Communicating the potential benefits and harms of the Astra-Zeneca COVID-19 vaccine
Weighing up the potential benefits and harms of the Astra-Zeneca COVID-19 vaccine

For 100,000 people with low exposure risk*

ICU admissions due to COVID-19 prevented every 16 weeks:

- 20-29yr: 0.8
- 30-39yr: 2.7
- 40-49yr: 5.7
- 50-59yr: 10.5
- 60-69yr: 14.1

Serious harms due to the vaccine:

- 20-29yr: 1.1
- 30-39yr: 0.8
- 40-49yr: 0.5
- 50-59yr: 0.4
- 60-69yr: 0.2

* Based on coronavirus incidence of 2 per 10,000: roughly UK in March
Weighing up the potential benefits and harms of the Astra-Zeneca COVID-19 vaccine

For 100,000 people with medium exposure risk*

ICU admissions due to COVID-19 prevented every 16 weeks:

<table>
<thead>
<tr>
<th>Age group</th>
<th>Serious harms due to the vaccine:</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-29yr</td>
<td>1.1</td>
</tr>
<tr>
<td>30-39yr</td>
<td>0.8</td>
</tr>
<tr>
<td>40-49yr</td>
<td>0.5</td>
</tr>
<tr>
<td>50-59yr</td>
<td>0.4</td>
</tr>
<tr>
<td>60-69yr</td>
<td>0.2</td>
</tr>
</tbody>
</table>

* Based on coronavirus incidence of 6 per 10,000: roughly UK in February
Weighing up the potential benefits and harms of the Astra-Zeneca COVID-19 vaccine

For 100,000 people with high exposure risk*

ICU admissions due to COVID-19 prevented every 16 weeks:

Age group

<table>
<thead>
<tr>
<th>20-29yr</th>
<th>30-39yr</th>
<th>40-49yr</th>
<th>50-59yr</th>
<th>60-69yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.9</td>
<td>24.9</td>
<td>51.5</td>
<td>95.6</td>
<td>127.7</td>
</tr>
</tbody>
</table>

Serious harms due to the vaccine:

<table>
<thead>
<tr>
<th>20-29yr</th>
<th>30-39yr</th>
<th>40-49yr</th>
<th>50-59yr</th>
<th>60-69yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>0.8</td>
<td>0.5</td>
<td>0.4</td>
<td>0.2</td>
</tr>
</tbody>
</table>

* Based on coronavirus incidence of 20 per 10,000: roughly UK at peak of second wave
Statistical Notes and Data Sources

Potential benefits:

• Incidence rates were based on the Covid-19 Infection Survey, ONS, 1 April 2021.

• The proportion of hospitalisations in a cohort was calculated using the estimates of COVID-19 hospitalisation rates associated with the 10-year age cohorts studied. These estimates were taken from Table 1 of the 29 July 2020 report of the Scientific Pandemic Influenza Group on Modelling, Operational sub-group (SPI-M-O).

• The proportion of ICU cases to hospitalisations was calculated using the PHE Benefit Estimation for COVID-19 Report from 3 April 2021. The 10-year age cohorts were determined by weighted averages if not directly available.

• A fixed vaccine efficacy of 80% for all age groups for ICU reduction was used.

Potential harms:

• Very few cases of severe allergic reaction (anaphylaxis) have been reported for the Astra-Zeneca vaccine in the UK – too few to illustrate. This may be because precautions have been taken to protect those likely to suffer such a reaction. The harms illustrated are therefore only the blood clots.

• Numbers of cases of the blood clot reactions provided by MHRA up to March 31st in five-year age-bands. Observed rates smoothed using a Poisson regression on age, with log-link.