

**S2 Table (a) Fully adjusted hazard ratios (HRs) for the association of ChAdOx1-S and BNT162b2 with venous events 1-28 and >28 days after vaccination, within pre-specified subgroups. P values for between subgroup differences were derived using Wald tests. OCP: oral contraceptive. HRT: hormone replacement therapy**

| Subgroup               |                        | ChAdOx1-S vaccine |                           |         |                           | BNT162b2 vaccine |            |                           |         |                           |         |
|------------------------|------------------------|-------------------|---------------------------|---------|---------------------------|------------------|------------|---------------------------|---------|---------------------------|---------|
|                        |                        | N (Events)        | Post vaccination ≤28 days |         | Post vaccination >28 days |                  | N (Events) | Post vaccination ≤28 days |         | Post vaccination >28 days |         |
|                        |                        | 3001              | HR (95% CI) <sup>1</sup>  | P value | HR (95% CI) <sup>1</sup>  | P value          | 3133       | HR (95% CI) <sup>1</sup>  | P value | HR (95% CI) <sup>1</sup>  | P value |
| Age groups             | 18-29                  | 40                | 2.30 (1.63–3.25)          | <0.0001 | 1.29 (0.58–2.90)          | 0.003            | 29         | 0.99 (0.60–1.62)          | 0.005   | 0.99 (0.57–1.71)          | 0.839   |
|                        | 30-39                  | 63                | 1.33 (1.01–1.75)          |         | 0.85 (0.46–1.59)          |                  | 60         | 0.90 (0.65–1.25)          |         | 0.71 (0.47–1.07)          |         |
|                        | 40-49                  | 145               | 1.32 (1.09–1.61)          |         | 1.52 (1.09–2.13)          |                  | 122        | 0.96 (0.77–1.21)          |         | 0.75 (0.56–1.01)          |         |
|                        | 50-59                  | 270               | 0.93 (0.81–1.07)          |         | 1.00 (0.77–1.30)          |                  | 237        | 0.78 (0.66–0.92)          |         | 0.69 (0.55–0.86)          |         |
|                        | 60-69                  | 618               | 0.87 (0.79–0.96)          |         | 0.89 (0.73–1.07)          |                  | 359        | 0.78 (0.69–0.89)          |         | 0.67 (0.55–0.83)          |         |
|                        | 70-79                  | 1124              | 0.75 (0.69–0.82)          |         | 0.79 (0.71–0.88)          |                  | 823        | 0.69 (0.62–0.77)          |         | 0.73 (0.65–0.82)          |         |
|                        | 80-89                  | 546               | 0.79 (0.69–0.89)          |         | 0.73 (0.63–0.84)          |                  | 1255       | 0.63 (0.56–0.70)          |         | 0.67 (0.61–0.74)          |         |
|                        | >90                    | 195               | 0.76 (0.62–0.94)          |         | 0.75 (0.59–0.95)          |                  | 248        | 0.80 (0.65–0.99)          |         | 0.67 (0.55–0.81)          |         |
| Sex                    | Male                   | 1338              | 0.81 (0.75–0.87)          | 0.029   | 0.74 (0.66–0.82)          | 0.005            | 1423       | 0.70 (0.64–0.76)          | 0.150   | 0.66 (0.60–0.72)          | 0.024   |
|                        | Female                 | 1663              | 0.90 (0.84–0.97)          |         | 0.89 (0.81–0.98)          |                  | 1710       | 0.75 (0.70–0.81)          |         | 0.74 (0.69–0.81)          |         |
| Ethnicity              | White                  | 2856              | 0.86 (0.82–0.91)          | 0.018   | 0.82 (0.76–0.89)          | 0.429            | 2977       | 0.72 (0.68–0.77)          | 0.002   | 0.71 (0.66–0.76)          | 0.691   |
|                        | Asian or Asian British | 38                | 0.51 (0.34–0.77)          |         | 0.66 (0.38–1.14)          |                  | 56         | 0.69 (0.48–0.98)          |         | 0.57 (0.38–0.86)          |         |
|                        | Black or Black British | 53                | 0.91 (0.66–1.25)          |         | 0.62 (0.35–1.10)          |                  | 42         | 0.62 (0.41–0.94)          |         | 0.61 (0.39–0.97)          |         |
|                        | Mixed                  | 10                | 0.47 (0.21–1.06)          |         | 0.76 (0.28–2.06)          |                  | 12         | 0.74 (0.36–1.51)          |         | 0.43 (0.16–1.17)          |         |
|                        | Other Ethnic Groups    | 17                | 0.73 (0.37–1.43)          |         | 1.63 (0.80–3.32)          |                  | 23         | 1.30 (0.75–2.24)          |         | 0.94 (0.48–1.84)          |         |
|                        | Unknown                | 21                | 1.11 (0.65–1.89)          |         | 1.14 (0.50–2.58)          |                  | 15         | 0.74 (0.36–1.51)          |         | 0.68 (0.32–1.47)          |         |
| Missing                | 6                      | 2.59 (1.05–6.42)  | 1.29 (0.18–9.32)          | 8       | 3.85 (1.67–8.87)          | 1.33 (0.33–5.43) |            |                           |         |                           |         |
| Deprivation            | 1-2 (least)            | 564               | 0.76 (0.68–0.85)          | 0.138   | 0.76 (0.65–0.89)          | 0.43             | 489        | 0.65 (0.57–0.74)          | 0.095   | 0.54 (0.47–0.62)          | <0.0001 |
|                        | 3-4                    | 560               | 0.86 (0.77–0.96)          |         | 0.80 (0.68–0.93)          |                  | 576        | 0.76 (0.67–0.85)          |         | 0.70 (0.62–0.80)          |         |
|                        | 5-6                    | 625               | 0.90 (0.81–1.00)          |         | 0.82 (0.71–0.96)          |                  | 606        | 0.70 (0.62–0.79)          |         | 0.67 (0.59–0.76)          |         |
|                        | 7-8                    | 632               | 0.87 (0.78–0.97)          |         | 0.80 (0.69–0.93)          |                  | 687        | 0.73 (0.65–0.82)          |         | 0.71 (0.63–0.80)          |         |
|                        | 9-10 (most)            | 609               | 0.91 (0.81–1.01)          |         | 0.92 (0.79–1.06)          |                  | 770        | 0.81 (0.72–0.91)          |         | 0.88 (0.79–0.98)          |         |
| Prior thrombocytopenia | No                     | 3001              | 0.86 (0.82–0.91)          | 0.030   | 0.82 (0.76–0.89)          | 0.127            | 3132       | 0.73 (0.69–0.78)          | 0.014   | 0.71 (0.66–0.75)          | 0.372   |
|                        | Yes                    | 0                 | 0.54 (0.35–0.82)          |         | 0.54 (0.31–0.93)          |                  | <5         | 0.37 (0.21–0.63)          |         | 0.58 (0.38–0.89)          |         |
| Prior thrombophilia    | No                     | 2986              | 0.86 (0.81–0.91)          | 0.093   | 0.82 (0.76–0.89)          | 0.130            | 3116       | 0.73 (0.69–0.77)          | 0.254   | 0.70 (0.66–0.75)          | 0.924   |
|                        | Yes                    | 15                | 0.50 (0.27–0.94)          |         | 0.38 (0.14–1.03)          |                  | 17         | 0.48 (0.23–0.99)          |         | 0.68 (0.34–1.37)          |         |
| Prior venous event     | No                     | 3001              | 0.95 (0.90–1.01)          | <0.0001 | 0.96 (0.88–1.05)          | <0.0001          | 3133       | 0.80 (0.76–0.86)          | <0.0001 | 0.78 (0.73–0.84)          | <0.0001 |
|                        | Yes                    | 0                 | 0.54 (0.48–0.61)          |         | 0.42 (0.35–0.50)          |                  | 0          | 0.44 (0.38–0.51)          |         | 0.44 (0.38–0.51)          |         |
| Prior COVID infection  | No                     | 2839              | 0.88 (0.83–0.93)          | <0.001  | 0.85 (0.79–0.93)          | <0.0001          | 3012       | 0.74 (0.70–0.79)          | 0.001   | 0.72 (0.68–0.77)          | <0.001  |
|                        | Yes                    | 162               | 0.60 (0.49–0.74)          |         | 0.49 (0.37–0.64)          |                  | 121        | 0.47 (0.36–0.61)          |         | 0.45 (0.34–0.58)          |         |
| OCP                    | No                     | 2996              | 1.15 (0.99–1.35)          | 0.382   | 1.03 (0.77–1.39)          | 0.786            | 3129       | 0.84 (0.70–1.00)          | 0.195   | 0.77 (0.61–0.97)          | 0.270   |
|                        | Yes                    | 5                 | 0.69 (0.22–2.17)          |         | 1.26 (0.31–5.09)          |                  | <5         | 0.33 (0.08–1.34)          |         | 0.34 (0.08–1.41)          |         |
| HRT                    | No                     | 2972              | 0.78 (0.73–0.83)          | 0.514   | 0.75 (0.69–0.82)          | 0.532            | 3112       | 0.69 (0.65–0.73)          | 0.554   | 0.66 (0.62–0.71)          | 0.949   |
|                        | Yes                    | 29                | 0.92 (0.56–1.50)          |         | 0.96 (0.45–2.05)          |                  | 21         | 0.57 (0.30–1.08)          |         | 0.65 (0.34–1.23)          |         |
| Anticoagulant          | No                     | 2759              | 0.98 (0.92–1.03)          | <0.0001 | 0.98 (0.90–1.07)          | <0.0001          | 2875       | 0.84 (0.79–0.89)          | <0.0001 | 0.83 (0.77–0.89)          | <0.0001 |
|                        | Yes                    | 242               | 0.34 (0.29–0.40)          |         | 0.28 (0.22–0.35)          |                  | 258        | 0.25 (0.21–0.31)          |         | 0.27 (0.22–0.32)          |         |
| Antiplatelet           | No                     | 2503              | 0.89 (0.84–0.95)          | <0.001  | 0.84 (0.77–0.92)          | 0.081            | 2513       | 0.75 (0.71–0.80)          | 0.011   | 0.72 (0.67–0.77)          | 0.220   |
|                        | Yes                    | 498               | 0.69 (0.61–0.78)          |         | 0.73 (0.62–0.85)          |                  | 620        | 0.62 (0.55–0.71)          |         | 0.66 (0.58–0.75)          |         |
| Prior MI or stroke     | No                     | 2603              | 0.88 (0.83–0.93)          | 0.004   | 0.87 (0.80–0.95)          | <0.0001          | 2680       | 0.74 (0.70–0.79)          | 0.021   | 0.72 (0.67–0.77)          | 0.086   |
|                        | Yes                    | 398               | 0.71 (0.62–0.82)          |         | 0.58 (0.48–0.69)          |                  | 453        | 0.62 (0.53–0.72)          |         | 0.63 (0.55–0.73)          |         |
| Prior diabetes         | No                     | 2363              | 0.88 (0.83–0.93)          | 0.053   | 0.85 (0.78–0.93)          | 0.034            | 2456       | 0.74 (0.70–0.79)          | 0.149   | 0.71 (0.66–0.76)          | 0.639   |
|                        | Yes                    | 638               | 0.78 (0.70–0.87)          |         | 0.72 (0.62–0.83)          |                  | 677        | 0.67 (0.60–0.76)          |         | 0.69 (0.61–0.78)          |         |

<sup>1</sup> adjusted

**S2 Table (b) Fully adjusted hazard ratios (HRs) for the association of ChAdOx1-S and BNT162b2 with arterial events 1-28 and >28 days after vaccination, within pre-specified subgroups. P values for between subgroup differences were derived using Wald tests. OCP: oral contraceptive. HRT: hormone replacement therapy**

| Subgroup               | All arterial           | ChAdOx1-S vaccine |                           |                           |                  | BNT162b2 vaccine          |                           |                          |                  |
|------------------------|------------------------|-------------------|---------------------------|---------------------------|------------------|---------------------------|---------------------------|--------------------------|------------------|
|                        |                        | N (Events)        | Post vaccination ≤28 days | Post vaccination >28 days | N (Events)       | Post vaccination ≤28 days | Post vaccination >28 days |                          |                  |
|                        |                        | 12890             | HR (95% CI) <sup>1</sup>  | P value                   | 16759            | HR (95% CI) <sup>1</sup>  | P value                   | HR (95% CI) <sup>1</sup> | P value          |
| Age groups             | 18-29                  | 12                | 1.72 (0.89–3.33)          | <0.0001                   | 1.84 (0.59–5.73) | 21                        | 2.01 (1.13–3.57)          | <0.0001                  | 1.85 (0.96–3.59) |
|                        | 30-39                  | 54                | 1.51 (1.11–2.06)          |                           | 1.54 (0.87–2.72) | 67                        | 1.36 (1.00–1.86)          |                          | 1.09 (0.74–1.61) |
|                        | 40-49                  | 277               | 1.37 (1.20–1.57)          |                           | 1.29 (0.99–1.69) | 284                       | 1.17 (1.01–1.36)          |                          | 0.86 (0.70–1.05) |
|                        | 50-59                  | 963               | 0.98 (0.91–1.05)          |                           | 0.89 (0.76–1.04) | 1062                      | 1.06 (0.98–1.14)          |                          | 0.81 (0.72–0.91) |
|                        | 60-69                  | 2442              | 0.85 (0.81–0.90)          |                           | 0.90 (0.82–0.99) | 1705                      | 0.89 (0.84–0.95)          |                          | 0.83 (0.76–0.92) |
|                        | 70-79                  | 5030              | 0.90 (0.86–0.94)          |                           | 0.93 (0.88–0.99) | 3993                      | 0.85 (0.81–0.89)          |                          | 0.91 (0.86–0.96) |
|                        | 80-89                  | 2826              | 0.86 (0.81–0.91)          |                           | 0.88 (0.82–0.94) | 7733                      | 0.74 (0.71–0.78)          |                          | 0.79 (0.76–0.82) |
|                        | >90                    | 1286              | 0.85 (0.78–0.93)          |                           | 0.86 (0.78–0.94) | 1894                      | 0.72 (0.66–0.79)          |                          | 0.78 (0.73–0.84) |
| Sex                    | Male                   | 7116              | 0.78 (0.75–0.80)          | <0.0001                   | 0.75 (0.71–0.79) | 9292                      | 0.77 (0.74–0.79)          | <0.0001                  | 0.71 (0.68–0.73) |
|                        | Female                 | 5774              | 0.89 (0.86–0.93)          |                           | 0.87 (0.83–0.92) | 7467                      | 0.85 (0.82–0.88)          |                          | 0.89 (0.85–0.92) |
| Ethnicity              | White                  | 11729             | 0.82 (0.79–0.84)          | <0.0001                   | 0.80 (0.77–0.84) | 15492                     | 0.80 (0.78–0.82)          | <0.0001                  | 0.79 (0.76–0.81) |
|                        | Asian or Asian British | 647               | 0.84 (0.76–0.93)          |                           | 0.74 (0.64–0.86) | 728                       | 0.75 (0.67–0.84)          |                          | 0.63 (0.56–0.71) |
|                        | Black or Black British | 217               | 0.90 (0.75–1.07)          |                           | 0.89 (0.70–1.15) | 190                       | 0.77 (0.62–0.94)          |                          | 0.79 (0.64–0.99) |
|                        | Mixed                  | 72                | 1.19 (0.90–1.57)          |                           | 0.56 (0.32–0.98) | 85                        | 1.10 (0.82–1.49)          |                          | 0.81 (0.57–1.17) |
|                        | Other Ethnic Groups    | 113               | 0.93 (0.73–1.18)          |                           | 0.90 (0.64–1.28) | 121                       | 0.89 (0.69–1.15)          |                          | 0.76 (0.57–1.01) |
|                        | Unknown                | 80                | 0.88 (0.67–1.16)          |                           | 0.75 (0.49–1.16) | 103                       | 0.87 (0.64–1.18)          |                          | 1.09 (0.83–1.44) |
| Missing                | 32                     | 3.01 (1.98–4.57)  | 1.91 (0.89–4.08)          | 40                        | 2.87 (1.81–4.56) | 2.87 (1.80–4.58)          |                           |                          |                  |
| Deprivation            | 1-2 (least)            | 2498              | 0.76 (0.71–0.80)          | <0.0001                   | 0.71 (0.66–0.77) | 2788                      | 0.75 (0.71–0.79)          | <0.0001                  | 0.69 (0.65–0.73) |
|                        | 3-4                    | 2514              | 0.81 (0.76–0.85)          |                           | 0.76 (0.71–0.82) | 2980                      | 0.76 (0.72–0.81)          |                          | 0.74 (0.69–0.78) |
|                        | 5-6                    | 2683              | 0.85 (0.81–0.90)          |                           | 0.79 (0.74–0.85) | 3489                      | 0.78 (0.74–0.83)          |                          | 0.79 (0.75–0.84) |
|                        | 7-8                    | 2616              | 0.83 (0.78–0.87)          |                           | 0.86 (0.80–0.92) | 3693                      | 0.82 (0.78–0.87)          |                          | 0.83 (0.79–0.88) |
|                        | 9-10 (most)            | 2541              | 0.89 (0.85–0.95)          |                           | 0.88 (0.82–0.95) | 3772                      | 0.90 (0.85–0.95)          |                          | 0.85 (0.80–0.89) |
| Prior thrombocytopenia | No                     | 12889             | 0.82 (0.80–0.85)          | 0.334                     | 0.80 (0.77–0.84) | 16758                     | 0.80 (0.78–0.82)          | 0.920                    | 0.78 (0.76–0.81) |
|                        | Yes                    | <5                | 0.75 (0.61–0.91)          |                           | 0.73 (0.57–0.95) | <5                        | 0.81 (0.66–1.00)          |                          | 0.67 (0.54–0.82) |
| Prior thrombophilia    | No                     | 12864             | 0.82 (0.80–0.85)          | 0.059                     | 0.80 (0.77–0.83) | 16735                     | 0.80 (0.78–0.82)          | 0.499                    | 0.78 (0.76–0.81) |
|                        | Yes                    | 26                | 0.48 (0.28–0.84)          |                           | 0.66 (0.32–1.39) | 24                        | 0.66 (0.38–1.15)          |                          | 0.43 (0.21–0.88) |
| Prior venous event     | No                     | 12874             | 0.83 (0.81–0.85)          | 0.029                     | 0.80 (0.77–0.84) | 16751                     | 0.81 (0.78–0.83)          | 0.022                    | 0.79 (0.76–0.81) |
|                        | Yes                    | 16                | 0.73 (0.66–0.82)          |                           | 0.77 (0.67–0.88) | 8                         | 0.70 (0.63–0.79)          |                          | 0.66 (0.59–0.74) |
| Prior COVID infection  | No                     | 12227             | 0.84 (0.81–0.86)          | <0.0001                   | 0.83 (0.79–0.86) | 16234                     | 0.81 (0.79–0.84)          | <0.0001                  | 0.80 (0.77–0.82) |
|                        | Yes                    | 663               | 0.63 (0.57–0.70)          |                           | 0.51 (0.45–0.59) | 525                       | 0.57 (0.50–0.65)          |                          | 0.51 (0.45–0.59) |
| OCP                    | No                     | 12889             | 0.91 (0.79–1.05)          | 0.983                     | 0.89 (0.67–1.18) | 16759                     | 0.91 (0.79–1.06)          | <0.0001                  | 0.94 (0.75–1.16) |
|                        | Yes                    | <5                | 0.89 (0.12–6.51)          |                           | 0.00 (0.00–0.00) | 0                         | 0.00 (0.00–0.00)          |                          | 0.00 (0.00–0.00) |
| HRT                    | No                     | 12832             | 0.85 (0.82–0.87)          | 0.293                     | 0.84 (0.80–0.88) | 16671                     | 0.81 (0.78–0.83)          | 0.061                    | 0.79 (0.76–0.81) |
|                        | Yes                    | 58                | 1.01 (0.73–1.40)          |                           | 0.79 (0.45–1.37) | 88                        | 1.10 (0.79–1.51)          |                          | 1.08 (0.77–1.52) |
| Anticoagulant          | No                     | 10726             | 0.84 (0.82–0.87)          | <0.001                    | 0.82 (0.78–0.85) | 13715                     | 0.83 (0.81–0.86)          | <0.0001                  | 0.80 (0.77–0.83) |
|                        | Yes                    | 2164              | 0.74 (0.69–0.79)          |                           | 0.74 (0.68–0.80) | 3044                      | 0.66 (0.62–0.70)          |                          | 0.71 (0.67–0.76) |
| Antiplatelet           | No                     | 7636              | 0.99 (0.96–1.03)          | <0.0001                   | 1.06 (1.01–1.11) | 9770                      | 0.96 (0.93–0.99)          | <0.0001                  | 1.05 (1.01–1.09) |
|                        | Yes                    | 5254              | 0.65 (0.63–0.68)          |                           | 0.59 (0.55–0.62) | 6989                      | 0.65 (0.63–0.67)          |                          | 0.55 (0.53–0.57) |
| Prior MI or stroke     | No                     | 6931              | 1.09 (1.05–1.13)          | <0.0001                   | 1.18 (1.12–1.24) | 9428                      | 1.08 (1.04–1.12)          | <0.0001                  | 1.22 (1.17–1.26) |
|                        | Yes                    | 5959              | 0.64 (0.61–0.66)          |                           | 0.60 (0.57–0.63) | 7331                      | 0.60 (0.57–0.62)          |                          | 0.51 (0.49–0.53) |
| Prior diabetes         | No                     | 8742              | 0.85 (0.83–0.88)          | <0.0001                   | 0.84 (0.80–0.88) | 11689                     | 0.84 (0.82–0.87)          | <0.0001                  | 0.82 (0.79–0.85) |
|                        | Yes                    | 4148              | 0.77 (0.73–0.80)          |                           | 0.73 (0.69–0.78) | 5070                      | 0.72 (0.69–0.76)          |                          | 0.70 (0.67–0.74) |

<sup>1</sup> adjusted