

# Supplementary information

For the article “Age and sex-specific risks of myocarditis and pericarditis following Covid-19 messenger RNA Vaccines” by Le Vu et al.

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Table S1. Number of mRNA vaccines doses administered

| Sex     | Age   | Population | BNT162b2   |                     | mRNA-1273 |                     | Total doses |
|---------|-------|------------|------------|---------------------|-----------|---------------------|-------------|
|         |       |            | dose 1     | dose 2 <sup>a</sup> | dose 1    | dose 2 <sup>b</sup> |             |
| Female  | 12-17 | 2,496,548  | 1,699,996  | 1,459,109           | 82,405    | 61,359              | 3,302,869   |
|         | 18-24 | 2,740,372  | 1,969,611  | 1,723,910           | 234,718   | 204,319             | 4,132,558   |
|         | 25-29 | 1,862,776  | 1,246,795  | 1,118,612           | 161,156   | 143,668             | 2,670,231   |
|         | 30-39 | 4,228,579  | 2,624,541  | 2,437,953           | 398,088   | 363,903             | 5,824,485   |
|         | 40-50 | 4,817,922  | 2,931,425  | 2,870,105           | 498,891   | 480,392             | 6,780,813   |
| Male    | 12-17 | 2,628,365  | 1,765,302  | 1,519,395           | 90,673    | 67,354              | 3,442,724   |
|         | 18-24 | 2,870,504  | 1,993,604  | 1,733,962           | 262,168   | 222,008             | 4,211,742   |
|         | 25-29 | 1,836,902  | 1,280,527  | 1,139,114           | 175,933   | 153,909             | 2,749,483   |
|         | 30-39 | 4,005,898  | 2,657,436  | 2,427,920           | 415,457   | 372,146             | 5,872,959   |
|         | 40-50 | 4,665,586  | 3,053,322  | 2,917,657           | 542,399   | 510,207             | 7,023,585   |
| Overall |       | 32,153,452 | 21,222,559 | 19,347,737          | 2,861,888 | 2,579,265           | 46,011,449  |

Study period from May 12, 2021 to October 31, 2021. <sup>a</sup> Among individuals that received the BNT162b2 vaccine as a second dose, 2.2% had received another vaccine for the first dose. <sup>b</sup> Among individuals receiving the mRNA-1273 vaccine as a second dose, 4.7% had received another vaccine for the first dose.

Table S2. Association between myocarditis and exposure to mRNA vaccines within 7 days, according to sex and age group (as illustrated in Figure 1).

| Age       | Exposure  | Dose      | Male  |          |                          |                           | Female    |          |                          |                           |
|-----------|-----------|-----------|-------|----------|--------------------------|---------------------------|-----------|----------|--------------------------|---------------------------|
|           |           |           | Cases | Controls | OR (95% CI) <sup>a</sup> | aOR (95% CI) <sup>b</sup> | Cases     | Controls | OR (95% CI) <sup>a</sup> | aOR (95% CI) <sup>b</sup> |
| 12-17     | Unexposed |           | 92    | 1,119    | Reference                | Reference                 | 22        | 248      | Reference                | Reference                 |
|           | BNT162b2  | 1         | 3     | 49       | 0.71 (0.21-2.3)          | 0.86 (0.26-2.9)           | 1         | 2        | 6.1 (0.54-70)            | 8.5 (0.69-110)            |
|           |           | 2         | 30    | 37       | 14 (7.4-26)              | 18 (9-35)                 | 4         | 13       | 4.7 (1.1-20)             | 7.1 (1.5-33)              |
|           | mRNA-1273 | 1         | 0     | 1        | -                        | -                         | 0         | 0        | -                        | -                         |
|           |           | 2         | 2     | 0        | -                        | -                         | 0         | 0        | -                        | -                         |
|           | 18-24     | Unexposed |       | 290      | 3,940                    | Reference                 | Reference | 67       | 863                      | Reference                 |
| BNT162b2  |           | 1         | 16    | 113      | 2.2 (1.3-3.8)            | 2.1 (1.2-3.7)             | 2         | 29       | 0.9 (0.2-4)              | 0.9 (0.2-4.1)             |
|           |           | 2         | 88    | 130      | 12 (8.5-17)              | 13 (9.2-19)               | 12        | 25       | 7.8 (3.5-18)             | 9.6 (4.3-22)              |
| mRNA-1273 |           | 1         | 2     | 12       | 2.6 (0.56-13)            | 2.6 (0.56-13)             | 1         | 2        | 6.5 (0.57-76)            | 15 (1.1-200)              |
|           |           | 2         | 38    | 12       | 46 (23-91)               | 44 (22-88)                | 11        | 4        | 33 (10-100)              | 41 (12-140)               |
| 25-29     |           | Unexposed |       | 138      | 1,743                    | Reference                 | Reference | 30       | 348                      | Reference                 |
|           | BNT162b2  | 1         | 8     | 32       | 3.3 (1.5-7.4)            | 4 (1.7-9.3)               | 0         | 12       | -                        | -                         |
|           |           | 2         | 28    | 61       | 6.3 (3.8-10)             | 7.1 (4.2-12)              | 4         | 7        | 7.5 (1.8-31)             | 10 (2.1-47)               |
|           | mRNA-1273 | 1         | 1     | 5        | 2.4 (0.27-20)            | 3.4 (0.37-31)             | 0         | 2        | -                        | -                         |
|           |           | 2         | 17    | 13       | 20 (9-45)                | 19 (8.3-43)               | 2         | 1        | 20 (1.8-220)             | 23 (2.1-270)              |
|           | 30-39     | Unexposed |       | 178      | 2,307                    | Reference                 | Reference | 70       | 735                      | Reference                 |
| BNT162b2  |           | 1         | 12    | 44       | 3.6 (1.9-7)              | 3.7 (1.9-7.4)             | 4         | 21       | 2 (0.66-5.9)             | 2.2 (0.64-7.4)            |
|           |           | 2         | 25    | 72       | 4.8 (2.9-8)              | 5.7 (3.4-9.5)             | 5         | 19       | 2.7 (1-7.5)              | 4 (1.4-11)                |
| mRNA-1273 |           | 1         | 1     | 11       | 1.4 (0.17-11)            | 1.5 (0.19-12)             | 2         | 4        | 5.2 (0.94-28)            | 8.8 (1.5-52)              |
|           |           | 2         | 24    | 7        | 41 (17-95)               | 45 (19-110)               | 1         | 4        | 2.6 (0.29-24)            | 1.4 (0.11-18)             |
| 40-50     |           | Unexposed |       | 132      | 1,471                    | Reference                 | Reference | 59       | 568                      | Reference                 |
|           | BNT162b2  | 1         | 4     | 55       | 0.75 (0.27-2.1)          | 0.94 (0.33-2.7)           | 1         | 13       | 0.7 (0.089-5.5)          | 0.88 (0.11-7.2)           |
|           |           | 2         | 13    | 61       | 2.6 (1.4-5.1)            | 3 (1.5-5.9)               | 2         | 14       | 1.3 (0.29-6.1)           | 1.9 (0.39-9.3)            |
|           | mRNA-1273 | 1         | 2     | 9        | 2.4 (0.52-11)            | 2.4 (0.52-11)             | 0         | 2        | -                        | -                         |
|           |           | 2         | 9     | 7        | 16 (5.6-45)              | 21 (7-64)                 | 2         | 3        | 6.4 (1.1-39)             | 8 (1.1-57)                |
|           | Overall   | Unexposed |       | 830      | 10,580                   | Reference                 | Reference | 248      | 2,762                    | Reference                 |
| BNT162b2  |           | 1         | 43    | 293      | 1.9 (1.4-2.7)            | 2 (1.4-2.8)               | 8         | 77       | 1.2 (0.55-2.5)           | 1.3 (0.57-2.8)            |
|           |           | 2         | 184   | 361      | 7.6 (6.2-9.4)            | 8.7 (7-11)                | 27        | 78       | 4.3 (2.7-7)              | 5.9 (3.6-9.6)             |
| mRNA-1273 |           | 1         | 6     | 38       | 2.1 (0.88-5.1)           | 2.3 (0.96-5.6)            | 3         | 10       | 3.4 (0.92-12)            | 6.3 (1.6-25)              |
|           |           | 2         | 90    | 39       | 32 (22-48)               | 34 (23-51)                | 16        | 12       | 14 (6.8-31)              | 17 (7.6-37)               |

<sup>a</sup> Odd-ratio (95% confidence interval) were obtained from univariable conditional logistic regression, adjusting for matching variables (sex, age and department of residence). <sup>b</sup> Odd-ratio (95% confidence interval) were obtained from multivariable conditional logistic regression, adjusting for matching variables (sex, age and department of residence), deprivation index, previous event in past 5 years of myocarditis, and history of SARS-CoV-2 infections in the month preceding the index date. Odds-ratio could not be calculated in categories where no case exposed to vaccine was recorded.

Table S3. Association between pericarditis and recent exposure to mRNA vaccines within 7 days, according to sex and age group (as illustrated in Figure 2).

| Age     | Exposure  | Dose | Male  |                |                          |                           | Female |              |                          |                           |
|---------|-----------|------|-------|----------------|--------------------------|---------------------------|--------|--------------|--------------------------|---------------------------|
|         |           |      | Cases | Controls       | OR (95% CI) <sup>a</sup> | aOR (95% CI) <sup>b</sup> | Cases  | Controls     | OR (95% CI) <sup>a</sup> | aOR (95% CI) <sup>b</sup> |
| 12-17   | Unexposed |      | 52    | 545            | Reference                | Reference                 | 28     | 286          | Reference                | Reference                 |
|         | BNT162b2  | 1    | 0     | 11             | -                        | -                         | 0      | 18           | -                        | -                         |
|         |           | 2    | 7     | 19             | 4.4 (1.7-12)             | 6.8 (2.3-20)              | 5      | 8            | 7.7 (2.1-28)             | 10 (2.5-41)               |
|         | mRNA-1273 | 1    | 0     | 0              | -                        | -                         | 0      | 1            | -                        | -                         |
| 2       |           | 0    | 0     | -              | -                        | 0                         | 1      | -            | -                        |                           |
| 18-24   | Unexposed |      | 144   | 1,598          | Reference                | Reference                 | 85     | 964          | Reference                | Reference                 |
|         | BNT162b2  | 1    | 6     | 52             | 1.3 (0.55-3.2)           | 1.5 (0.6-3.5)             | 5      | 35           | 1.6 (0.61-4.4)           | 1.8 (0.65-4.8)            |
|         |           | 2    | 21    | 42             | 6.3 (3.5-11)             | 6.3 (3.5-11)              | 13     | 32           | 4.7 (2.3-9.4)            | 5.9 (2.9-12)              |
|         | mRNA-1273 | 1    | 2     | 8              | 2.6 (0.5-13)             | 2.5 (0.5-13)              | 0      | 4            | -                        | -                         |
| 2       |           | 8    | 9     | 11 (4.1-32)    | 11 (4.1-32)              | 0                         | 3      | -            | -                        |                           |
| 25-29   | Unexposed |      | 82    | 904            | Reference                | Reference                 | 70     | 757          | Reference                | Reference                 |
|         | BNT162b2  | 1    | 4     | 33             | 1.4 (0.47-4.1)           | 1.4 (0.42-4.8)            | 3      | 28           | 1.2 (0.34-4)             | 1.5 (0.42-5.2)            |
|         |           | 2    | 5     | 23             | 2.6 (0.94-6.9)           | 2.9 (1.1-8)               | 6      | 12           | 5.6 (2-15)               | 6.4 (2.3-18)              |
|         | mRNA-1273 | 1    | 1     | 6              | 1.9 (0.22-16)            | 1.9 (0.23-16)             | 1      | 5            | 2.4 (0.27-21)            | 2.4 (0.27-21)             |
| 2       |           | 2    | 4     | 5.6 (1-31)     | 7.5 (1.2-45)             | 0                         | 4      | -            | -                        |                           |
| 30-39   | Unexposed |      | 215   | 2,364          | Reference                | Reference                 | 147    | 1,517        | Reference                | Reference                 |
|         | BNT162b2  | 1    | 8     | 63             | 1.5 (0.68-3.1)           | 1.4 (0.65-3.2)            | 5      | 27           | 2 (0.74-5.5)             | 3.1 (1.1-8.5)             |
|         |           | 2    | 13    | 64             | 2.5 (1.3-4.7)            | 2.4 (1.2-4.6)             | 9      | 44           | 2.2 (1-4.6)              | 2 (0.9-4.6)               |
|         | mRNA-1273 | 1    | 2     | 21             | 1.1 (0.25-4.7)           | 1.1 (0.25-4.7)            | 1      | 9            | 1.1 (0.15-9.1)           | 1.2 (0.15-9.5)            |
| 2       |           | 3    | 7     | 5 (1.3-19)     | 4.9 (1.3-19)             | 5                         | 5      | 12 (3.2-45)  | 20 (3.5-110)             |                           |
| 40-50   | Unexposed |      | 286   | 2,827          | Reference                | Reference                 | 160    | 1,636        | Reference                | Reference                 |
|         | BNT162b2  | 1    | 7     | 86             | 0.79 (0.36-1.8)          | 0.85 (0.36-2)             | 5      | 45           | 1.1 (0.43-2.9)           | 1.5 (0.56-3.9)            |
|         |           | 2    | 7     | 90             | 0.79 (0.36-1.7)          | 0.88 (0.4-1.9)            | 7      | 40           | 1.8 (0.79-4)             | 1.5 (0.59-4)              |
|         | mRNA-1273 | 1    | 1     | 16             | 0.6 (0.079-4.6)          | 0.62 (0.08-4.7)           | 0      | 8            | -                        | -                         |
| 2       |           | 3    | 17    | 1.7 (0.51-5.9) | 1.4 (0.32-5.9)           | 5                         | 4      | 12 (3.3-46)  | 13 (3.5-49)              |                           |
| Overall | Unexposed |      | 779   | 8,238          | Reference                | Reference                 | 490    | 5,160        | Reference                | Reference                 |
|         | BNT162b2  | 1    | 25    | 245            | 1.1 (0.71-1.7)           | 1.2 (0.74-1.8)            | 18     | 153          | 1.2 (0.74-2)             | 1.6 (0.93-2.6)            |
|         |           | 2    | 53    | 238            | 2.5 (1.8-3.4)            | 2.7 (1.9-3.7)             | 40     | 136          | 3.1 (2.2-4.5)            | 3.4 (2.3-5.1)             |
|         | mRNA-1273 | 1    | 6     | 51             | 1.2 (0.53-2.9)           | 1.3 (0.54-3)              | 2      | 27           | 0.77 (0.18-3.3)          | 0.93 (0.22-4)             |
| 2       |           | 16   | 37    | 4.8 (2.6-8.6)  | 5 (2.7-9.2)              | 10                        | 17     | 6.2 (2.8-14) | 6.7 (2.9-16)             |                           |

<sup>a</sup> Odd-ratio (95% confidence interval) were obtained from univariable conditional logistic regression, adjusting for matching variables (sex, age and department of residence). <sup>b</sup> Odd-ratio (95% confidence interval) were obtained from multivariable conditional logistic regression, adjusting for matching variables (sex, age and department of residence), deprivation index, previous event in past 5 years of pericarditis, and history of SARS-CoV-2 infections in the month preceding the index date. Odds-ratio could not be calculated in categories where no case exposed to vaccine was recorded.

Table S4. Sensitivity analyses (as illustrated in Figure S1).

| Model     | Exposition | Dose      | Myocarditis |          |                |               | Pericarditis |          |                 |                 |
|-----------|------------|-----------|-------------|----------|----------------|---------------|--------------|----------|-----------------|-----------------|
|           |            |           | Cases       | Controls | OR (95% CI)    | aOR (95% CI)  | Cases        | Controls | OR (95% CI)     | aOR (95% CI)    |
| A         | Unexposed  |           | 1078        | 13342    | Reference      | Reference     | 1269         | 13398    | Reference       | Reference       |
|           | BNT162b2   | 1         | 51          | 370      | 1.7 (1.3-2.4)  | 1.8 (1.3-2.5) | 43           | 398      | 1.1 (0.83-1.6)  | 1.3 (0.92-1.8)  |
|           |            | 2         | 211         | 439      | 6.9 (5.7-8.4)  | 8.1 (6.7-9.9) | 93           | 374      | 2.7 (2.2-3.5)   | 2.9 (2.3-3.8)   |
|           | mRNA-1273  | 1         | 9           | 48       | 2.4 (1.2-5)    | 3 (1.4-6.2)   | 8            | 78       | 1.1 (0.52-2.2)  | 1.2 (0.56-2.4)  |
|           |            | 2         | 106         | 51       | 27 (19-39)     | 30 (21-43)    | 26           | 54       | 5.3 (3.3-8.4)   | 5.5 (3.3-9)     |
|           | B          | Unexposed |             | 460      | 5115           | Reference     | Reference    | 512      | 5128            | Reference       |
| BNT162b2  |            | 1         | 29          | 180      | 1.8 (1.2-2.6)  | 1.9 (1.2-2.9) | 16           | 213      | 0.74 (0.44-1.2) | 0.79 (0.45-1.4) |
|           |            | 2         | 34          | 130      | 3.1 (2.1-4.6)  | 3.7 (2.4-5.6) | 23           | 116      | 2.1 (1.3-3.3)   | 2.1 (1.3-3.5)   |
| mRNA-1273 |            | 1         | 4           | 20       | 2.2 (0.75-6.5) | 3.1 (1.9-4)   | 5            | 36       | 1.4 (0.53-3.5)  | 1.6 (0.61-4.1)  |
|           |            | 2         | 31          | 24       | 16 (9.1-28)    | 18 (10-32)    | 10           | 21       | 5 (2.3-11)      | 4 (1.8-9.3)     |
| C         |            | Unexposed |             | 1020     | 13246          | Reference     | Reference    | 1230     | 13301           | Reference       |
|           | BNT162b2   | 1         | 50          | 370      | 1.8 (1.4-2.5)  | 1.9 (1.4-2.6) | 43           | 398      | 1.2 (0.85-1.6)  | 1.3 (0.93-1.8)  |
|           |            | 2         | 211         | 438      | 7.4 (6.1-9)    | 8.2 (6.7-10)  | 93           | 372      | 2.8 (2.2-3.6)   | 3 (2.3-3.8)     |
|           | mRNA-1273  | 1         | 9           | 48       | 2.6 (1.2-5.3)  | 3 (1.4-6.2)   | 8            | 78       | 1.1 (0.53-2.3)  | 1.2 (0.56-2.4)  |
|           |            | 2         | 105         | 51       | 28 (20-40)     | 28 (19-40)    | 26           | 53       | 5.4 (3.3-8.6)   | 5.6 (3.4-9.3)   |
|           | D          | Unexposed |             | 1022     | 13342          | Reference     | Reference    | 1247     | 13398           | Reference       |
| BNT162b2  |            | 1         | 48          | 370      | 1.7 (1.2-2.3)  | 1.8 (1.3-2.5) | 43           | 398      | 1.2 (0.85-1.6)  | 1.3 (0.96-1.9)  |
|           |            | 2         | 196         | 439      | 6.8 (5.6-8.3)  | 8 (6.5-9.8)   | 88           | 374      | 2.6 (2.1-3.4)   | 2.8 (2.2-3.6)   |
| mRNA-1273 |            | 1         | 9           | 48       | 2.5 (1.2-5.2)  | 3.1 (1.5-6.5) | 7            | 78       | 0.96 (0.44-2.1) | 1 (0.48-2.3)    |
|           |            | 2         | 100         | 51       | 26 (18-37)     | 28 (19-40)    | 23           | 54       | 4.8 (2.9-7.8)   | 4.9 (2.9-8.4)   |
| E         |            | Unexposed |             | 974      | 13335          | Reference     | Reference    | 1120     | 13390           | Reference       |
|           | BNT162b2   | 1         | 47          | 370      | 1.8 (1.3-2.4)  | 1.8 (1.3-2.5) | 40           | 398      | 1.2 (0.89-1.8)  | 1.3 (0.92-1.8)  |
|           |            | 2         | 208         | 439      | 7.5 (6.2-9.2)  | 8 (6.6-9.8)   | 88           | 374      | 2.9 (2.3-3.7)   | 2.9 (2.3-3.8)   |
|           | mRNA-1273  | 1         | 9           | 48       | 2.8 (1.3-5.8)  | 3 (1.5-6.3)   | 8            | 78       | 1.1 (0.55-2.4)  | 1.2 (0.56-2.4)  |
|           |            | 2         | 101         | 51       | 28 (19-39)     | 30 (21-43)    | 24           | 54       | 5.6 (3.4-9.1)   | 5.5 (3.4-9.1)   |

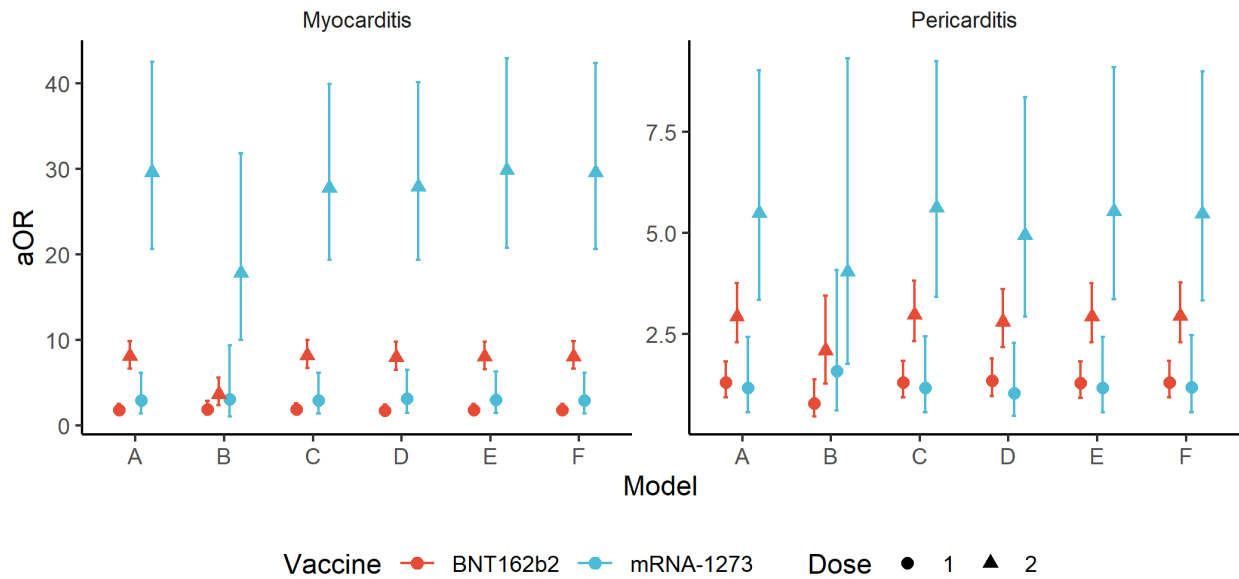
Legend: Univariable and multivariable odds ratios of contracting myocarditis or pericarditis within 7 days of vaccination with each mRNA vaccine obtained in the main analysis (model A), and in the following sensitivity analyses: restricted to the period prior to the modification in vaccine product information (i.e. July 19, 2021), warning against myocarditis and pericarditis as adverse events (model B); excluding patients with history of SARS-CoV-2 infection in past month (model C); excluding patients with both conditions (model D); excluding patients with history of the condition of interest within 5 years (model E).

Table S5. Number of doses needed for the occurrence of one case.

| Sex       | Age       | Vaccine   | Dose                       | Myocarditis                |                             | Pericarditis                |                           |   |
|-----------|-----------|-----------|----------------------------|----------------------------|-----------------------------|-----------------------------|---------------------------|---|
|           |           |           |                            | N                          | (95% CI) <sup>a</sup>       | N                           | (95% CI) <sup>a</sup>     |   |
| Male      | 12-17     | BNT162b2  | 1                          | -                          | -                           | -                           | -                         |   |
|           |           |           | 2                          | 52,300 (38,200;74,100)     | 248,300 (113,600;587,800)   | -                           |                           |   |
|           |           | mRNA-1273 | 1                          | -                          | -                           | -                           | -                         |   |
|           |           |           | 2                          | -                          | -                           | -                           | -                         |   |
|           |           | 18-24     | BNT162b2                   | 1                          | 240,700 (91,300;653,400)    | -                           | -                         |   |
|           |           |           |                            | 2                          | 21,100 (17,400;26,000)      | 97,200 (60,600;160,500)     | -                         |   |
|           | mRNA-1273 |           | 1                          | -                          | -                           | -                           |                           |   |
|           |           |           | 2                          | 5,900 (4,400;8,000)        | 29,900 (14,500;63,200)      | -                           |                           |   |
|           | 25-29     | BNT162b2  | 1                          | 211,600 (86,600;537,300)   | -                           | -                           |                           |   |
|           |           |           | 2                          | 47,000 (31,800;71,400)     | 344,100 (95,100;1,348,000)  | -                           |                           |   |
|           |           | mRNA-1273 | 1                          | -                          | -                           | -                           |                           |   |
|           |           |           | 2                          | 9,400 (5,900;15,200)       | 87,100 (18,800;430,300)     | -                           |                           |   |
|           |           | 30-39     | BNT162b2                   | 1                          | 301,700 (141,800;661,500)   | -                           | -                         |   |
|           |           |           |                            | 2                          | 116,900 (74,900;187,100)    | 320,100 (124,100;854,300)   | -                         |   |
|           | mRNA-1273 |           | 1                          | -                          | -                           | -                           |                           |   |
|           |           |           | 2                          | 15,600 (10,700;23,000)     | 152,900 (37,900;633,300)    | -                           |                           |   |
|           | 40-50     | BNT162b2  | 1                          | -                          | -                           | -                           |                           |   |
|           |           |           | 2                          | 335,600 (151,000;780,300)  | -                           | -                           |                           |   |
|           |           | mRNA-1273 | 1                          | -                          | -                           | -                           |                           |   |
|           |           |           | 2                          | 58,600 (30,800;115,100)    | -                           | -                           |                           |   |
|           |           | Female    | 12-17                      | BNT162b2                   | 1                           | -                           | -                         | - |
|           |           |           |                            |                            | 2                           | 414,500 (158,400;1,303,000) | 316,300 (138,500;825,300) | - |
|           | mRNA-1273 |           |                            | 1                          | -                           | -                           | -                         |   |
|           |           |           |                            | 2                          | -                           | -                           | -                         |   |
| 18-24     | BNT162b2  |           |                            | 1                          | -                           | -                           | -                         |   |
|           |           |           |                            | 2                          | 159,000 (90,800;294,400)    | 158,100 (86,800;302,400)    | -                         |   |
|           | mRNA-1273 |           | 1                          | 249,300 (33,200;2,033,000) | -                           | -                           |                           |   |
|           |           |           | 2                          | 18,700 (11,000;33,400)     | -                           | -                           |                           |   |
| 25-29     | BNT162b2  |           | 1                          | -                          | -                           | -                           |                           |   |
|           |           |           | 2                          | 307,400 (118,600;910,500)  | 218,700 (90,400;564,100)    | -                           |                           |   |
|           | mRNA-1273 |           | 1                          | -                          | -                           | -                           |                           |   |
|           |           |           | 2                          | 73,600 (20,100;309,400)    | -                           | -                           |                           |   |
|           | 30-39     |           | BNT162b2                   | 1                          | -                           | 775,100 (214,700;2,924,000) | -                         |   |
|           |           |           |                            | 2                          | 646,000 (213,300;2,112,000) | -                           | -                         |   |
| mRNA-1273 |           |           | 1                          | 222,200 (50,000;1,061,000) | -                           | -                           |                           |   |
|           |           |           | 2                          | -                          | 75,400 (31,000;188,200)     | -                           |                           |   |
| 40-50     |           |           | BNT162b2                   | 1                          | -                           | -                           | -                         |   |
|           |           |           |                            | 2                          | -                           | -                           | -                         |   |
|           | mRNA-1273 | 1         | -                          | -                          | -                           |                             |                           |   |
|           |           | 2         | 270,500 (60,200;1,324,000) | 102,500 (41,000;263,300)   | -                           |                             |                           |   |

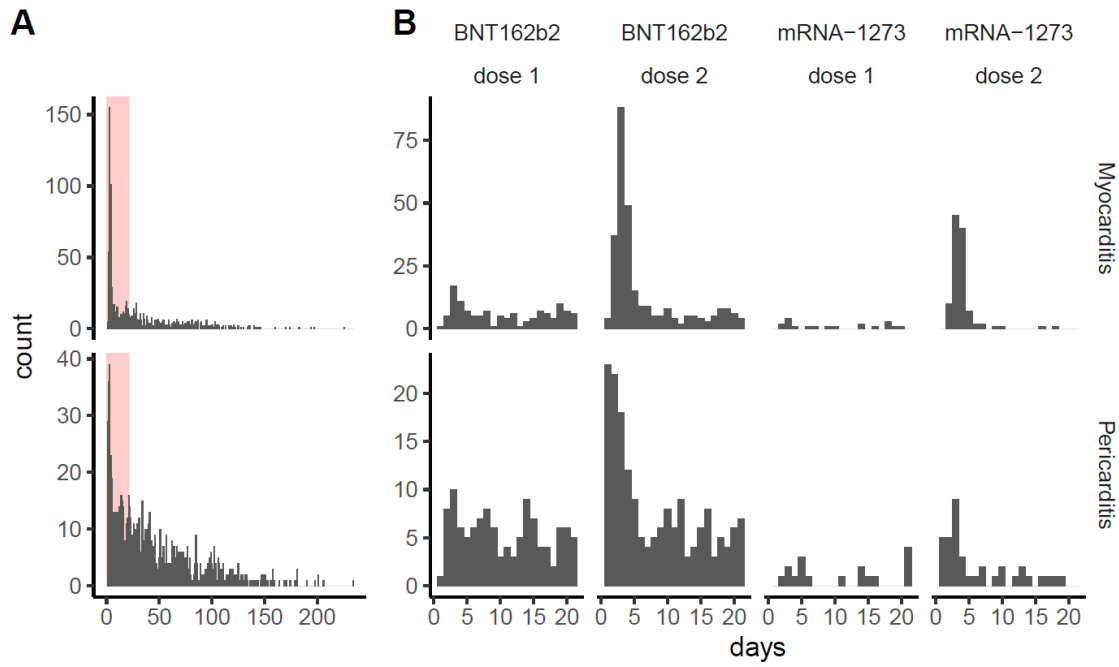
<sup>a</sup> Numbers are only calculated in case of a positive association.

Figure S1. Sensitivity analyses.



Legend: Adjusted odds ratios of contracting myocarditis or pericarditis within 7 days of vaccination with each mRNA vaccine obtained in the main analysis (model A), and in the following sensitivity analyses: restricted to the period prior to the modification in vaccine product information (i.e. July 19, 2021), warning against myocarditis and pericarditis as adverse events (model B); excluding patients with history of SARS-CoV-2 infection in past month (model C); excluding patients with both conditions (model D); excluding patients with history of the condition of interest within 5 years (model E); excluding control persons with a hospitalization within a month prior to the index date (model F). Colors denote the type of vaccine and the shape of point estimate denotes the ranking of dose vaccine. Centre value are aOR point estimates and error bars represent 95% confidence intervals. Total number of cases for models A through F were respectively 1612, 606, 1548, 1525, 1486 and 1612 for myocarditis analysis, and 1613, 622, 1571, 1576, 1440 and 1613 for pericarditis analysis.

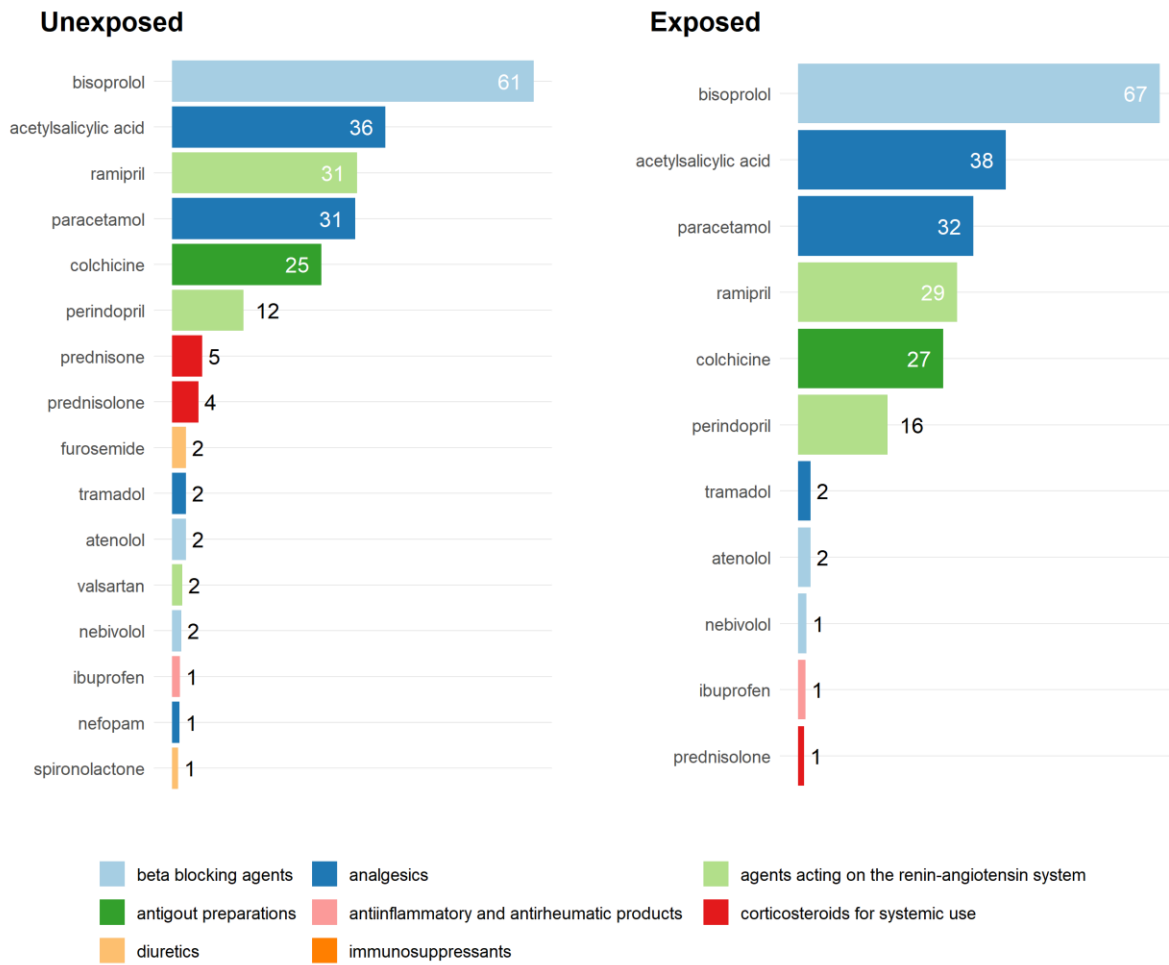
Figure S2. Distribution of delay between vaccine receipt and hospitalization



Legend: A panel shows delays for all cases in days, by condition. B panel shows delays restricted to the 21 days of exposure post vaccination (red portion of panel A), by vaccine and dose.

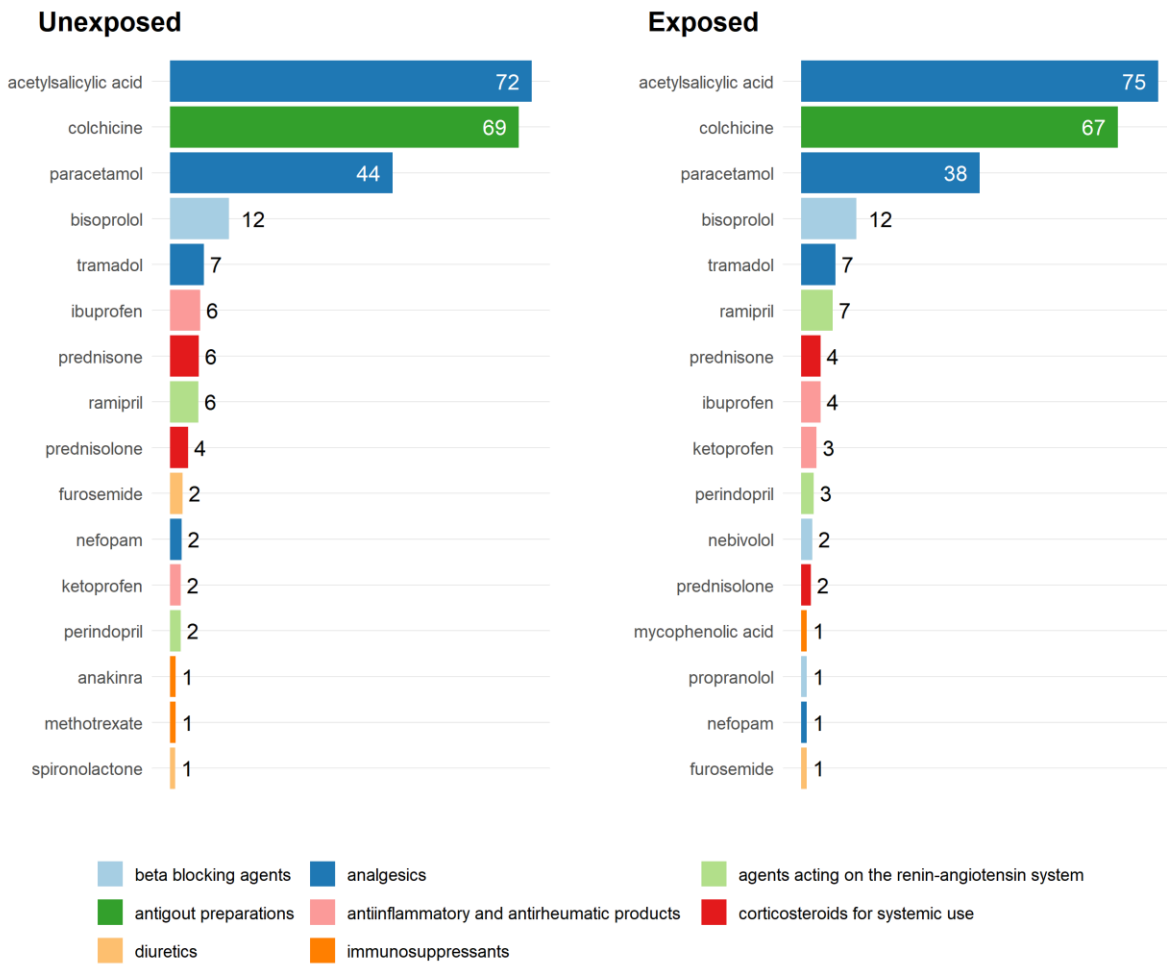


Figure S3. Drug treatments up to 30 days post-discharge for myocarditis cases



Legend: Proportion of patients receiving an agent up to 30 days post hospital discharge are represented by descending order of frequency, and colored by therapeutic class relevant to the treatment of myocarditis. Exposed refers to patients with myocarditis acquired within 21 days of vaccination.

Figure S4. Drug treatments up to 30 days post-discharge for pericarditis cases



Legend: Proportion of patients receiving an agent up to 30 days post hospital discharge are represented by descending order of frequency and colored by therapeutic class relevant to the treatment of pericarditis. Exposed refers to patients with pericarditis acquired within 21 days of vaccination.