

Additional information to “Estimating incidence of type 1 and type 2 diabetes using prevalence data: the SEARCH for Diabetes in Youth Study”

S1 Table. Observed and estimated average incidence rates of type 1 diabetes

| Age | Average observed incidence rate (per 100.000 person-years) | | Average estimated incidence rate (per 100.000 person-years) | | Relative error (in %) | |
|---------|--|----------------------|---|----------------------|----------------------------|----------------------------|
| | Male | Female | Male | Female | Male | Female |
| 0 - 1 | 2.05 [1.28; 3.30] | 2.39 [1.53; 3.75] | 11.1 [8.92; 13.3] | 12.6 [10.3; 15.0] | 304.66 [174.62; 477.89] | 263.69 [158.60; 393.96] |
| 1 - 2 | 19.4 [16.6; 22.6] | 13.2 [10.9; 15.9] | 13.1 [10.6; 15.6] | 14.7 [12.1; 17.4] | -43.49 [-56.28; 30.74] | -22.58 [-40.75; -3.87] |
| 2 - 3 | 15.5 [13.0; 18.4] | 15.8 [13.3; 18.9] | 15.0 [12.2; 17.8] | 16.7 [13.8; 19.7] | -17.78 [-35.78; -0.54] | -17.80 [-35.20; -0.80] |
| 3 - 4 | 18.2 [15.5; 21.3] | 19.9 [17.0; 23.2] | 16.9 [13.8; 20.0] | 18.7 [15.4; 22.0] | -28.26 [-43.14; -12.94] | -21.65 [-36.85; -6.06] |
| 4 - 5 | 19.4 [16.6; 22.6] | 25.1 [21.8; 28.8] | 18.6 [15.2; 22.0] | 20.5 [16.9; 24.1] | -1.71 [-18.81; 15.28] | -12.22 [-26.34; 1.84] |
| 5 - 6 | 21.6 [18.7; 25.0] | 27.0 [23.6; 30.8] | 20.2 [16.5; 23.9] | 22.0 [18.1; 25.9] | 7.06 [-11.24; 24.95] | -2.22 [-17.49; 13.01] |
| 6 - 7 | 25.1 [21.9; 28.7] | 24.9 [21.7; 28.6] | 21.6 [17.6; 25.6] | 23.2 [19.0; 27.4] | 7.85 [-10.02; 25.13] | 4.68 [-12.44; 21.74] |
| 7 - 8 | 22.5 [19.5; 26.0] | 27.7 [24.3; 31.6] | 22.7 [18.4; 26.9] | 24.0 [19.5; 28.5] | 4.01 [-15.87; 22.97] | 6.98 [-10.51; 24.22] |
| 8 - 9 | 30.9 [27.4; 34.9] | 29.6 [26.1; 33.7] | 23.5 [19.0; 28.0] | 24.3 [19.6; 29.1] | -14.44 [-29.64; 0.52] | 0.71 [-15.69; 17.69] |
| 9 - 10 | 28.2 [24.8; 32.0] | 31.4 [27.8; 35.5] | 24.0 [19.2; 28.7] | 24.2 [19.3; 29.2] | -12.14 [-28.64; 5.06] | -14.34 [-30.62; 2.15] |
| 10 - 11 | 31.7 [28.2; 35.7] | 35.8 [32.0; 40.1] | 24.2 [19.2; 29.1] | 23.7 [18.5; 28.8] | -23.67 [-39.44; -7.52] | -29.28 [-43.27; -14.36] |
| 11 - 12 | 29.2 [25.9; 33.0] | 35.1 [31.3; 39.3] | 24.1 [18.9; 29.2] | 22.8 [17.4; 28.1] | -12.08 [-31.05; 6.64] | -33.07 [-49.39; -17.44] |
| 12 - 13 | 32.1 [28.6; 36.0] | 29.5 [26.1; 33.3] | 23.7 [18.3; 29.0] | 21.5 [16.0; 27.0] | -16.43 [-33.07; -0.24] | -25.68 [-43.93; -6.99] |
| 13 - 14 | 30.4 [27.0; 34.1] | 20.3 [17.5; 23.5] | 23.1 [17.5; 28.6] | 20.1 [14.4; 25.7] | -17.53 [-36.19; 0.78] | -2.02 [-29.52; 24.65] |
| 14 - 15 | 28.8 [25.5; 32.5] | 16.4 [13.9; 19.3] | 22.2 [16.6; 27.9] | 18.4 [12.6; 24.1] | -37.83 [-56.31; -19.41] | 13.64 [-21.57; 48.81] |
| 15 - 16 | 21.8 [19.0; 25.0] | 13.9 [11.6; 16.6] | 21.3 [15.5; 27.1] | 16.6 [10.7; 22.4] | 2.96 [-23.74; 28.97] | -12.52 [-54.94; 30.19] |
| 16 - 17 | 17.1 [14.7; 20.0] | 13.1 [10.9; 15.7] | 20.2 [14.2; 26.2] | 14.7 [8.68; 20.6] | 13.85 [-20.99; 49.64] | -18.22 [-62.38; 27.72] |
| 17 - 18 | 12.4 [10.3; 14.9] | 12.5 [10.4; 15.1] | 19.0 [13.0; 25.2] | 12.8 [6.66; 18.8] | 48.04 [-0.50; 97.44] | -3.35 [-50.35; 43.71] |
| 18 - 19 | 9.4 [7.58; 11.6] | 6.67 [5.15; 8.62] | 17.8 [11.6; 24.1] | 10.8 [4.62; 17.0] | 71.08 [5.51; 135.70] | 73.32 [-14.84; 163.86] |
| 19 - 20 | 3.29 [2.27; 4.77] | 2.30 [1.47; 3.61] | 16.6 [10.3; 23.0] | 8.87 [2.57; 15.1] | 319.04 [131.56; 522.32] | 217.11 [-46.18; 505.81] |

S2 Table. Observed and estimated average incidence rates of type 2 diabetes

| Age | Average observed incidence rate (per 100.000 person-years) | | Average estimated incidence rate (per 100.000 person-years) | | Relative error (in %) | |
|---------|--|----------------------|---|----------------------|-------------------------------|-------------------------------|
| | Male | Female | Male | Female | Male | Female |
| 0 - 1 | 0.00 [0.00; 0.00] | 0.00 [0.00; 0.00] | 0.00 [0.00; 0.00] | 0.00 [0.00; 0.00] | NA | NA |
| 1 - 2 | 0.20 [0.05; 0.79] | 0.00 [0.00; 0.00] | 0.00 [0.00; 0.00] | 0.00 [0.00; 0.00] | NA | NA |
| 2 - 3 | 0.00 [0.00; 0.00] | 0.00 [0.00; 0.00] | 0.00 [0.00; 0.00] | 0.05 [0.00; 0.31] | NA | NA |
| 3 - 4 | 0.10 [0.01; 0.71] | 0.00 [0.00; 0.00] | 0.14 [0.00; 0.37] | 0.80 [0.42; 1.23] | NA | NA |
| 4 - 5 | 0.00 [0.00; 0.00] | 0.32 [0.10; 0.98] | 0.56 [0.24; 0.91] | 1.59 [1.02; 2.19] | NA | -64.11 [-1041.18; 654.11] |
| 5 - 6 | 0.10 [0.02; 0.71] | 0.65 [0.29; 1.43] | 1.03 [0.57; 1.50] | 2.43 [1.67; 3.20] | -72.29 [-1283.21; 1209.03] | -15.51 [-672.26; 668.63] |
| 6 - 7 | 0.30 [0.10; 0.94] | 0.58 [0.25; 1.34] | 1.55 [0.95; 2.15] | 3.31 [2.36; 4.28] | -49.13 [-1172.20; 894.05] | 165.75 [-2760.45; 2730.97] |
| 7 - 8 | 0.10 [0.01; 0.71] | 0.53 [0.22; 1.26] | 2.13 [1.38; 2.88] | 4.24 [3.10; 5.39] | -65.82 [-1230.74; 1139.92] | 349.83 [-5010.38; 6005.12] |
| 8 - 9 | 1.02 [0.55; 1.89] | 1.70 [1.05; 2.77] | 2.77 [1.86; 3.67] | 5.20 [3.86; 6.54] | 69.17 [-26.13; 340.70] | 102.79 [20.34; 225.85] |
| 9 - 10 | 0.80 [0.40; 1.60] | 3.34 [2.36; 4.72] | 3.46 [2.40; 4.52] | 6.16 [4.62; 7.68] | 210.63 [28.78; 1522.65] | 75.60 [23.94; 129.79] |
| 10 - 11 | 2.98 [2.10; 4.24] | 7.82 [6.27; 9.77] | 4.19 [3.00; 5.42] | 7.08 [5.35; 8.78] | 50.60 [2.63; 102.08] | 7.79 [-17.50; 33.59] |
| 11 - 12 | 3.23 [2.30; 4.52] | 9.90 [8.13; 12.1] | 4.94 [3.55; 6.33] | 7.92 [6.02; 9.81] | 24.16 [-18.69; 70.24] | -25.35 [-43.57; -7.18] |
| 12 - 13 | 6.56 [5.19; 8.29] | 12.6 [10.6; 15.0] | 5.70 [4.13; 7.25] | 8.66 [6.58; 10.7] | -18.30 [-40.96; 4.57] | -1.39 [-20.10; 17.44] |
| 13 - 14 | 10.1 [8.38; 12.2] | 13.5 [11.4; 15.9] | 6.42 [4.69; 8.15] | 9.26 [7.02; 11.5] | -21.55 [-39.49; -4.03] | -17.35 [-33.76; -0.84] |
| 14 - 15 | 10.9 [9.14; 13.1] | 14.4 [12.2; 16.9] | 7.10 [5.20; 9.00] | 9.72 [7.31; 12.1] | -21.34 [-38.62; -4.04] | -15.19 [-31.57; -13.40] |
| 15 - 16 | 9.90 [8.20; 12.0] | 14.4 [12.2; 16.9] | 7.71 [5.64; 9.78] | 10.0 [7.46; 12.6] | 7.52 [-15.22; 30.71] | -13.40 [-31.61; 5.26] |
| 16 - 17 | 10.8 [9.01; 12.9] | 15.4 [13.2; 18.0] | 8.26 [6.02; 10.5] | 10.2 [7.50; 12.9] | -4.76 [-26.02; 17.06] | -25.38 [-42.61; -7.53] |
| 17 - 18 | 11.0 [9.17; 13.1] | 13.1 [11.0; 15.5] | 8.74 [6.34; 11.1] | 10.3 [7.44; 13.2] | -26.83 [-49.58; -3.56] | -34.06 [-56.92; -11.11] |
| 18 - 19 | 9.11 [7.47; 11.1] | 9.43 [7.71; 11.5] | 9.19 [6.63; 11.7] | 10.4 [7.34; 13.4] | -7.40 [-34.55; 19.75] | -9.67 [-40.63; 22.45] |
| 19 - 20 | 3.99 [2.92; 5.45] | 5.23 [3.96; 6.91] | 9.61 [6.90; 12.3] | 10.4 [7.21; 13.6] | 78.02 [13.17; 147.91] | 42.16 [-16.32; 101.94] |