

1 **Supplementary eTable 1. As community-based entirely random samples, ICELAND MI participants and AGES participants**
 2 **exhibit nearly identical characteristics.**

| Variable | ICELAND MI (all phase1, regardless of CMR scan) N=702 | AGES N=2254 |
|---|---|----------------|
| Age, median (IQR), yrs | 75 (72-81) | 76 (72-81) |
| Female Gender, No. (%) | 379 (54%) | 1284 (57%) |
| Diabetes, No. (%) | 77 (11%) | 270 (12%) |
| Hypertension, No. (%) | 562 (80%) | 1826 (81%) |
| Smoking, No. (%) | | |
| Never, No. (%) | 267 (38%) | 879 (39%) |
| Ex, No. (%) | 351 (50%) | 1127 (50%) |
| Current, No. (%) | 77 (11%) | 248 (11%) |
| Prior MI/PCI/CABG, No. (%) | 112 (16%) | 338 (15%) |
| Family Hx of CAD, No. (%) | 260 (37%) | 789 (35%) |
| Statin use, No. (%) | 176 (25%) | 541 (24%) |
| Systolic BP, median (IQR), mm Hg | 140 (128-153) | 141 (129-155) |
| Diastolic BP, median (IQR), mm Hg | 74 (68-80) | 74 (68-80) |
| Total Cholesterol, median (IQR), mg/dL† | 216 (183-245) | 219 (188-251) |
| HDL Cholesterol, median (IQR), mg/dL† | 134 (105-163) | 134 (108-163) |
| LDL Cholesterol, median (IQR), mg/dL† | 59 (49-71) | 60 (49-72) |
| Triglycerides, median (IQR), mg/dL† | 89 (66-117) | 88 (66-121) |

3 † To convert to SI units, multiply cholesterol values by 0.0259, and triglyceride values by 0.0113.

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5 **Supplementary eTable 2.** Absolute Kaplan-Meier mortality rates by MI status ascertained by CMR.

| Year | No MI | | Unrecognized MI | | | Recognized MI | | | Mortality Rate differences | | |
|------|------------------------|----------|-----------------|------------------------|----------|---------------|------------------------|----------|----------------------------|---------------------|---------------------|
| | Mortality Rate (95%CI) | Died (n) | Survived (n) | Mortality Rate (95%CI) | Died (n) | Survived (n) | Mortality Rate (95%CI) | Died (n) | Survived (n) | UMI-NoMI (95%CI) | RMI-UMI (95%CI) |
| 0 | 0.0% (0-0) | 0 | 688 | 0.0% (0-0) | 0 | 157 | 0.0% (0-0) | 0 | 91 | 0.0% (0-0) | 0.0% (0-0) |
| 1 | 0.6% (0-1.1) | 4 | 684 | 1.9% (0-4.0) | 3 | 154 | 3.3% (1.2-5.4) | 3 | 88 | 1.3% (0.5-2.1) | 1.4% (0.1-2.8) |
| 2 | 2.2% (1.1-3.3) | 15 | 673 | 4.5% (1.2-7.7) | 7 | 150 | 6.6% (3.4-9.8) | 6 | 85 | 2.3% (1.3-3.3) | 2.1% (0.3-3.9) |
| 3 | 4.7% (3.1-6.2) | 32 | 656 | 7.6% (3.5-11.8) | 12 | 145 | 15.4% (11.2-19.5) | 14 | 77 | 3.0% (1.8-4.2) | 7.7% (4.2-11.2) |
| 4 | 7.1% (5.2-9.0) | 49 | 639 | 14.0% (8.6-19.4) | 22 | 135 | 17.6% (12.2-23.0) | 16 | 75 | 6.9% (5.1-8.7) | 3.6% (1.1-6.1) |
| 5 | 11.7% (9.3-14.1) | 79 | 506 | 22.5% (15.9-29.1) | 35 | 94 | 23.2% (16.6-29.8) | 21 | 55 | 10.8% (8.3-13.3) | 0.7% (-0.6-2.0) |
| 6 | 15.8% (12.9-18.6) | 100 | 433 | 28.0% (20.6-35.4) | 41 | 77 | 27.9% (20.5-35.4) | 24 | 44 | 12.3% (9.5-15.2) | -0.1% (-0.7-0.5) |
| 7 | 20.3% (16.8-23.8) | 117 | 184 | 31.3% (23.3-39.3) | 44 | 32 | 37.1% (29.1-45.1) | 28 | 19 | 11.0% (6.8-15.2) | 5.8% (-0.6-12.2) |

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8 **Supplementary eTable 3a.** Tabular data for continuous (category free) NRI derived from adding unrecognized MI to a Cox mortality
 9 risk model adjusting for the presence of recognized myocardial infarction (NRI 0.34 (CI 0.16-0.53; p<0.001).

| | Reclassified Upwards (more likely to experience events) | Reclassified Downwards (less likely to experience events) | Total, (N) |
|------------------|---|---|------------|
| Events, N (%) | 94 (39%) | 147 (61%) | 242 |
| NonEvents, N (%) | 154 (22%) | 541 (78%) | 694 |

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12 **Supplementary eTable 3b.** Tabular data for continuous (category free) NRI derived from adding unrecognized MI to a Cox mortality
 13 risk model adjusting for age, gender, diabetes, and the presence of recognized myocardial infarction (NRI 0.16 (CI 0.01-0.31; p=0.048).

| | Reclassified Upwards (more likely to experience events) | Reclassified Downwards (less likely to experience events) | Total, (N) |
|--------------------|---|---|------------|
| Events, No. (%) | 68 (28%) | 174 (72%) | 242 |
| NonEvents, No. (%) | 139 (20%) | 555 (80%) | 694 |

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Supplementary eTable 4. Category-based NRI tables used to generate a category-based NRI for adding unrecognized MI to the Cox mortality risk model adjusting for age, gender, diabetes and recognized myocardial infarction. Using cut-off values of 0.12 and 0.26 for mortality risk, the category-based $NRI_{(0.12, 0.26)}$ was 0.06 (CI 0.02-0.10, p= 0.002). The numbers of participants in the risk categories before and after addition of the unrecognized MI variable are shown.

| Risk Category | Non Events (N=743) | | Non Events (N=193) | |
|------------------|--|---|--|---|
| | Model without unrecognized MI by CMR variable, No. (%) | Model with unrecognized MI by CMR variable, No. (%) | Model without unrecognized MI by CMR variable, No. (%) | Model with unrecognized MI by CMR variable, No. (%) |
| 0-0.12 | 136 (18.3%) | 169 (22.7%) | 16 (8.3%) | 19 (9.8%) |
| 0.12-0.26 | 337 (45.4%) | 309 (41.6%) | 46 (23.8%) | 38 (19.7%) |
| 0.26-1.0 | 270 (36.3%) | 265 (35.7%) | 131 (67.9%) | 136 (70.4%) |