**Supplemental Table 1**. Type 2 diabetes risk prediction model included in the analytic framework.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Model (year)** | **Racial composition** | **% female** | **Components** | **Outcome** | **Equation** |
| Framingham Offspring Risk Score (2007) | 99% non-Hispanic White | 53.9 | - Fasting glucose  - Body mass index  - Parental history of diabetes  - HDL-C (sex-specific cut-offs)  - Triglycerides  - Systolic and diastolic blood pressure - Antihypertensive treatment | 8-year risk | PMID: 17533210, ***Table 6***. |
| ARIC Model - Clinical variables plus fasting glucose and lipids (2005) | 85% non-Hispanic White, 15% non-Hispanic Black | 56% | - Age  - Race (Black vs. White)  - Parental history of diabetes  - Fasting glucose  - Waist circumference - Height  - HDL-C - Triglycerides  - Systolic blood pressure | 9-year risk | PMID: 16043747, ***Table 1*** |
| San Antonio Risk Model (2002) | 39% non-Hispanic White, 61% Hispanic | 58 | - Age - Sex  - Race (Hispanic vs. White)  - Family history of diabetes (parent/sibling)  - Fasting glucose  - Body mass index  - HDL-C  - Systolic blood pressure | 7.5-year risk | PMID: 11955025, ***Appendix*** |

**Supplemental Table 2.** Descriptive statistics of the imputed NHANES data (N=14,638).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **1999–2000** | **2001–2002** | **2003–2004** | **2005–2006** | **2007–2008** | **2009–2010** |
| **N** | 2,243 | 2,544 | 2,295 | 2,320 | 2,531 | 2,705 |
| **Age**, years | 43.2 (16.8) | 43.4 (18.8) | 43.8 (17.0) | 44.4 (17.2) | 44.4 (17.0) | 44.7 (17.1) |
| **Female**, % | 52.0 | 52.0 | 52.1 | 51.4 | 51.3 | 51.9 |
| **Ethnicity**, % |  |  |  |  |  |  |
| Non-Hispanic Black | 10.2 | 10.7 | 11.0 | 11.0 | 10.6 | 11.0 |
| Hispanic | 14.6 | 12.1 | 11.0 | 11.4 | 13.7 | 13.8 |
| Non-Hispanic White | 71.1 | 72.5 | 72.6 | 72.1 | 70.0 | 68.5 |
| Other | 4.1 | 4.7 | 5.5 | 5.5 | 5.7 | 6.7 |
| **Family history of diabetes**, % | 47.1 | 49.0 | 49.6 | 38.8 | 34.7 | 33.3 |
| **Height**, cm | 169.2 (10.1) | 169.1 (10.2) | 169.8 (10.0) | 169.4 (10.1) | 169.6 (10.2) | 169.2 (9.9) |
| **Body mass index**, kg/m2 | 27.3 (6.0) | 27.7 (6.3) | 28.0 (6.3) | 28.3 (7.0) | 27.8 (6.1) | 28.4 (6.7) |
| **Waist circumference**, cm | 93.6 (15.5) | 94.8 (15.7) | 96.4 (15.6) | 96.8 (16.7) | 95.9 (15.3) | 97.2 (16.1) |
| **Fasting glucose**, mmol/L | 5.1 (1.1) | 5.1 (1.1) | 5.2 (0.8) | 5.2 (1.1) | 5.1 (0.8) | 5.2 (1.0) |
| **Blood pressure**, mmHg |  |  |  |  |  |  |
| **Systolic** | 121.3 (17.7) | 121.7 (18.8) | 121.0 (18.8) | 120.8 (17.2) | 119.0 (16.1) | 118.2 (15.8) |
| **Diastolic** | 72.1 (12.0) | 72.2 (12.0) | 70.3 (12.9) | 68.5 (12.8) | 69.2 (12.2) | 68.1 (12.2) |
| **Medication use**, % | 52.8 | 59.5 | 53.6 | 49.3 | 55.7 | 50.3 |
| **HDL-C**, mmol/L | 1.3 (0.4) | 1.3 (0.4) | 1.4 (0.4) | 1.4 (0.4) | 1.4 (0.4) | 1.4 (0.4) |
| **Triglycerides**, ln(mmol/L) | 0.3 (0.5) | 0.3 (0.6) | 0.3 (0.6) | 0.2 (0.6) | 0.2 (0.6) | 0.2 (0.5) |
| Data displayed as means (standard deviations).  Abbreviations: HDL-C: high-density lipoprotein cholesterol.  NHANES fasting survey weights were used to estimate weighted means and variances.  Rubin’s Rules were used to pool means and standard errors (converted to standard deviations) across the multiple imputed datasets. | | | | | | |

**Supplemental Table 3.** Age-adjusted incidence rates of type 2 diabetes per 1000 individuals

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Year** | **Total** | **Hispanic** | **Non-Hispanic White** | **Non-Hispanic Black** |
| **2000** | 6.2 (5.7; 6.7) | 9.5 (7.6; 11.9) | 5.2 (4.6; 5.8) | 9.6 (8.2; 11.2) |
| **2001** | 6.7 (6.2; 7.3) | 9.6 (7.9; 11.7) | 5.7 (5.1; 6.4) | 9.9 (8.2; 12.0) |
| **2002** | 7.1 (6.5; 7.7) | 9.8 (8.0; 11.9) | 6.2 (5.6; 6.9) | 10.0 (8.2; 12.1) |
| **2003** | 7.2 (6.7; 7.8) | 9.5 (7.6; 11.8) | 6.2 (5.6; 6.9) | 10.4 (8.5; 12.8) |
| **2004** | 7.3 (6.8; 8.0) | 9.9 (8.2; 11.9) | 6.5 (5.8; 7.3) | 10.3 (8.4; 12.6) |
| **2005** | 7.6 (6.9; 8.2) | 10.1 (8.3; 12.1) | 6.6 (5.9; 7.4) | 10.4 (8.6; 12.7) |
| **2006** | 7.7 (7.1; 8.5) | 9.7 (7.8; 11.9) | 6.9 (6.2; 7.8) | 10.4 (8.6; 12.4) |
| **2007** | 8.0 (7.3; 8.8) | 10.9 (9.0; 13.3) | 7.3 (6.4; 8.3) | 9.8 (8.0; 12.0) |
| **2008** | 8.5 (7.6; 9.4) | 11.9 (9.9; 14.3) | 7.4 (6.5; 8.6) | 11.4 (8.6; 15.2) |
| **2009** | 8.4 (7.6; 9.4) | 13.0 (10.9; 15.6) | 7.2 (6.2; 8.4) | 11.7 (8.8; 15.5) |
| **2010** | 8.1 (7.3; 9.0) | 11.6 (9.6; 14.2) | 6.7 (5.8; 7.8) | 13.6 (10.8; 17.2) |
| **2011** | 7.3 (6.7; 8.0) | 11.4 (9.3; 14.0) | 6.0 (5.3; 6.8) | 11.7 (10; 13.8) |
| **2012** | 7.1 (6.5; 7.7) | 9.5 (7.6; 11.8) | 6.1 (5.5; 6.9) | 10.5 (9.1; 12.2) |
| **2013** | 6.7 (6.1; 7.3) | 9.7 (8.1; 11.5) | 5.7 (5.0; 6.5) | 8.7 (7.4; 10.3) |
| **2014** | 6.6 (6.0; 7.2) | 8.4 (7.1; 9.9) | 5.7 (5.0; 6.5) | 9.1 (7.5; 10.9) |
| **2015** | 6.6 (6.1; 7.2) | 9.7 (8.1; 11.7) | 5.5 (4.8; 6.3) | 9.8 (8.0; 11.9) |
| **2016** | 6.5 (5.9; 7.1) | 9.9 (7.7; 12.7) | 5.2 (4.5; 5.9) | 9.8 (7.9; 12.2) |
| **2017** | 6.6 (5.9; 7.3) | 10.3 (7.9; 13.5) | 5.3 (4.7; 6.1) | 8.8 (6.9; 11.2) |
| **2018** | 6.4 (5.6; 7.3) | 9.9 (6.8; 14.4) | 5.0 (4.3; 5.9) | 8.1 (5.9; 11.0) |

Info on calculation: To calculate the rate of new cases, the weighted number of respondents who were diagnosed with diabetes within the last year (numerator) was divided by the weighted estimate of US population aged 18 years and older (denominator). Adults who had been diagnosed with diabetes for more than one year and adults who answered "refused," "don't know," or had missing values on the diabetes status question were excluded from the denominator. Three-year averages were used to improve the precision of the annual estimates with the exception of the last year in the trend for which a two-year average was used. Rates were age-adjusted to the 2000 US standard population using age groups 18-44, 45-64, and 65-79 years. https://gis.cdc.gov/grasp/diabetes/DiabetesAtlas.html#

**Supplemental Table 4**. Average predicted incidences of developing type 2 diabetes per racial group by the three risk prediction models and cumulative incidences of type 2 diabetes from the U.S. Diabetes Surveillance System.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Ethnicity** | **Year** | **Average predicted probability** | **Cumulative incidence of T2D** | **Estimate ratio** |
| **FRAMINGHAM OFFSPRING RISK SCORE** | All | 2007 | 0.07 (0.06; 0.07) | 0.06 (0.06; 0.06) | 1.14 |
| non-Hispanic Black | 2007 | 0.06 (0.05; 0.07) | 0.08 (0.07; 0.09) | 0.74 |
| non-Hispanic White | 2007 | 0.07 (0.06; 0.07) | 0.05 (0.05; 0.05) | 1.30 |
| Hispanic | 2007 | 0.07 (0.05; 0.08) | 0.08 (0.07; 0.09) | 0.84 |
| All | 2009 | 0.07 (0.06; 0.07) | 0.06 (0.06; 0.06) | 1.06 |
| non-Hispanic Black | 2009 | 0.06 (0.06; 0.07) | 0.08 (0.08; 0.09) | 0.76 |
| non-Hispanic White | 2009 | 0.07 (0.06; 0.07) | 0.05 (0.05; 0.06) | 1.22 |
| Hispanic | 2009 | 0.07 (0.06; 0.08) | 0.08 (0.08; 0.09) | 0.78 |
| All | 2011 | 0.07 (0.06; 0.07) | 0.06 (0.06; 0.07) | 1.05 |
| non-Hispanic Black | 2011 | 0.06 (0.05; 0.06) | 0.09 (0.08; 0.10) | 0.66 |
| non-Hispanic White | 2011 | 0.07 (0.06; 0.07) | 0.05 (0.05; 0.06) | 1.24 |
| Hispanic | 2011 | 0.06 (0.05; 0.07) | 0.09 (0.08; 0.10) | 0.71 |
| All | 2013 | 0.07 (0.06; 0.07) | 0.06 (0.06; 0.06) | 1.08 |
| non-Hispanic Black | 2013 | 0.06 (0.06; 0.07) | 0.09 (0.08; 0.10) | 0.72 |
| non-Hispanic White | 2013 | 0.07 (0.06; 0.07) | 0.05 (0.05; 0.06) | 1.25 |
| Hispanic | 2013 | 0.07 (0.06; 0.08) | 0.09 (0.08; 0.09) | 0.82 |
| All | 2015 | 0.07 (0.06; 0.07) | 0.06 (0.06; 0.06) | 1.10 |
| non-Hispanic Black | 2015 | 0.05 (0.04; 0.06) | 0.09 (0.08; 0.09) | 0.60 |
| non-Hispanic White | 2015 | 0.07 (0.06; 0.07) | 0.05 (0.05; 0.05) | 1.32 |
| Hispanic | 2015 | 0.07 (0.06; 0.08) | 0.09 (0.08; 0.09) | 0.85 |
| All | 2017 | 0.07 (0.06; 0.07) | 0.06 (0.05; 0.06) | 1.19 |
| non-Hispanic Black | 2017 | 0.06 (0.06; 0.07) | 0.08 (0.08; 0.09) | 0.78 |
| non-Hispanic White | 2017 | 0.07 (0.06; 0.07) | 0.05 (0.04; 0.05) | 1.47 |
| Hispanic | 2017 | 0.07 (0.06; 0.07) | 0.08 (0.07; 0.09) | 0.82 |
| **ARIC MODEL** | All | 2008 | 0.12 (0.11; 0.13) | 0.07 (0.06; 0.07) | 1.82 |
| non-Hispanic Black | 2008 | 0.11 (0.09; 0.13) | 0.09 (0.09; 0.10) | 1.22 |
| non-Hispanic White | 2008 | 0.12 (0.11; 0.14) | 0.06 (0.06; 0.06) | 2.14 |
| Hispanic | 2008 | 0.11 (0.1; 0.13) | 0.09 (0.08; 0.10) | 1.26 |
| All | 2010 | 0.13 (0.12; 0.14) | 0.07 (0.07; 0.07) | 1.84 |
| non-Hispanic Black | 2010 | 0.12 (0.09; 0.14) | 0.10 (0.09; 0.11) | 1.18 |
| non-Hispanic White | 2010 | 0.13 (0.12; 0.14) | 0.06 (0.06; 0.06) | 2.16 |
| Hispanic | 2010 | 0.12 (0.09; 0.15) | 0.10 (0.09; 0.11) | 1.24 |
| All | 2012 | 0.13 (0.12; 0.14) | 0.07 (0.07; 0.07) | 1.92 |
| non-Hispanic Black | 2012 | 0.12 (0.1; 0.13) | 0.10 (0.09; 0.11) | 1.18 |
| non-Hispanic White | 2012 | 0.14 (0.13; 0.15) | 0.06 (0.06; 0.06) | 2.27 |
| Hispanic | 2012 | 0.14 (0.1; 0.17) | 0.10 (0.09; 0.11) | 1.39 |
| All | 2014 | 0.14 (0.12; 0.16) | 0.07 (0.07; 0.07) | 2.02 |
| non-Hispanic Black | 2014 | 0.13 (0.11; 0.15) | 0.10 (0.09; 0.1) | 1.34 |
| non-Hispanic White | 2014 | 0.14 (0.12; 0.16) | 0.06 (0.06; 0.06) | 2.43 |
| Hispanic | 2014 | 0.13 (0.12; 0.15) | 0.10 (0.09; 0.1) | 1.40 |
| All | 2016 | 0.12 (0.11; 0.13) | 0.07 (0.06; 0.07) | 1.85 |
| non-Hispanic Black | 2016 | 0.10 (0.07; 0.13) | 0.10 (0.09; 0.1) | 1.04 |
| non-Hispanic White | 2016 | 0.12 (0.11; 0.14) | 0.06 (0.05; 0.06) | 2.24 |
| Hispanic | 2016 | 0.13 (0.11; 0.15) | 0.10 (0.09; 0.10) | 1.40 |
| All | 2018 | 0.13 (0.12; 0.14) | 0.06 (0.06; 0.06) | 2.09 |
| non-Hispanic Black | 2018 | 0.12 (0.10; 0.15) | 0.09 (0.08; 0.10) | 1.37 |
| non-Hispanic White | 2018 | 0.13 (0.12; 0.14) | 0.05 (0.05; 0.05) | 2.59 |
| Hispanic | 2018 | 0.14 (0.13; 0.15) | 0.09 (0.08; 0.10) | 1.54 |
| **SAN ANTONIO MODEL** | All | 2007 | 0.17 (0.15; 0.19) | 0.06 (0.06; 0.06) | 2.94 |
| non-Hispanic Black | 2007 | 0.17 (0.15; 0.20) | 0.08 (0.07; 0.09) | 2.13 |
| non-Hispanic White | 2007 | 0.17 (0.15; 0.20) | 0.05 (0.05; 0.05) | 3.41 |
| Hispanic | 2007 | 0.16 (0.14; 0.17) | 0.08 (0.07; 0.09) | 2.01 |
| All | 2009 | 0.17 (0.16; 0.18) | 0.06 (0.06; 0.06) | 2.79 |
| non-Hispanic Black | 2009 | 0.17 (0.15; 0.20) | 0.08 (0.08; 0.09) | 2.06 |
| non-Hispanic White | 2009 | 0.18 (0.17; 0.19) | 0.05 (0.05; 0.06) | 3.29 |
| Hispanic | 2009 | 0.14 (0.11; 0.18) | 0.08 (0.08; 0.09) | 1.70 |
| All | 2011 | 0.18 (0.16; 0.19) | 0.06 (0.06; 0.07) | 2.81 |
| non-Hispanic Black | 2011 | 0.18 (0.16; 0.20) | 0.09 (0.08; 0.10) | 2.03 |
| non-Hispanic White | 2011 | 0.18 (0.17; 0.20) | 0.05 (0.05; 0.06) | 3.33 |
| Hispanic | 2011 | 0.16 (0.12; 0.20) | 0.09 (0.08; 0.10) | 1.81 |
| All | 2013 | 0.18 (0.16; 0.20) | 0.06 (0.06; 0.06) | 2.85 |
| non-Hispanic Black | 2013 | 0.18 (0.16; 0.21) | 0.09 (0.08; 0.10) | 2.08 |
| non-Hispanic White | 2013 | 0.18 (0.16; 0.21) | 0.05 (0.05; 0.06) | 3.43 |
| Hispanic | 2013 | 0.15 (0.13; 0.17) | 0.09 (0.08; 0.09) | 1.74 |
| All | 2015 | 0.16 (0.15; 0.18) | 0.06 (0.06; 0.06) | 2.73 |
| non-Hispanic Black | 2015 | 0.14 (0.11; 0.18) | 0.09 (0.08; 0.09) | 1.63 |
| non-Hispanic White | 2015 | 0.17 (0.15; 0.19) | 0.05 (0.05; 0.05) | 3.33 |
| Hispanic | 2015 | 0.16 (0.14; 0.18) | 0.09 (0.08; 0.09) | 1.91 |
| All | 2017 | 0.17 (0.16; 0.19) | 0.06 (0.05; 0.06) | 3.13 |
| non-Hispanic Black | 2017 | 0.18 (0.15; 0.21) | 0.08 (0.08; 0.09) | 2.22 |
| non-Hispanic White | 2017 | 0.18 (0.17; 0.20) | 0.05 (0.04; 0.05) | 3.90 |
| Hispanic | 2017 | 0.17 (0.15; 0.18) | 0.08 (0.07; 0.09) | 2.05 |