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Supplementary Table SI. Number of non-local European individuals in Catalonia (Spain), by geographic area and country of origin, as of December 31st, 2019

| Geographic area | Country            | Number |
|-----------------|--------------------|--------|
| **Low risk***   |                    |        |
|                 | Andorra            | 437    |
|                 | Belgium            | 3,938  |
|                 | Denmark            | 883    |
|                 | France             | 23,922 |
|                 | Gibraltar          | 1      |
|                 | Greenland          | 1      |
|                 | Liechtenstein      | 6      |
|                 | Luxembourg         | 80     |
|                 | Monaco             | 1      |
|                 | Netherlands        | 6,451  |
|                 | Norway             | 463    |
|                 | Switzerland        | 1,760  |
|                 | United Kingdom     | 15,111 |
| **Moderate risk** |                |        |
|                 | Austria            | 968    |
|                 | Cyprus             | 127    |
|                 | Finland            | 706    |
|                 | Germany            | 13,350 |
|                 | Greece             | 1,292  |
|                 | Iceland            | 93     |
|                 | Ireland            | 1,705  |
|                 | Italy              | 46,166 |
|                 | Portugal           | 10,299 |
|                 | San Marino         | 3      |
|                 | Slovenia           | 267    |
|                 | Sweden             | 2,110  |
| **High risk**   |                    |        |
|                 | Albania            | 940    |
|                 | Bosnia and Herzegovina | 276 |
|                 | Croatia            | 535    |
|                 | Czech Republic     | 1,301  |
|                 | Estonia            | 302    |
|                 | Hungary            | 1,308  |
|                 | Kazakhstan          | 325    |
|                 | Poland             | 8,641  |
|                 | Slovakia           | 1,142  |
|                 | Turkey             | 969    |
| **Very high risk** |                 |        |
|                 | Azerbaijan         | 116    |
|                 | Armenia            | 3,611  |
|                 | Bulgaria           | 9,480  |
|                 | Belarus            | 1,347  |
|                 | Georgia            | 7,374  |
|                 | Kyrgyzstan         | 74     |
|                 | Latvia             | 586    |
|                 | Lithuania          | 1,785  |
|                 | Moldova (Republic of) | 3,900 |
|                 | Montenegro         | 56     |
|                 | Romania            | 73,839 |
|                 | Russian Federation | 15,149 |
|                 | Serbia             | 785    |
|                 | Ukraine            | 18,460 |
|                 | Macedonia, FYR     | 151    |
|                 | Uzbekistan         | 197    |

*Spain not included as this group was analyzed separately. FYR – former Yugoslavian republic.*
**Supplementary Table SII. ICD-9-CM codes used to define each of the relevant risk factors and cardiovascular conditions evaluated**

| Condition                      | Codes  | Description                                      |
|--------------------------------|--------|--------------------------------------------------|
| Diabetes mellitus:             |        |                                                  |
|                                | 250.xx | Diabetes mellitus                                |
| Hypertension:                  |        |                                                  |
|                                | 401.xx | Essential hypertension                           |
|                                | 402.xx | Hypertensive heart disease                       |
|                                | 403.xx | Hypertensive renal disease                       |
|                                | 404.xx | Hypertensive heart and renal disease             |
|                                | 405.xx | Secondary hypertension                           |
| Hyperlipidemia:                |        |                                                  |
|                                | 272.0x | Pure hypercholesterolemia                        |
|                                | 272.1x | Pure hyperglyceridemia                           |
|                                | 272.2x | Hyperlipidemia, mixed                            |
|                                | 272.3x | Hyperchylomicronemia                             |
|                                | 272.4x | Other and unspecified hyperlipidemia             |
| Obesity:                       |        |                                                  |
|                                | 278.00 | Obesity, unspecified                             |
|                                | 278.01 | Morbid obesity                                   |
|                                | V85.3x | Body mass index 30–39, adult                     |
|                                | V85.4x | Body mass index 40 and over, adult               |
| Tobacco use:                   |        |                                                  |
|                                | 305.1  | Tobacco use disorder                             |
|                                | 649.0x | Tobacco use disorder complicating pregnancy, childbirth, or the puerperium |
|                                | 989.84 | Toxic effect of other substances; tobacco        |
|                                | V15.82 | History of tobacco use                           |
| Coronary heart disease:        |        |                                                  |
|                                | 410.xx | Acute myocardial infarction                      |
|                                | 411.xx | Other acute and subacute forms of ischemic heart disease |
|                                | 412    | Old myocardial infarction                        |
|                                | 413.xx | Angina pectoris                                  |
|                                | 414.xx | Other forms of chronic ischemic heart disease    |
|                                | 996.03 | Mechanical complication, due to coronary bypass graft |
|                                | V45.81 | Aortocoronary bypass status                      |
|                                | V45.82 | Percutaneous transluminal coronary angioplasty status |
| Cerebrovascular disease:       |        |                                                  |
|                                | 094.87 | Syphilitic ruptured cerebral aneurysm            |
|                                | 346.xx | Persistent migraine aura with cerebral infarction |
|                                | 430    | Subarachnoid hemorrhage                          |
|                                | 431    | Intracerebral hemorrhage                         |
|                                | 432.x  | Other and unspecified intracranial hemorrhage    |
|                                | 433.xx | Occlusion and stenosis of precerebral arteries   |
|                                | 434.xx | Occlusion of cerebral arteries                   |
|                                | 435.xx | Transient cerebral ischemia                      |
|                                | 436    | Acute, but ill-defined, cerebrovascular disease  |
|                                | 437.0  | Cerebral atherosclerosis                         |
|                                | 437.1  | Other generalized ischemic cerebrovascular disease |
### Supplementary Table SII. Cont.

| Condition                     | Codes     | Description                                                                 |
|-------------------------------|-----------|------------------------------------------------------------------------------|
| Other cerebrovascular disease | 437.8     |                                                                               |
| Unspecified cerebrovascular disease | 437.9   |                                                                               |
| Late effects of cerebrovascular disease | 438.xx |                                                                               |
| Anomalies of cerebrovascular system | 747.81 |                                                                               |
| Aphasia                      | 784.3     |                                                                               |
| Iatrogenic cerebrovascular infarction or hemorrhage | 997.02 |                                                                               |
| Heart failure:                |           |                                                                               |
| Rheumatic heart failure (congestive) | 398.91 |                                                                               |
| Malignant hypertensive heart disease with heart failure | 402.01 |                                                                               |
| Benign hypertensive heart disease with heart failure | 402.11 |                                                                               |
| Unspecified hypertensive heart disease with heart failure | 402.91 |                                                                               |
| Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage I to stage IV, or unspecified | 404.01 |                                                                               |
| Hypertensive heart and chronic kidney disease, malignant, with heart failure and with chronic kidney disease stage V or end stage renal disease | 404.03 |                                                                               |
| Hypertensive heart and chronic kidney disease, benign, with heart failure and with chronic kidney disease stage I to stage IV, or unspecified | 404.11 |                                                                               |
| Hypertensive heart and chronic kidney disease, benign, with heart failure and chronic kidney disease stage V or end stage renal disease | 404.13 |                                                                               |
| Hypertensive heart and chronic kidney disease, unspecified, with heart failure and with chronic kidney disease stage I to stage IV, or unspecified | 404.91 |                                                                               |
| Hypertensive heart and chronic kidney disease, unspecified, with heart failure and chronic kidney disease stage V or end stage renal disease | 404.93 |                                                                               |
| Heart failure                 | 428.xx     |                                                                               |
| Atrial fibrillation           | 427.31     | Atrial fibrillation                                                          |

**ICD-9-CM – International Classification of Diseases, Ninth Revision, Clinical Modification.**
### Supplementary Table SIII. Mean age at time of first recorded diagnosis, by geographic group

| Parameter                      | Local     | Low risk | Moderate risk | High risk | Very high risk |
|-------------------------------|-----------|----------|---------------|-----------|----------------|
| **Prevalent diagnoses:**      |           |          |               |           |                |
| Diabetes                      | 59.7 (13.5) | 59.1 (14.2) | 55.0 (14.5)   | 48.7 (13.4) | 49.2 (11.7)    |
| Hypertension                  | 58.4 (12.9) | 59.0 (12.8) | 54.1 (13.7)   | 46.1 (11.7) | 48.1 (11.3)    |
| Dyslipidemia                  | 58.7 (14.1) | 57.3 (13.6) | 51.3 (14.2)   | 45.1 (11.1) | 45.9 (11.3)    |
| Obesity                       | 52.1 (18.3) | 54.3 (15.7) | 46.6 (16.1)   | 41.4 (12.8) | 42.7 (13.2)    |
| Tobacco use                   | 43.8 (16.8) | 44.3 (15.7) | 39.7 (14.2)   | 35.7 (11.5) | 35.6 (11.6)    |
| Coronary heart disease        | 64.6 (12.7) | 63.1 (11.8) | 59.6 (13.0)   | 52.2 (11.6) | 53.8 (11.4)    |
| Cerebrovascular disease       | 65.8 (16.0) | 63.2 (15.0) | 58.7 (16.6)   | 47.4 (13.5) | 49.3 (14.7)    |
| Atrial fibrillation           | 70.9 (12.6) | 67.8 (12.4) | 65.1 (14.9)   | 54.7 (13.3) | 56.7 (13.4)    |
| Heart failure                 | 70.9 (16.1) | 67.5 (15.8) | 63.0 (17.7)   | 47.6 (15.7) | 50.9 (17.2)    |
| **Incident diagnoses:**       |           |          |               |           |                |
| Diabetes                      | 63.9 (14.2) | 60.3 (15.8) | 55.3 (16.5)   | 52.8 (12.5) | 51.6 (12.5)    |
| Hypertension                  | 60.3 (14.1) | 60.5 (14.1) | 55.2 (15.0)   | 48.3 (11.5) | 51.1 (12.0)    |
| Dyslipidemia                  | 62.3 (15.3) | 59.6 (14.2) | 52.2 (15.4)   | 46.3 (10.4) | 48.3 (11.5)    |
| Obesity                       | 56.2 (15.9) | 54.9 (15.4) | 46.9 (14.0)   | 44.6 (11.2) | 45.8 (12.3)    |
| Tobacco use                   | 54.3 (17.6) | 48.7 (17.1) | 42.6 (14.5)   | 40.6 (11.2) | 41.1 (12.6)    |
| Coronary heart disease        | 69.6 (13.8) | 66.0 (13.0) | 60.7 (14.8)   | 54.5 (11.5) | 55.4 (11.9)    |
| Cerebrovascular disease       | 72.6 (14.9) | 66.7 (16.5) | 61.2 (17.7)   | 49.2 (12.5) | 53.5 (14.1)    |
| Atrial fibrillation           | 76.2 (12.4) | 69.7 (13.7) | 68.7 (15.8)   | 56.4 (13.2) | 60.0 (13.7)    |
| Heart failure                 | 79.9 (11.3) | 76.0 (11.8) | 73.2 (13.6)   | 58.3 (19.0) | 61.0 (13.2)    |

Data presented as mean (standard deviation), in years. Cells shaded in grey represent the group with the lowest mean age across groups for each cardiovascular risk factor/condition. All p-values for differences between groups < 0.001.
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Supplementary Figure S1. Classification of participants included in the analysis, by region of origin

*Percentages may not sum to 100% due to rounding. ESC – European Society of Cardiology, N – number.*
Supplementary Figure S2. Population pyramids of local and non-local European residents living in Catalonia as of December 31st, 2019
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Supplementary Figure S3. Prevalence of diabetes, by sex, age, and geographic origin, Catalonia, December 31st, 2019

Supplementary Figure S4. Incidence of diabetes by sex, age, and geographic origin, January 1st to December 31st, 2019
Supplementary Figure S5. Prevalence of hyperlipidemia, by sex, age, and geographic origin, Catalonia, December 31st, 2019.

Supplementary Figure S6. Incidence of hyperlipidemia by sex, age, and geographic origin, January 1st to December 31st, 2019.
Supplementary Figure S7. Prevalence of tobacco use by sex, age, and geographic origin, Catalonia, December 31st, 2019

Supplementary Figure S8. Incidence of tobacco use by sex, age, and geographic origin, January 1st to December 31st, 2019
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Supplementary Figure S9. Prevalence of cerebrovascular disease by sex, age, and geographic origin, Catalonia, December 31st, 2019

Supplementary Figure S10. Incidence of cerebrovascular disease by sex, age, and geographic origin, January 1st to December 31st, 2019
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Supplementary Figure S11. Prevalence of atrial fibrillation by sex, age, and geographic origin, Catalonia, December 31st, 2019

Supplementary Figure S12. Incidence of atrial fibrillation by sex, age, and geographic origin, January 1st to December 31st, 2019
Supplementary Figure S13. Prevalence of heart failure by sex, age, and geographic origin, Catalonia, December 31\textsuperscript{st}, 2019

Supplementary Figure S14. Incidence of heart failure by sex, age, and geographic origin, January 1\textsuperscript{st} to December 31\textsuperscript{st}, 2019