroup will be further followed up at days 28, 90, 182 and 365 after booster.

Group 5

200 participants aged 18-55 will receive ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) or ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY at day 0 or two-dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80), or two-dose MenACWY, (4-6 weeks apart) then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at day 31, 35 and 42. All group 5a volunteers that were originally randomised to single-dose subgroups will now be offered a booster vaccination. Once boosted, these remaining volunteers will instead be followed up on a schedule relative to the boost dose which will be POST BOOST+28 days, POST BOOST +90, POST BOOST +182 and POST BOOST +364 days.

Group 6

Up to 6000 participants aged 18-55 years will receive ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY at day 0 or two dose ChAdOx1 nCoV-19 5x10(10) vp (qPCR) prime and 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80) boost or ChAdOx1 nCoV-19 5x10(10) vp (qPCR) boost or two-dose MenACWY, (4-12 weeks apart, +2 weeks), then followed up at days 28, 90, 182 and 364. Two dose subgroups will have additional visits at day 42 and 56. Booster subgroup will be further followed up at days 28, 90, 182 and 365 after booster.

Group 7

80 participants aged 56-69 years will receive either single dose ChAdOx1 nCoV-19 5x10(10) virus particles (vp) (qPCR) or single dose MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY (4-6 weeks apart), then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 8

120 participants aged 70 years or older will receive single dose ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or single dose MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (qPCR) prime and (3.5 – 6.5 × 1010 vp, Abs 260, corrected for PS80) boost OR ChAdOx1 nCoV-19 5x1010vp (qPCR) boost (4-6 weeks apart), OR two-dose MenACWY (4-6 weeks apart) then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 9

1000 participants aged 56-69 will receive two-dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp, (Abs 260, corrected for PS80) or two-dose MenACWY (4-6 weeks apart), then followed up at days 28, 56, 118, 210 and 364.

Group 10

1000 participants aged 70 years and over will receive two-dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp, (Abs 260, corrected for PS80) or two-dose MenACWY (4-6 weeks apart), then followed up at days 28, 56, 118, 210 and 364.

Group 11

Up to 60 participants aged 18-55 who previously received a ChAdOx1 vectored vaccine will receive two-dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80) (4-6 weeks apart), then followed up at days 14, 28, 56, 118, 210 and 364.

Group 12

Up to 60 HIV infected individuals aged 18-55 will receive two dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80) at day 0 and day 28, then followed up at days 3, 7, 14, 28, 31, 35, 42, 56, 182 and 364.

Volunteers will stay in the trial site for observation for a minimum of 15 minutes (+15 minutes), in case of immediate adverse events.

In groups 1-3, 5, 7, 8, 11 and 12 and in a subset of volunteers in groups 4,6, 9 and 10 (n=1000, each groups 4 and 6 and up to 500 in each of groups 9 and 10), participants will be given an oral thermometer, tape measure and diary card (paper or electronic), with instructions on use. All participants will be given the emergency 24-hour telephone number to contact the on-call study physician if needed.

Safety will be assessed in real time. The DSMB will periodically assess safety and efficacy data every 4-8 weeks and/or as required.

Participants will be followed over the duration of the study to record adverse events and episodes of virologically confirmed symptomatic COVID-19 cases. Participants will be tested for COVID-19 if they present with a new onset of fever OR cough OR shortness of breath.

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Previous interventions from 25/08/2020 to 28/09/2020:

Before vaccination, volunteers will be asked about their recent health to ensure that they are still medically fit. They will have blood tests taken and participants will be randomised (Groups 1 and 7: 3:1, Groups 2 and 8: 5:1, Groups 3-6, 9-10: 1:1, a subgroup of Group 5 5:1) to receive either ChAdOx1 nCoV-19 or MenACWY. Group 11 is open-label and not randomised.

Group 1

80 participants aged 56-69 years will receive either single dose ChAdOx1 nCoV-19 5x10(10) virus particles (vp) (Abs 260) or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime followed by 2.2x10(10) (qPCR) boost or two dose MenACWY (4-6 weeks apart), then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 2

120 participants aged 70 years or older will receive ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime followed by 2.2x10(10) (qPCR) boost or two-dose MenACWY (4-6 weeks apart), then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 3

60 participants aged 5 to 12 years will receive ChAdOx1 nCoV-19 2.5x10(10) vp (qPCR) or MenACWY at day 0 and day 28, then followed up at days 3, 7, 28, 182 and 364

Group 4

Up to 3550 participants aged 18-55 years will receive either single-dose ChAdOx1 nCoV-19 5x10(10) virus particles (vp) (Abs 260) or MenACWY at day 0, or two-dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime followed by 2.2x10(10) (qPCR) boost or two-dose MenACWY (4-12 weeks apart, +2 weeks), then followed up at days 28, 90, 182 and 364. Two dose subgroups will have additional visits at day 42 and 56. A further prime/boost subgroup will receive a two-dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime and 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80) boost or ChAdOx1 nCoV-19 5x10(10) vp (qPCR) boost at day 0 and day 28, respectively, or two-dose MenACWY, (4-12 weeks apart, +2 weeks). The booster subgroup will be further followed up at days 28, 90, 182 and 365 after booster.

Group 5

200 participants aged 18-55 will receive ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) or ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY at day 0 or two dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80), or two dose MenACWY, (4-6 weeks apart) then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at day 31, 35 and 42.

Group 6

Up to 6000 participants aged 18-55 years will receive ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY at day 0 or two dose ChAdOx1 nCoV-19 5x10(10) vp (qPCR) prime and 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80) boost or ChAdOx1 nCoV-19 5x10(10) vp (qPCR) boost or two-dose MenACWY, (4-12 weeks apart, +2 weeks), then followed up at days 28, 90, 182 and 364. Two dose subgroups will have additional visits at day 42 and 56. Booster subgroup will be further followed up at days 28, 90, 182 and 365 after booster.

Group 7

80 participants aged 56-69 years will receive either single dose ChAdOx1 nCoV-19 5x10(10) virus particles (vp) (qPCR) or single dose MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY (4-6 weeks apart), then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 8

120 participants aged 70 years or older will receive single dose ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or single dose MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (qPCR) prime and (3.5 – 6.5 × 1010 vp, Abs 260, corrected for PS80) boost OR ChAdOx1 nCoV-19 5x1010vp (qPCR) boost (4-6 weeks apart), OR two-dose MenACWY (4-6 weeks apart) then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 9

1000 participants aged 56-69 will receive two dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp, (Abs 260, corrected for PS80) or two dose MenACWY (4-6 weeks apart), then followed up at days 28, 56, 118, 210 and 364.

Group 10

1000 participants aged 70 years and over will receive two dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp, (Abs 260, corrected for PS80) or two dose MenACWY (4-6 weeks apart), then followed up at days 28, 56, 118, 210 and 364.

Group 11

Up to 60 participants aged 18-55 who previously received a ChAdOx1 vectored vaccine will receive two dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80) (4-6 weeks apart), then followed up at days 14, 28, 56, 118, 210 and 364.

Volunteers will stay in the trial site for observation for a minimum of 15 minutes (+15 minutes), in case of immediate adverse events.

In groups 1-3, 5, 7, 8 and 11 and in a subset of volunteers in groups 4,6, 9 and 10 (n=1000, each groups 4 and 6 and up to 500 in each of groups 9 and 10), participants will be given an oral thermometer, tape measure and diary card (paper or electronic), with instructions on use. All participants will be given the emergency 24 hour telephone number to contact the on-call study physician if needed.

Safety will be assessed in real time. The DSMB will periodically assess safety and efficacy data every 4-8 weeks and/or as required.

Participants will be followed over the duration of the study to record adverse events and episodes of virologically confirmed symptomatic COVID-19 cases. Participants will be tested for COVID-19 if they present with a new onset of fever OR cough OR shortness of breath.

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Previous interventions as of 04/08/2020:

Before vaccination, volunteers will be asked about their recent health to ensure that they are still medically fit. They will have blood tests taken and participants will be randomised (Groups 1 and 7: 3:1, Groups 2 and 8: 5:1, Groups 3-6, 9-10: 1:1, a subgroup of Group 5 5:1) to receive either ChAdOx1 nCoV-19 or MenACWY. Group 11 is open-label and not randomised.

Group 1

80 participants aged 56-69 years will receive either single dose ChAdOx1 nCoV-19 5x10(10) virus particles (vp) (Abs 260) or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime followed by 2.2x10(10) (qPCR) boost or MenACWY at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 2

120 participants aged 70 years or older will receive ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime followed by 2.2x10(10) (qPCR) boost or MenACWY at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 3

60 participants aged 5 to 12 years will receive ChAdOx1 nCoV-19 2.5x10(10) vp (qPCR) or MenACWY at day 0 and day 28, then followed up at days 3, 7, 28, 182 and 364

Group 4

Up to 3550 participants aged 18-55 years will receive either single-dose ChAdOx1 nCoV-19 5x10(10) virus particles (vp) (Abs 260) or MenACWY at day 0, or two-dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime followed by 2.2x10(10) (qPCR) boost or MenACWY at day 0 and day 28, then followed up at days 28, 90, 182 and 364. Two dose subgroups will have additional visits at day 42 and 56. A further prime/boost subgroup will receive a two-dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime and 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80) or ChAdOx1 nCoV-19 5x10(10) vp (qPCR) boost at day 0 and day 28, respectively, or two-dose MenACWY,at day 0 and day 28. The booster subgroup will be further followed up at days 28, 90, 182 and 365 after booster.

Group 5

200 participants aged 18-55 will receive ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) or ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY at day 0 or two dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80) at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at day 31, 35 and 42.

Group 6

Up to 6000 participants aged 18-55 years will receive ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY at day 0 or two dose ChAdOx1 nCoV-19 5x10(10) vp (qPCR) prime and 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80) or ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or two-dose MenACWY, at day 0 and day 28, then followed up at days 28, 90, 182 and 364. Two dose subgroups will have additional visits at day 42 and 56. Booster subgroup will be further followed up at days 28, 90, 182 and 365 after booster.

Group 7

80 participants aged 56-69 years will receive either single dose ChAdOx1 nCoV-19 5x10(10) virus particles (vp) (qPCR) or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 8

120 participants aged 70 years or older will receive ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or two dose ChAdOx1 nCoV-19 3.5-6.5 x10(10) vp (Abs 260, corrected for PS80) or ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42

Group 9

1000 participants aged 56-69 will receive two dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp, (Abs 260, corrected for PS80) or two dose MenACWY at day 0 and day 28, then followed up at days 28, 56, 118, 210 and 364.

Group 10

1000 participants aged 70 years and over will receive two dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp, (Abs 260, corrected for PS80) or two dose MenACWY at day 0 and day 28, then followed up at days 28, 56, 118, 210 and 364.

Group 11

Up to 60 participants aged 18-55 who previously received a ChAdOx1 vectored vaccine will receive two dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80) at day 0 and day 28, then followed up at days 28, 56, 118, 210 and 364.

Volunteers will stay in the trial site for observation for 15 minutes (+15 minutes), in case of immediate adverse events.

In groups 1-3, 5, 7, 8 and 11 and in a subset of volunteers in groups 4,6, 9 and 10 (n=1000, each groups 4 and 6 and up to 500 in each of groups 9 and 10), participants will be given an oral thermometer, tape measure and diary card (paper or electronic), with instructions on use. All participants will be given the emergency 24 hour telephone number to contact the on-call study physician if needed.

Safety will be assessed in real time. The DSMB will periodically assess safety and efficacy data every 4-8 weeks and/or as required.

Participants will be followed over the duration of the study to record adverse events and episodes of virologically confirmed symptomatic COVID-19 cases. Participants will be tested for COVID-19 if they present with a new onset of fever OR cough OR shortness of breath.

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Previous interventions as of 30/07/2020:

Before vaccination, volunteers will be asked about their recent health to ensure that they are still medically fit. They will have blood tests taken and participants will be randomised (Groups 1 and 7: 3:1, Groups 2 and 8: 5:1, Groups 3-6, 9-10: 1:1, a subgroup of Group 5 5:1) to receive either ChAdOx1 nCoV-19 or MenACWY. Group 11 is open-label and not randomised.

Group 1

80 participants aged 56-69 years will receive either single dose ChAdOx1 nCoV-19 5x10(10) virus particles (vp) (Abs 260) or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime followed by 2.2x10(10) (qPCR) boost or MenACWY at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 2

120 participants aged 70 years or older will receive ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime followed by 2.2x10(10) (qPCR) boost or MenACWY at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 3

60 participants aged 5 to 12 years will receive ChAdOx1 nCoV-19 2.5x10(10) vp (qPCR) or MenACWY at day 0 and day 28, then followed up at days 3, 7, 28, 182 and 364

Group 4

Up to 3550 participants aged 18-55 years will receive either single-dose ChAdOx1 nCoV-19 5x10(10) virus particles (vp) (Abs 260) or MenACWY at day 0, or two-dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime followed by 2.2x10(10) (qPCR) boost or MenACWY at day 0 and day 28, then followed up at days 28, 90, 182 and 364. Two dose subgroups will have additional visits at day 42 and 56. A further prime/boost subgroup will receive a two-dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime and 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80) boost at day 0 and day 28, respectively, or two-dose MenACWY,at day 0 and day 28. The booster subgroup will be further followed up at days 28, 90, 182 and 365 after booster.

Group 5

200 participants aged 18-55 will receive ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) or ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY at day 0 or two dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80) at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at day 31, 35 and 42.

Group 6

Up to 6000 participants aged 18-55 years will receive ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY at day 0 or two dose ChAdOx1 nCoV-19 5x10(10) vp (qPCR prime and 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80) or two-dose MenACWY, at day 0 and day 28, then followed up at days 28, 90, 182 and 364. Two dose subgroups will have additional visits at day 42 and 56. Booster subgroup will be further followed up at days 28, 90, 182 and 365 after booster.

Group 7

80 participants aged 56-69 years will receive either single dose ChAdOx1 nCoV-19 5x10(10) virus particles (vp) (qPCR) or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 8

120 participants aged 70 years or older will receive ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or two dose ChAdOx1 nCoV-19 3.5-6.5 x10(10) vp (Abs 260, corrected for PS80) or MenACWY at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42

Group 9

1000 participants aged 56-69 will receive two dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp, (Abs 260, corrected for PS80) or two dose MenACWY at day 0 and day 28, then followed up at days 28, 56, 118, 210 and 364.

Group 10

1000 participants aged 70 years and over will receive two dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp, (Abs 260, corrected for PS80) or two dose MenACWY at day 0 and day 28, then followed up at days 28, 56, 118, 210 and 364.

Group 11

Up to 60 participants aged 18-55 who previously received a ChAdOx1 vectored vaccine will receive two dose ChAdOx1 nCoV-19 3.5 – 6.5 × 10(10) vp (Abs 260, corrected for PS80) at day 0 and day 28, then followed up at days 28, 56, 118, 210 and 364.

Volunteers will stay in the trial site for observation for 15 minutes (+15 minutes), in case of immediate adverse events.

In groups 1-3, 5, 7, 8 and 11 and in a subset of volunteers in groups 4,6, 9 and 10 (n=1000, each groups 4 and 6 and up to 500 in each of groups 9 and 10), participants will be given an oral thermometer, tape measure and diary card (paper or electronic), with instructions on use. All participants will be given the emergency 24 hour telephone number to contact the on-call study physician if needed.

Safety will be assessed in real time. The DSMB will periodically assess safety and efficacy data every 4-8 weeks and/or as required.

Participants will be followed over the duration of the study to record adverse events and episodes of virologically confirmed symptomatic COVID-19 cases. Participants will be tested for COVID-19 if they present with a new onset of fever OR cough OR shortness of breath.

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Previous interventions as of 24/06/2020:

Before vaccination, volunteers will be asked about their recent health to ensure that they are still medically fit. They will have blood tests taken and participants will be randomised (Groups 1 and 7: 3:1, Groups 2 and 8: 5:1, Groups 3-6: 1:1) to receive either ChAdOx1 nCoV-19 or MenACWY.

Group 1

80 participants aged 56-69 years will receive either single dose ChAdOx1 nCoV-19 5x10(10) virus particles (vp) (Abs 260) or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime followed by 2.2x10(10) (qPCR) boost or MenACWY at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 2

120 participants aged 70 years or older will receive ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime followed by 2.2x10(10) (qPCR) boost or MenACWY at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 3

60 participants aged 5 to 12 years will receive ChAdOx1 nCoV-19 2.5x10(10) vp (qPCR) or MenACWY at day 0 and day 28, then followed up at days 3, 7, 28, 182 and 364

Group 4

Up to 4000 participants aged 18 years or older will receive either single-dose ChAdOx1 nCoV-19 5x10(10) virus particles (vp) (Abs 260) or MenACWY at day 0, or two-dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) prime followed by 2.2x10(10) (qPCR) boost or MenACWY at day 0 and day 28, then followed up at days 28, 90, 182 and 364. Two dose subgroups will have additional visits at day 42 and 56.

Group 5

200 participants aged 18-55 will receive ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) or ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY at day 0, then followed up at days 3, 7, 14, 28, 56, 182 and 364

Group 6

Up to 6000 participants aged 18 years or older will receive ChAdOx1 nCoV-19 5x10(10) vp (qPCR)or MenACWY at day 0, then followed up at days 28, 90, 182 and 364

Group 7

80 participants aged 56-69 years will receive either single dose ChAdOx1 nCoV-19 5x10(10) virus particles (vp) (qPCR) or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 8

120 participants aged 70 years or older will receive ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (qPCR) or MenACWY at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42

Volunteers will stay in the trial site for observation for 15 minutes (+15 minutes), in case of immediate adverse events.

In groups 1-3, 5 and in a subset of volunteers in groups 4 and 6 (n=1000, each), participants will be given an oral thermometer, tape measure and diary card (paper or electronic), with instructions on use. All participants will be given the emergency 24 hour telephone number to contact the on-call study physician if needed.

Safety will be assessed in real time. The DSMB will periodically assess safety and efficacy data every 4-8 weeks and/or as required.

Participants will be followed over the duration of the study to record adverse events and episodes of virologically confirmed symptomatic COVID-19 cases. Participants will be tested for COVID-19 if they present with a new onset of fever OR cough OR shortness of breath.

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Previous interventions from 15/06/2020 to 24/06/2020:

Volunteers will initially be required to complete an online screening. This is an initial confirmation of eligibility. Volunteers will initially be invited for a screening visit. Prior to attending they will have received written information about the study and had time to consider it. At the screening visit, a doctor will explain about the study and answer any questions they may have. If the volunteer decides to take part, they will be asked to sign a consent form. The doctor will then check whether the volunteer is eligible to take part. This will involve taking a medical history, performing a physical examination, taking blood tests, urine tests, and measuring blood pressure and temperature.

The doctor will then write to the volunteer's own GP to enquire about their medical health. If all the inclusion criteria are met and none of the exclusion criteria are present then the volunteer is invited to return for vaccination. Due to the need for rapid delivery of this study, there will be minimal flexibility around appointment dates.

Before vaccination, volunteers will be asked about their recent health to ensure that they are still medically fit. They will have blood tests taken and participants will be randomised (Group 1: 3:1, Group 2: 5:1, Groups 3-6: 1:1) to receive either ChAdOx1 nCoV-19 or MenACWY.

Group 1

80 participants aged 56-<70 years will receive either single dose ChAdOx1 nCoV-19 5x10(10) virus particles (vp) (Abs 260) or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) or MenACWY at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 2

120 participants aged 70 years or older will receive ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) or MenACWY at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42

Group 3

60 participants aged 5 to 12 years will receive ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) or MenACWY at day 0 and day 28, then followed up at days 3, 7, 28, 182 and 364

Group 4

Up to 3900 participants aged 18 years or older will receive ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) or MenACWY at day 0, then followed up at days 28, 90, 182 and 364

Group 5

100 participants aged 18-55 will receive ChAdOx1 nCoV-19 5x10(10) vp (Abs 260) or MenACWY at day 0, then followed up at days 3, 7, 14, 28, 56, 182 and 364

Group 6

Up to 6000 participants aged 18 years or older will receive ChAdOx1 nCoV-19 5x10(10) vp (qPCR)or MenACWY at day 0, then followed up at days 28, 90, 182 and 364

Volunteers will stay in the trial site for observation for 15 minutes (+15 minutes), in case of immediate adverse events.

In groups 1-3, 5 and in a subset of volunteers in groups 4 and 6 (n=1000, each), participants will be given an oral thermometer, tape measure and diary card (paper or electronic), with instructions on use. All participants will be given the emergency 24 hour telephone number to contact the on-call study physician if needed.

Safety will be assessed in real time. The DSMB will periodically assess safety and efficacy data every 4-8 weeks and/or as required.

Participants will be followed over the duration of the study to record adverse events and episodes of virologically confirmed symptomatic COVID-19 cases. Participants will be tested for COVID-19 if they present with a new onset of fever OR cough OR shortness of breath.

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Previous interventions as of 04/06/2020:

Volunteers will initially be required to complete an online screening. This is an initial confirmation of eligibility. Volunteers will initially be invited for a screening visit. Prior to attending they will have received written information about the study and had time to consider it. At the screening visit, a doctor will explain about the study and answer any questions they may have. If the volunteer decides to take part, they will be asked to sign a consent form. The doctor will then check whether the volunteer is eligible to take part. This will involve taking a medical history, performing a physical examination, taking blood tests, urine tests, and measuring blood pressure and temperature.

The doctor will then write to the volunteer's own GP to enquire about their medical health. If all the inclusion criteria are met and none of the exclusion criteria are present then the volunteer is invited to return for vaccination. Due to the need for rapid delivery of this study, there will be minimal flexibility around appointment dates.

Before vaccination, volunteers will be asked about their recent health to ensure that they are still medically fit. They will have blood tests taken and participants will be randomised (Group 1: 3:1, Group 2: 5:1, Groups 3-5: 1:1) to receive either ChAdOx1 nCoV-19 or MenACWY.

Group 1

80 participants aged 56-<70 years will receive either single dose ChAdOx1 nCoV-19 5 x 10(10) virus particles (vp) or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5 x 10(10) vp or MenACWY at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 2

120 participants aged 70 years or older will receive ChAdOx1 nCoV-19 5 x 10(10) vp or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5 x 10(10) vp or MenACWY at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 3

60 participants aged 5 to 12 years will receive ChAdOx1 nCoV-19 5 x 10(10) vp or MenACWY at day 0 and day 28, then followed up at days 3, 7, 28, 182 and 364

Group 4

Up to 9900 participants aged 18 or older will receive ChAdOx1 nCoV-19 5 x 10(10) vp or MenACWY at day 0, then followed up at days 28, 90, 182 and 364

Group 5

100 participants aged 18-55 older will receive ChAdOx1 nCoV-19 5 x 10(10) vp or MenACWY at day 0, then followed up at days 3, 7, 14, 28, 56, 182 and 364

Volunteers will stay in the trial site for observation for 15 minutes (+15 minutes), in case of immediate adverse events.

In groups 1-3, 5 and in a subset of volunteers in group 4 (n=1000), participants will be given an oral thermometer, tape measure and diary card (paper or electronic), with instructions on use. All participants will be given the emergency 24 hour telephone number to contact the on-call study physician if needed.

Safety will be assessed in real time. The DSMB will periodically assess safety and efficacy data every 4-8 weeks and/or as required.

Participants will be followed over the duration of the study to record adverse events and episodes of virologically confirmed symptomatic COVID-19 cases. Participants will be tested for COVID-19 if they present with a new onset of fever OR cough OR shortness of breath.

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Previous interventions as of 22/05/2020:

Volunteers will initially be required to complete an online screening. This is an initial confirmation of eligibility. Volunteers will initially be invited for a screening visit. Prior to attending they will have received written information about the study and had time to consider it. At the screening visit, a doctor will explain about the study and answer any questions they may have. If the volunteer decides to take part, they will be asked to sign a consent form. The doctor will then check whether the volunteer is eligible to take part. This will involve taking a medical history, performing a physical examination, taking blood tests, urine tests, and measuring blood pressure and temperature.

The doctor will then write to the volunteer's own GP to enquire about their medical health. If all the inclusion criteria are met and none of the exclusion criteria are present then the volunteer is invited to return for vaccination. Due to the need for rapid delivery of this study, there will be minimal flexibility around appointment dates.

Before vaccination, volunteers will be asked about their recent health to ensure that they are still medically fit. They will have blood tests taken and participants will be randomised (Group 1: 3:1, Group 2: 5:1, Groups 3-5: 1:1) to receive either ChAdOx1 nCoV-19 or MenACWY.

Group 1

80 participants aged 56-<70 years will receive either single dose ChAdOx1 nCoV-19 5 x 10(10) virus particles (vp) or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5 x 10(10) vp or MenACWY at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 2

120 participants aged 70 years or older will receive ChAdOx1 nCoV-19 5 x 10(10) vp or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5 x 10(10) vp or MenACWY at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364. Two dose subgroups will have additional visits at days 31, 35 and 42.

Group 3

60 participants aged 5 to 12 years will receive ChAdOx1 nCoV-19 5 x 10(10) vp or MenACWY at day 0 and day 28, then followed up at days 3, 7, 28, 182 and 364

Group 4

Up to 9900 participants aged 18 or older will receive ChAdOx1 nCoV-19 5 x 10(10) vp or MenACWY at day 0, then followed up at days 28, 90, 182 and 364

Group 5

100 participants aged 18-55 older will receive ChAdOx1 nCoV-19 5 x 10(10) vp or MenACWY at day 0, then followed up at days 3, 7, 14, 28, 56, 182 and 364

Participants will be observed for 60 minutes after vaccination (+/-30 minutes) and given an oral thermometer, tape measure and access to a diary with instructions for use. They will also receive an emergency 24-hour telephone number to contact the on-call study physician if needed.

Safety will be assessed in real time. The DSMB will periodically assess safety and efficacy data every 4-8 weeks and/or as required.

Participants will be followed over the duration of the study to record adverse events and episodes of virologically confirmed symptomatic COVID-19 cases. Participants will be tested for COVID-19 if they present with a new onset of fever OR cough OR shortness of breath.

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Previous interventions:

Volunteers will initially be required to complete an online screening. This is an initial confirmation of eligibility. Volunteers will initially be invited for a screening visit. Prior to attending they will have received written information about the study and had time to consider it. At the screening visit, a doctor will explain about the study and answer any questions they may have. If the volunteer decides to take part, they will be asked to sign a consent form. The doctor will then check whether the volunteer is eligible to take part. This will involve taking a medical history, performing a physical examination, taking blood tests, urine tests, and measuring blood pressure and temperature.

The doctor will then write to the volunteer's own GP to enquire about their medical health. If all the inclusion criteria are met and none of the exclusion criteria are present then the volunteer is invited to return for vaccination. Due to the need for rapid delivery of this study, there will be minimal flexibility around appointment dates.

Before vaccination, volunteers will be asked about their recent health to ensure that they are still medically fit. They will have blood tests taken and participants will be randomised (1:1) to receive either ChAdOx1 nCoV-19 or MenACWY.

Group 1

80 participants aged 56-<70 years will receive either single dose ChAdOx1 nCoV-19 5 x 10(10) virus particles (vp) or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5 x 10(10) vp or MenACWY at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364 (optional)

Group 2

120 participants aged 70 years or older will receive ChAdOx1 nCoV-19 5 x 10(10) vp or MenACWY at day 0, or two dose ChAdOx1 nCoV-19 5 x 10(10) vp or MenACWY at day 0 and day 28, then followed up at days 3, 7, 14, 28, 56, 182 and 364 (optional)

Group 3

60 participants aged 5 to 12 years will receive ChAdOx1 nCoV-19 5 x 10(10) vp or MenACWY at day 0 and day 28, then followed up at days 3, 7, 28, 182 and 364 (optional)

Group 4

5000 participants aged 18 or older will receive ChAdOx1 nCoV-19 5 x 10(10) vp or MenACWY at day 0, then followed up at days 28, 90, 182 and 364 (optional)

Participants will be observed for 60 minutes after vaccination (+/-30 minutes) and given an oral thermometer, tape measure and access to a diary with instructions for use. They will also receive an emergency 24-hour telephone number to contact the on-call study physician if needed.

Safety will be assessed in real time. The DSMB will periodically assess safety and efficacy data every 4-8 weeks and/or as required.

Participants will be followed over the duration of the study to record adverse events and episodes of virologically confirmed symptomatic COVID-19 cases. Participants will be tested for COVID-19 if they present with a new onset of fever OR cough OR shortness of breath.