

## Supplementary Material

### 1 Supplementary Figures and Tables

#### 1.1 Supplementary Tables

**Supplementary Table 1.** ICD-10-CM codes used for comorbidities and complications.

| Comorbidities                         | ICD-10-CM code                                                                                                                                                                                                                                                                                         |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Asthma                                | J44.0, J44.1, J45                                                                                                                                                                                                                                                                                      |
| Diabetes                              | E08-E11                                                                                                                                                                                                                                                                                                |
| Chronic hypertension                  | I10                                                                                                                                                                                                                                                                                                    |
| Chronic heart disease                 | H35.031-039, I01, I09.2, I05, I06, I34, I35, I36, I37, I09, I11, I12, I13, I21, I24, I25.2, I20, I25.700-I25.799, I26, I27, I28, I33, I30, I31, I38, I39, I42, I46, I47, I48, I49, I50, I40, I41, I51, I52, I70, I71, I72, I73, I74, I75, M30.0, M31, I77, Q21, Q22, Q23, Q24, Q25, Q26, Q27, T82, Z95 |
| Metabolic disorder                    | E03-E07, E22, E23, E32, E27, E40-E46, E50-E56, E70-E72, E74, E78, E88, M10, E83                                                                                                                                                                                                                        |
| Immunosuppression                     | B20, B33.3, B59, B80, B81, B82, B73.1, D73, G70.8, M32.10, M35, M05, M06, R82.8, R84.7, R85.7, R86.7, R87.7, R89.7, T45, Z21, Z94                                                                                                                                                                      |
| Blood disorder                        | D58, D59, D61, D64.0-3, D63.1, D63.0, D63.8, D64.81, D68, D69, D70, D71, D72, D73, D74, D75, D77                                                                                                                                                                                                       |
| Neurologic disease                    | A17, A81, B90.0, F01, F02, F03, F07, F71, F72, F73, E75, G20, G25, G26, G11, M47, G60, G35, G36, G81, G80, G82, G40, G93, G96, I02, I60, I61, I62, I65, I66, I67.82, I67.9, I69, G71.13, R56, T85                                                                                                      |
| Renal disease                         | D63, I12.0, I13.11, I13.2, N04, N03, N05, N17, N18, N19, N26.9, N25.0, N25.1, N27.0, N27.1, N27.9, N28.89, Q61, T85, Z49, Z91.15                                                                                                                                                                       |
| <b>Pregnancy complications</b>        |                                                                                                                                                                                                                                                                                                        |
| Preeclampsia and eclampsia            | O10.011-O10.013, O10.019, O10.02, O10.911-O10.913, O10.919, O10.92, O13, O14, O15.00, O15.02, O15.03, O15.1, O15.2, O15.9, O14.2                                                                                                                                                                       |
| Gestational diabetes                  | O24                                                                                                                                                                                                                                                                                                    |
| Premature rupture of membranes        | O42                                                                                                                                                                                                                                                                                                    |
| Antepartum hemorrhage                 | O46                                                                                                                                                                                                                                                                                                    |
| Abortion                              | O03                                                                                                                                                                                                                                                                                                    |
| Spontaneous premature onset of labor  | O60.1x, O60.2x                                                                                                                                                                                                                                                                                         |
| Induction of labor                    | O60.12X0, O60.13X0, O60.14X0                                                                                                                                                                                                                                                                           |
| Caesarean section                     | O82, O82.0, O82.1, O82.2, O82.8, O82.9                                                                                                                                                                                                                                                                 |
| Postpartum hemorrhage                 | O72                                                                                                                                                                                                                                                                                                    |
| <b>Other complications</b>            |                                                                                                                                                                                                                                                                                                        |
| Acute renal failure                   | N17.0, N17.1, N17.2, N17.8, N17.9, O90.4                                                                                                                                                                                                                                                               |
| Acute respiratory distress syndrome   | J80, J95.1, J95.2, J95.821, J95.822, J96.00, J96.01, J96.02, J96.20, J96.21, J96.22, R09.2                                                                                                                                                                                                             |
| Embolism                              | I26.01, I26.02, I26.09, I26.90, I26.92, I26.99, O88.011-O88.019, O88.02, O88.03, O88.211-O88.219, O88.22, O88.23, O88.311-O88.319, O88.32, O88.33, O88.81, O88.82, O88.83                                                                                                                              |
| Temporal tracheostomy                 | 0B110Z4, 0B110F4, 0B113Z4, 0B113F4, 0B114Z4, 0B114F4                                                                                                                                                                                                                                                   |
| Shock                                 | O75.1, R57.0, R57.1, R57.8, R57.9, R65.21, T78.2XXA, T88.2XXA, T88.6XXA, T81.10XA, T81.11XA, T81.19X                                                                                                                                                                                                   |
| Ventilation                           | 5A1935Z, 5A1945Z, 5A1955Z                                                                                                                                                                                                                                                                              |
| <b>Outcomes</b>                       |                                                                                                                                                                                                                                                                                                        |
| Single livebirth                      | Z37.0                                                                                                                                                                                                                                                                                                  |
| Single stillbirth                     | Z37.1                                                                                                                                                                                                                                                                                                  |
| Twins, both liveborn                  | Z37.2                                                                                                                                                                                                                                                                                                  |
| Twins, one liveborn and one stillborn | Z37.3                                                                                                                                                                                                                                                                                                  |
| Twins, both stillborn                 | Z37.4                                                                                                                                                                                                                                                                                                  |

**Supplementary Table 2.** Univariant and multivariant regression results

|                                       | Univariant<br>p-value | Multivariant<br>p-value |
|---------------------------------------|-----------------------|-------------------------|
| <b>Comorbidities</b>                  |                       |                         |
| Asthma                                | 0.5                   |                         |
| Diabetes                              | 0.566                 |                         |
| Chronic hypertension                  | 0.603                 |                         |
| Chronic heart disease                 | <0.0001               | 0.91115                 |
| Metabolic disorder                    | 0.148                 |                         |
| Immunosuppression                     | 0.631                 |                         |
| Blood disorder                        | 0.0093                | 0.10235                 |
| Neurologic disease                    | 0.00077               | 0.89236                 |
| Renal disease                         | 0.00918               | 0.21689                 |
| <b>Pregnancy Complications</b>        |                       |                         |
| Preeclampsia/Eclampsia                | 0.365                 |                         |
| Gestational diabetes                  | 0.328                 |                         |
| Premature rupture of membranes        | 0.00575               | 0.01649                 |
| Antepartum hemorrhage                 | 0.835                 |                         |
| Abortion                              | 0.43                  |                         |
| Spontaneous premature onset of labor  | <0.0001               | 0.55732                 |
| Induction of labor                    | <0.0001               | 0.10607                 |
| Caesarean section                     | 0.0287                | 0.03052                 |
| Postpartum hemorrhage                 | 0.00027               | 0.00329                 |
| <b>Other complications</b>            |                       |                         |
| Acute renal failure                   | <0.0001               | 0.45564                 |
| Acute respiratory distress syndrome   | <0.0001               | <0.0001                 |
| Embolism                              | <0.0001               | <0.0001                 |
| Temporal tracheostomy                 | <0.0001               | 0.00402                 |
| Ventilation/intubation                | <0.0001               | <0.0001                 |
| Shock                                 | <0.0001               | 0.00029                 |
| <b>Outcomes</b>                       |                       |                         |
| Single livebirth                      | 0.899                 |                         |
| Single stillbirth                     | 0.0002                | 0.02282                 |
| Twins, both liveborn                  | 0.0538                |                         |
| Twins, one liveborn and one stillborn | 0.122                 |                         |
| Twins, both stillborn                 | 0.628                 |                         |

**Supplementary Table 3.** Mean cost (€) per patient and ICU admission rate of hospitalization at delivery based on COVID-19 infection in Spanish regions during 2020-2022.

| Region                     | COVID-19 at delivery |                            |                    | Non-COVID-19 at delivery |                           |                    | P-value cost | P-value ICU |
|----------------------------|----------------------|----------------------------|--------------------|--------------------------|---------------------------|--------------------|--------------|-------------|
|                            | n                    | Mean cost/patient (CI95%)  | ICU admission n(%) | n                        | Mean cost/patient (CI95%) | ICU admission n(%) |              |             |
| Andalucía                  | 2413                 | 4190.61 (4033.4-4347.84)   | 68 (2.82)          | 144344                   | 3274.46 (3271.5-3277.44)  | 264 (0.18)         | <0.0001      | <0.0001     |
| Aragón                     | 378                  | 4040.945 (3861.62-4220.26) | 9 (2.38)           | 21887                    | 3214.64 (3204.82-3224.48) | 52 (0.24)          | <0.0001      | <0.0001     |
| Principado de Asturias     | 156                  | 3687.82 (3502.41-3873.23)  | 12 (7.69)          | 11208                    | 3209.35 (3199.96-3218.74) | 66 (0.59)          | <0.0001      | <0.0001     |
| Illes Balears              | 261                  | 3992.37 (3777.76-4206.98)  | 3 (1.15)           | 19665                    | 3170.00 (3163.05-3176.95) | 53 (0.27)          | <0.0001      | 0.045       |
| Canarias                   | 610                  | 3787.36 (3684.66-3890.07)  | 6 (0.98)           | 29720                    | 3297.01 (3290.32-3303.7)  | 41 (0.14)          | <0.0001      | 0.0004      |
| Cantabria                  | 151                  | 3756.33 (3562.83-3949.84)  | 3 (1.99)           | 9004                     | 3232.25 (3219.94-3244.57) | 99 (1.1)           | <0.0001      | 0.3525      |
| Castilla y León            | 801                  | 3797.65 (3702.53-3892.78)  | 16 (2)             | 35449                    | 3250.12 (3244.66-3255.59) | 244 (0.69)         | <0.0001      | 0.0003      |
| Castilla - La Mancha       | 876                  | 4247.70 (3963.72-4531.69)  | 24 (2.74)          | 32086                    | 3253.10 (3246.97-3259.24) | 218 (0.68)         | <0.0001      | <0.0001     |
| Cataluña                   | 3493                 | 4233.41 (4094.01-4372.82)  | 112 (3.21)         | 118724                   | 3287.60 (3284.34-3290.87) | 328 (0.28)         | <0.0001      | <0.0001     |
| Comunitat Valenciana       | 1330                 | 4004.38 (3907.01-4101.77)  | 27 (2.03)          | 79031                    | 3277.02 (3272.54-3281.51) | 446 (0.56)         | <0.0001      | <0.0001     |
| Extremadura                | 261                  | 3776.37 (3630.64-3922.11)  | 1 (0.38)           | 19395                    | 3242.78 (3236.07-3249.5)  | 86 (0.44)          | <0.0001      | 0.8815      |
| Galicia                    | 384                  | 3894.21 (3738.07-4050.36)  | 16 (4.17)          | 38234                    | 3236.55 (3230.83-3242.28) | 879 (2.3)          | <0.0001      | 0.0291      |
| Comunidad de Madrid        | 2660                 | 4097.84 (3954.55-4241.13)  | 61 (2.29)          | 109360                   | 3234.72 (3231.45-3237.99) | 1651 (1.51)        | <0.0001      | 0.0024      |
| Región de Murcia           | 824                  | 3885.15 (3633-4137.3)      | 14 (1.7)           | 34749                    | 3211.31 (3206.55-3216.09) | 20 (0.06)          | <0.0001      | <0.0001     |
| Comunidad Foral de Navarra | 287                  | 3939.9 (3372.47-4507.33)   | 7 (2.44)           | 12992                    | 3200.82 (3192.02-3209.63) | 47 (0.36)          | <0.0001      | 0.0002      |
| País Vasco                 | 658                  | 3800.55 (3675.87-3925.23)  | 14 (2.13)          | 36780                    | 3166.76 (3161.63-3171.89) | 148 (0.4)          | <0.0001      | <0.0001     |
| La Rioja                   | 105                  | 3746.87 (3637.17-3856.57)  | 0 (0)              | 6334                     | 3232.98 (3220.26-3245.7)  | 15 (0.24)          | <0.0001      | -----       |
| Ceuta                      | 44                   | 4198.2 (3475.84-4920.56)   | 3 (6.82)           | 2049                     | 3295.55 (3272.23-3318.88) | 7 (0.34)           | <0.0001      | 0.0007      |
| Melilla                    | 50                   | 4237.84 (3512.12-4963.56)  | 2 (4)              | 2634                     | 3213.48 (3191.03-3235.94) | 6 (0.23)           | <0.0001      | 0.0072      |

ICU= Intensive care unit

**Supplementary Figure 1.** Mean cost per patient (€) of hospitalization at delivery based on COVID-19 infection in different Spanish regions. The one on the top represents non-COVID-19 women and the one on the bottom COVID-19 women at childbirth.

