Priority groups for coronavirus (COVID-19) vaccination:

Interim advice from the Joint Committee on Vaccination and Immunisation (JCVI)

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Joint Committee on Vaccination and Immunisation

- Statutory advisory committee established in its current form in 1977.
- Key function is to consider detailed evidence and advise UK health departments on immunisation against infectious disease.
- JCVI is the UK NITAG (National Immunisation Technical Advisory Group)
- Terms of Reference are:

"To advise UK health departments on immunisations for the prevention of infections and/or disease following due consideration of the evidence on the burden of disease, on vaccine safety and efficacy and on the impact and cost effectiveness of immunisation strategies. To consider and identify factors for the successful and effective implementation of immunisation strategies. To identify important knowledge gaps relating to immunisations or immunisation programmes where further research and/or surveillance should be considered."

Drivers for advice

- JCVI asked by UK Government for early consideration of priority groups for COVID-19 vaccination
- Early advice was important for planning the delivery of a COVID-19 vaccination programme at the earliest opportunity

JCVI Process

- JCVI understood advice had to be developed without data on any vaccine
- JCVI asked Public Health England for all relevant data on COVID-19
- JCVI met on 7 May 2020, 6 June, 3 July and 1 September
- JCVI published a statement setting out its interim advice on 18 June 2020
- JCVI updated the interim statement on 25 September 2020
- JCVI will continue to review data on vaccines as these becomes available

Potential aims of a COVID-19 programme

- Prevent COVID-19 related deaths
- Prevent serious disease related to COVID-19
- Protect health and social care services
- Reduce transmission of COVID-19 in the population

Data used for JCVI deliberations

- Existing and enhanced surveillance systems for COVID-19
- Sero-epidemiology of COVID-19
- Analysis of data on hospitalisation and deaths associated with COVID-19 by
  - Age
  - Sex
  - Underlying health conditions
  - Ethnicity
  - Deprivation
- Mathematical modelling on the potential impact of programmes, based on a range of assumed vaccine characteristics

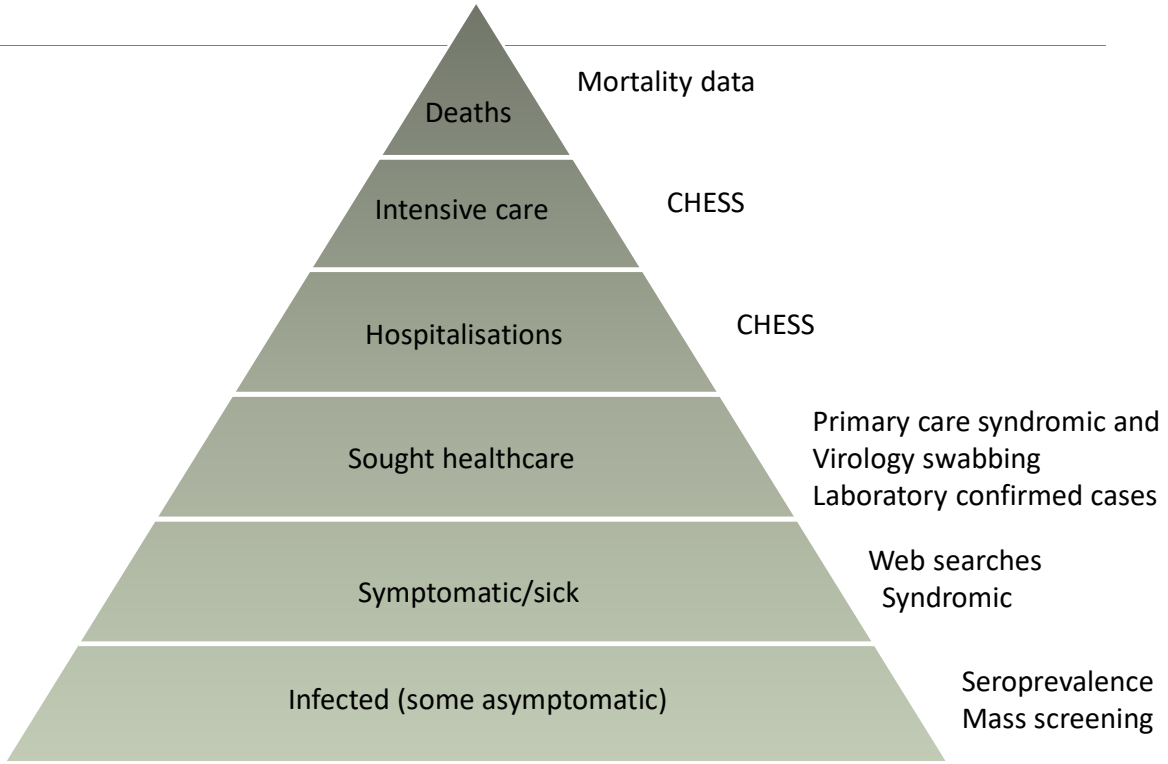
COVID-19 surveillance information

Routine systems based on systems developed for influenza

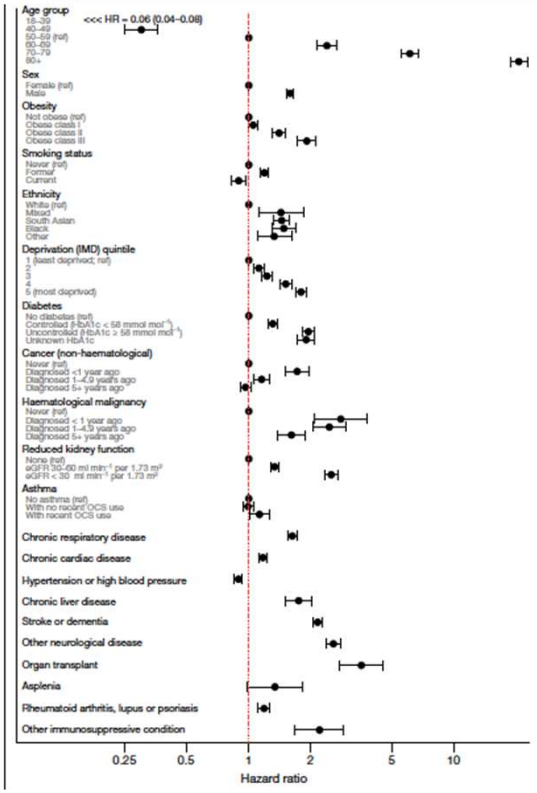
- Slightly different case definitions (ARI/ILI)
- Reflects the disease pyramid

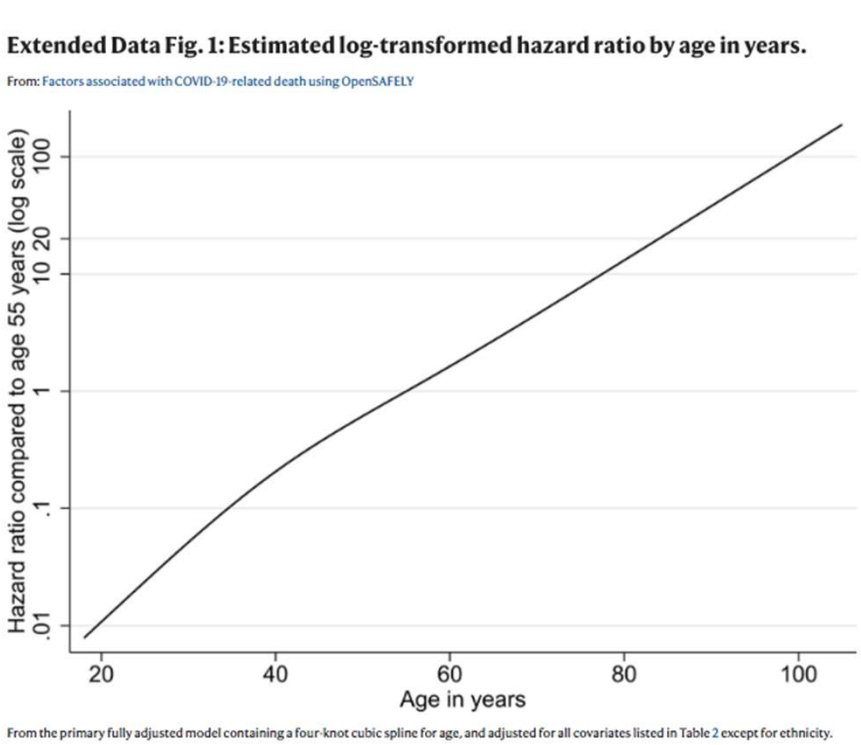
Additional special studies from clinical / academic groups

- ISARIC
- Primary care databases



Factors associated with COVID19 deaths. OpenSafely – Williamson, Nature Aug 2020





Findings

- Adults over the age of 50 at increased risk of serious disease and mortality, with the risk increasing with age
- Risk factors for serious disease and death include:
  - Diabetes
  - Chronic kidney disease
  - Chronic pulmonary disease
  - Malignancy
  - Dementia
- Risks of infection and serious disease and mortality associated with deprivation and certain ethnicities
- Health and Social Care workers at increased personal risk of exposure to infection and testing positive
- Health and Social Care workforce wellbeing was important in maintaining resilience in the NHS and social care sector

Interim advice (first iteration)

Broad based principle to save lives and protect the NHS

The Committee advises priority vaccination of the following groups:

i. frontline health and social care workers;

ii. those at increased risk of serious disease and death from COVID-19 infection stratified according to age and risk factors.

Interim advice (Second iteration)

1. older adults' resident in a care home and care home workers[1]
2. all those 80 years of age and over and health and social care workers[1]
3. all those 75 years of age and over
4. all those 70 years of age and over
5. all those 65 years of age and over
6. high-risk adults under 65 years of age
7. moderate-risk adults under 65 years of age
8. all those 60 years of age and over
9. all those 55 years of age and over
10. all those 50 years of age and over
11. rest of the population (priority to be determined)[2]

The prioritisation could change substantially if the first available vaccines were not considered suitable for, or effective in, older adults.

The final decision on the prioritisation for health and social care workers will be dependent on vaccine characteristics and the epidemiology at the start of any programme. [1] [2]

A risk-benefit assessment would likely be undertaken in advising on vaccination in group 11. [1]

Future Work

Who do we want to target?

- Those most at risk of disease and death
- Those driving transmission
- Both

Key questions

For a vaccination strategy targeted at those with the greatest risk of serious disease and death:

- Does the vaccine work well in older adults?
- Does the vaccine work well in those with underlying health conditions?
- Is vaccination safe in older adults?
- Will vaccines be licensed for use in older adults?

For a vaccination strategy targeting those most likely to be spreading the virus:

- Which age groups/occupations groups are involved in transmission?
- Does a vaccine prevent acquisition and transmission of COVID-19?
- Is the vaccine safe to use in younger adults?

Evidence required

- Further evidence on risk of serious disease, hospitalisation and death by age, underlying disease and ethnicity
- Risk of infection by occupation
- Mathematical modelling to understand the potential benefits from different programme options
- Evidence on transmission in the population
- Clinical trial data on:
  - Safety
  - Immune responses
  - Reduction of disease severity
  - Prevention of infection and onward transmission

Key unanswered questions

- Whether natural infection provides immunity to reinfection – and if so for how long?
- The duration of protection afforded by any vaccine – will revaccination be required?
- How many doses will be available?
- Are there any rare side effects that cannot be identified through clinical trials?
- Will the public accept a new COVID-19 vaccine?
- Will any vaccine work in 'real world' populations?

What may change the advice

Vaccine efficacy in older adults

Vaccine safety in older adults

Logistical issues

Transmission prevention