**Supplemental Material**

**Title: Social Determinants of Health Data Improve the Prediction of Cardiac Outcomes in Females with Breast Cancer**

**Supplemental Table S1.** ICD codes used to categorize cardiovascular history/risk factors and MACE. Medications names included on each medication category. Social determinants of health variables from LexisNexis and its domain categorization.

| **Cardiovascular risk factors** | **ICD9** | **ICD10** |
|---|---|---|
| Cardiomyopathy | 425.XX | I42.XX |
| Known Coronary Artery Disease | 414.00, 414.01, 414.02, 414.03, 414.04, 414.05, 414.06, 414.07 | I25.10, I25.810, I25.811, I25.812 |
| Prior Myocardial Infarction | 412.XX | I25.2 |
| Carotid Disease | 433.10 | I65.29 |
| Prior TIA/Stroke | 438.XX | I69.9XX |
| Chronic Kidney Disease | 585.XX | N18X |
| Dyslipidemia | 272.X | E78X |
| **MACE** | **ICD9** | **ICD10** |
| Heart Failure | 428.XX, 398.9, 402.XX, 401.XX, 414.8, 425.XX,785.51 | I50.XX, I09.9, I11.0, I13.0, I13.2, I25.2, I42.0, I42.5-I42.9, I43.XX, R570 |
| Ischemic Stroke | 431.XX, 435.0X, 435.1X, 435.2X, | I619, G45X, I63, I66, G834, G9781 |
| | 435.3X, 435.8X, 435.9X, 433.01, | |
| | 433.11, 433.21, 433.31, 433.81, | |
| | 433.91, 434.01, 434.11, 434.91, | |
| | 997.01, 344.60, 344.61 | |
| Myocardial Infarction | 411.XX, 410.XX | I20.0, I21.X, I24.X |
| Atrial Fibrillation | 427.31 | I48.91 |
| **SDOH variable** | **Description** | |
| ***Domain 1: Social and Community Context*** | | |
| Marital Status | Individual's inferred marital status | |
| Number of household members | Total count of household members who are on record | |
| Number of elderly household members | Total count of household members who are on record age 80 and older | |
| Number of middle age household members | Total count of household members who are on record age 40 to 64 | |
| Number of young adult household members | Total count of household members who are on record age 20 to 39 | |

| | |
|---|---|
| Closest relatives distance | Distance in miles between identity and closest first degree relative or close associate |
| ***Domain 2: Neighborhood and Built Environment*** | |
| Neighborhood burglary index | Current address neighborhood burglary index based on FBI data |
| Neighborhood car theft index | Current address neighborhood motor vehicle theft index based on FBI data |
| Negihborhood crime index | Current address neighborhood total crime index based on FBI data |
| Neighborhood median household income | Current address neighborhood median household income based on US Census data |
| Neighborhood murder index | Current address neighborhood murder index based on FBI data |
| Neighborhood median home value | Input address neighborhood median home values based on US Census data |
| ***Domain 3: Education Access and Quality*** | |
| Attended college | Indicates that the individual is reported as having attended college |
| Attending college | Indicates that the individual is reported as currently attending college |
| Education institution rating | Indicates the education program rating based on various institution statistics and national ratings |
| ***Domain 4: Economic Stability*** | |
| Annual income | Identity's estimated annual income rounded to the nearest $1000 |
| Owns a property | Indicates if identity is associated with ownership of any real property |
| Wealth Index | Wealth index based on relative value of real property and other assets recently reported |
| Number of properties owned | Number of properties identity currently owns |
| Household income | Estimated household income range, based on property value records and asset records that are associated with household members |
| Number of transportation properties in the household | Total count of personal property registrations (automobile, motorcycle, watercraft, or aircraft) that are currently registered to household members who are on record, based on personal property ownership records |
| Address stability index | Address stability index indicating how often identity has changed addresses |
| Current residence status | Indicates if identity owns or rents at current address |