

# Analysis

2025-03-20

## R Markdown

```
##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##   filter, lag

## The following objects are masked from 'package:base':
##
##   intersect, setdiff, setequal, union

## [1] "Income Data Columns:"

## [1] "Neighb ID"
## [2] "Neighbourhood Name"
## [3] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME CUT-OFFS - AFTER-TAX (LICO-AT) Total - Population"
## [4] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME CUT-OFFS - AFTER-TAX (LICO-AT) In LICO-AT"
## [5] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME CUT-OFFS - AFTER-TAX (LICO-AT) In LICO-AT (%)"
## [6] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME CUT-OFFS - AFTER-TAX (LICO-AT) Total - Population"
## [7] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME CUT-OFFS - AFTER-TAX (LICO-AT) In LICO-AT \n(0-17"
## [8] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME CUT-OFFS - AFTER-TAX (LICO-AT) In LICO-AT \n(0-17"
## [9] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME CUT-OFFS - AFTER-TAX (LICO-AT) Total - Population"
## [10] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME CUT-OFFS - AFTER-TAX (LICO-AT) In LICO-AT \n(0-5 y"
## [11] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME CUT-OFFS - AFTER-TAX (LICO-AT) In LICO-AT \n(0-5 y"
## [12] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME CUT-OFFS - AFTER-TAX (LICO-AT) Total - Population"
## [13] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME CUT-OFFS - AFTER-TAX (LICO-AT) In LICO-AT \n(18-64"
## [14] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME CUT-OFFS - AFTER-TAX (LICO-AT) In LICO-AT \n(18-64"
## [15] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME CUT-OFFS - AFTER-TAX (LICO-AT) Total - Population"
## [16] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME CUT-OFFS - AFTER-TAX (LICO-AT) In LICO-AT \n(65+ y"
## [17] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME CUT-OFFS - AFTER-TAX (LICO-AT) In LICO-AT \n(65+ y"
## [18] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME MEASURE - AFTER-TAX (LIM-AT) Total - Population t"
## [19] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME MEASURE - AFTER-TAX (LIM-AT) In LIM-AT"
## [20] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME MEASURE - AFTER-TAX (LIM-AT) In LIM-AT (%)"
## [21] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME MEASURE - AFTER-TAX (LIM-AT) Total - Population t"
## [22] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME MEASURE - AFTER-TAX (LIM-AT) In LIM-AT \n(0-17 yrs"
## [23] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME MEASURE - AFTER-TAX (LIM-AT) In LIM-AT \n(0-17 yrs"
## [24] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME MEASURE - AFTER-TAX (LIM-AT) Total - Population t"
## [25] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME MEASURE - AFTER-TAX (LIM-AT) In LIM-AT \n(0-5 yrs"
## [26] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME MEASURE - AFTER-TAX (LIM-AT) In LIM-AT \n(0-5 yrs"
## [27] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME MEASURE - AFTER-TAX (LIM-AT) Total - Population t"
## [28] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME MEASURE - AFTER-TAX (LIM-AT) In LIM-AT \n(18-64 yrs"
## [29] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME MEASURE - AFTER-TAX (LIM-AT) In LIM-AT \n(18-64 yrs"
## [30] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME MEASURE - AFTER-TAX (LIM-AT) Total - Population t"
## [31] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME MEASURE - AFTER-TAX (LIM-AT) In LIM-AT \n(65+ yrs"
## [32] "POPULATION IN LOW-INCOME BASED ON LOW-INCOME MEASURE - AFTER-TAX (LIM-AT) In LIM-AT \n(65+ yrs"
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## [1] "Diabetes Data Columns:"

## [1] "Neighb ID"
## [2] "Neighbourhood Name"
## [3] "# of people with Diabetes 2021/22 ±, All Ages 20+ Male"
## [4] "# of people with Diabetes 2021/22 ±, All Ages 20+ Female"
## [5] "# of people with Diabetes 2021/22 ±, All Ages 20+ Total"
## [6] "Total Population 2023 (RPDB) a, All Ages 20+ Male"
## [7] "Total Population 2023 (RPDB) a, All Ages 20+ Female"
## [8] "Total Population 2023 (RPDB) a, All Ages 20+ Total"
## [9] "Age-Standardized † rate (/100) of Diabetes 2021/22, All Ages 20+ Male"
## [10] "Age-Standardized † rate (/100) of Diabetes 2021/22, All Ages 20+ Female"
## [11] "Age-Standardized † rate (/100) of Diabetes 2021/22, All Ages 20+ Total"
## [12] "Age-Standardized † rate (/100) of Diabetes 2021/22, All Ages 20+ Rate Ratio**, Total"
## [13] "Age-Standardized † rate (/100) of Diabetes 2021/22, All Ages 20+ H/ L/ NS, Total"
## [14] "Age-Standardized † rate (/100) of Diabetes 2021/22, All Ages 20+ (95% CI) LL, Male"
## [15] "Age-Standardized † rate (/100) of Diabetes 2021/22, All Ages 20+ (95% CI) UL, Male"
## [16] "Age-Standardized † rate (/100) of Diabetes 2021/22, All Ages 20+ (95% CI) LL, Female"
## [17] "Age-Standardized † rate (/100) of Diabetes 2021/22, All Ages 20+ (95% CI) UL, Female"
## [18] "Age-Standardized † rate (/100) of Diabetes 2021/22, All Ages 20+ (95% CI) LL, Total"
## [19] "Age-Standardized † rate (/100) of Diabetes 2021/22, All Ages 20+ (95% CI) UL, Total"
## [20] "Prevalence (/100) of Diabetes 2021/22, All Ages 20+ Male"
## [21] "Prevalence (/100) of Diabetes 2021/22, All Ages 20+ Female"
## [22] "Prevalence (/100) of Diabetes 2021/22, All Ages 20+ Total"
## [23] "Prevalence (/100) of Diabetes 2021/22, All Ages 20+ Rate Ratio**, Total"
## [24] "Prevalence (/100) of Diabetes 2021/22, All Ages 20+ H/ L/ NS, Total"
## [25] "Prevalence (/100) of Diabetes 2021/22, All Ages 20+ (95% CI) LL, Male"
## [26] "Prevalence (/100) of Diabetes 2021/22, All Ages 20+ (95% CI) UL, Male"
## [27] "Prevalence (/100) of Diabetes 2021/22, All Ages 20+ (95% CI) LL, Female"
## [28] "Prevalence (/100) of Diabetes 2021/22, All Ages 20+ (95% CI) UL, Female"
## [29] "Prevalence (/100) of Diabetes 2021/22, All Ages 20+ (95% CI) LL, Total"
## [30] "Prevalence (/100) of Diabetes 2021/22, All Ages 20+ (95% CI) UL, Total"
## [31] "# of people with Diabetes 2021/22 ±, Age 20-44 Male"
## [32] "# of people with Diabetes 2021/22 ±, Age 20-44 Female"
## [33] "# of people with Diabetes 2021/22 ±, Age 20-44 Total"
## [34] "Total Population 2023 (RPDB) a, Age 20-44 Male"
## [35] "Total Population 2023 (RPDB) a, Age 20-44 Female"
## [36] "Total Population 2023 (RPDB) a, Age 20-44 Total"
## [37] "Prevalence (/100) of Diabetes 2021/22, Age 20-44 Male"
## [38] "Prevalence (/100) of Diabetes 2021/22, Age 20-44 Female"
## [39] "Prevalence (/100) of Diabetes 2021/22, Age 20-44 Total"
## [40] "Prevalence (/100) of Diabetes 2021/22, Age 20-44 Rate Ratio**, Total"
## [41] "Prevalence (/100) of Diabetes 2021/22, Age 20-44 H/ L/ NS, Total"
## [42] "Prevalence (/100) of Diabetes 2021/22, Age 20-44 (95% CI) LL, Male"
## [43] "Prevalence (/100) of Diabetes 2021/22, Age 20-44 (95% CI) UL, Male"
## [44] "Prevalence (/100) of Diabetes 2021/22, Age 20-44 (95% CI) LL, Female"
## [45] "Prevalence (/100) of Diabetes 2021/22, Age 20-44 (95% CI) UL, Female"
## [46] "Prevalence (/100) of Diabetes 2021/22, Age 20-44 (95% CI) LL, Total"
## [47] "Prevalence (/100) of Diabetes 2021/22, Age 20-44 (95% CI) UL, Total"
## [48] "# of people with Diabetes 2021/22 ±, Age 45-64 Male"
## [49] "# of people with Diabetes 2021/22 ±, Age 45-64 Female"
## [50] "# of people with Diabetes 2021/22 ±, Age 45-64 Total"
## [51] "Total Population 2023 (RPDB) a, Age 45-64 Male"
## [52] "Total Population 2023 (RPDB) a, Age 45-64 Female"

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## [53] "Total Population 2023 (RPDB) a, Age 45-64 Total"
## [54] "Prevalence (/100) of Diabetes 2021/22, Age 45-64 Male"
## [55] "Prevalence (/100) of Diabetes 2021/22, Age 45-64 Female"
## [56] "Prevalence (/100) of Diabetes 2021/22, Age 45-64 Total"
## [57] "Prevalence (/100) of Diabetes 2021/22, Age 45-64 Rate Ratio**, Total"
## [58] "Prevalence (/100) of Diabetes 2021/22, Age 45-64 H/ L/ NS, Total"
## [59] "Prevalence (/100) of Diabetes 2021/22, Age 45-64 (95% CI) LL, Male"
## [60] "Prevalence (/100) of Diabetes 2021/22, Age 45-64 (95% CI) UL, Male"
## [61] "Prevalence (/100) of Diabetes 2021/22, Age 45-64 (95% CI) LL, Female"
## [62] "Prevalence (/100) of Diabetes 2021/22, Age 45-64 (95% CI) UL, Female"
## [63] "Prevalence (/100) of Diabetes 2021/22, Age 45-64 (95% CI) LL, Total"
## [64] "Prevalence (/100) of Diabetes 2021/22, Age 45-64 (95% CI) UL, Total"
## [65] "# of people with Diabetes 2021/22 ±, Age 65+ Male"
## [66] "# of people with Diabetes 2021/22 ±, Age 65+ Female"
## [67] "# of people with Diabetes 2021/22 ±, Age 65+ Total"
## [68] "Total Population 2023 (RPDB) a, Age 65+ Male"
## [69] "Total Population 2023 (RPDB) a, Age 65+ Female"
## [70] "Total Population 2023 (RPDB) a, Age 65+ Total"
## [71] "Prevalence (/100) of Diabetes 2021/22, Age 65+ Male"
## [72] "Prevalence (/100) of Diabetes 2021/22, Age 65+ Female"
## [73] "Prevalence (/100) of Diabetes 2021/22, Age 65+ Total"
## [74] "Prevalence (/100) of Diabetes 2021/22, Age 65+ Rate Ratio**, Total"
## [75] "Prevalence (/100) of Diabetes 2021/22, Age 65+ H/ L/ NS, Total"
## [76] "Prevalence (/100) of Diabetes 2021/22, Age 65+ (95% CI) LL, Male"
## [77] "Prevalence (/100) of Diabetes 2021/22, Age 65+ (95% CI) UL, Male"
## [78] "Prevalence (/100) of Diabetes 2021/22, Age 65+ (95% CI) LL, Female"
## [79] "Prevalence (/100) of Diabetes 2021/22, Age 65+ (95% CI) UL, Female"
## [80] "Prevalence (/100) of Diabetes 2021/22, Age 65+ (95% CI) LL, Total"
## [81] "Prevalence (/100) of Diabetes 2021/22, Age 65+ (95% CI) UL, Total"

## [1] "Total missing values: 0"

## `geom_smooth()` using formula = 'y ~ x'

```

# Income Level vs. Diabetes Rate

lation between neighborhood income and diabetes prevalence

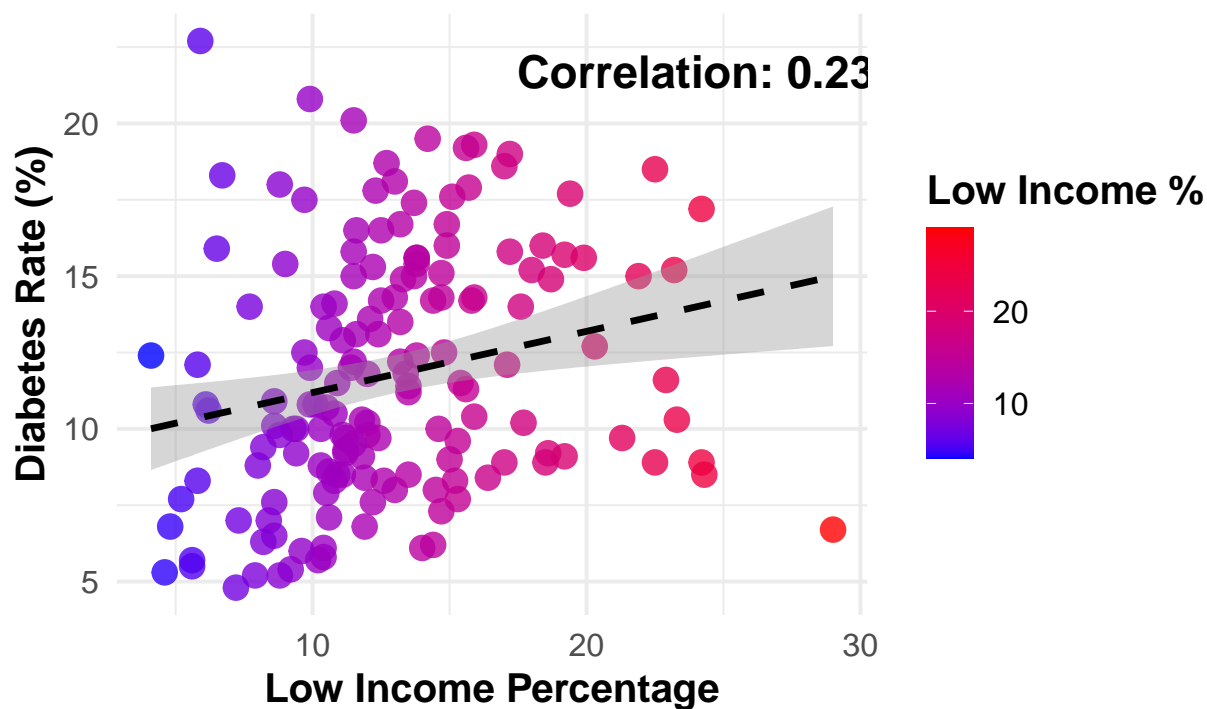
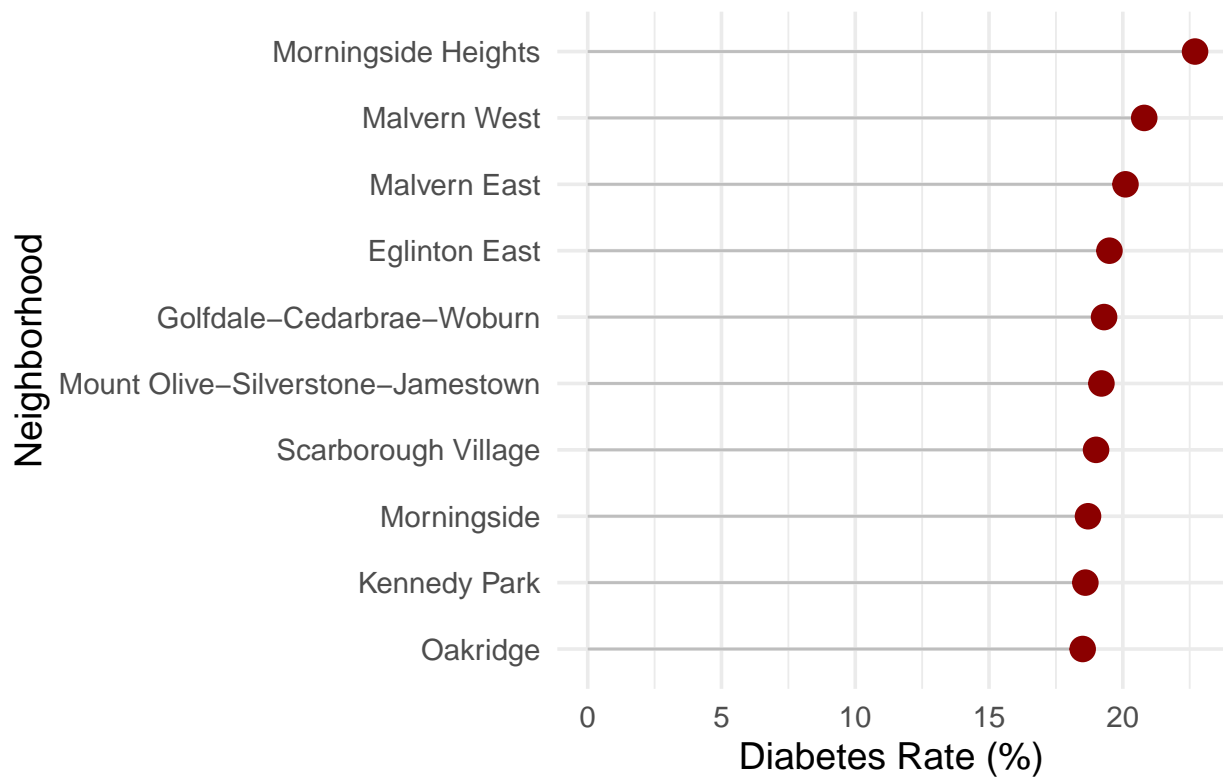


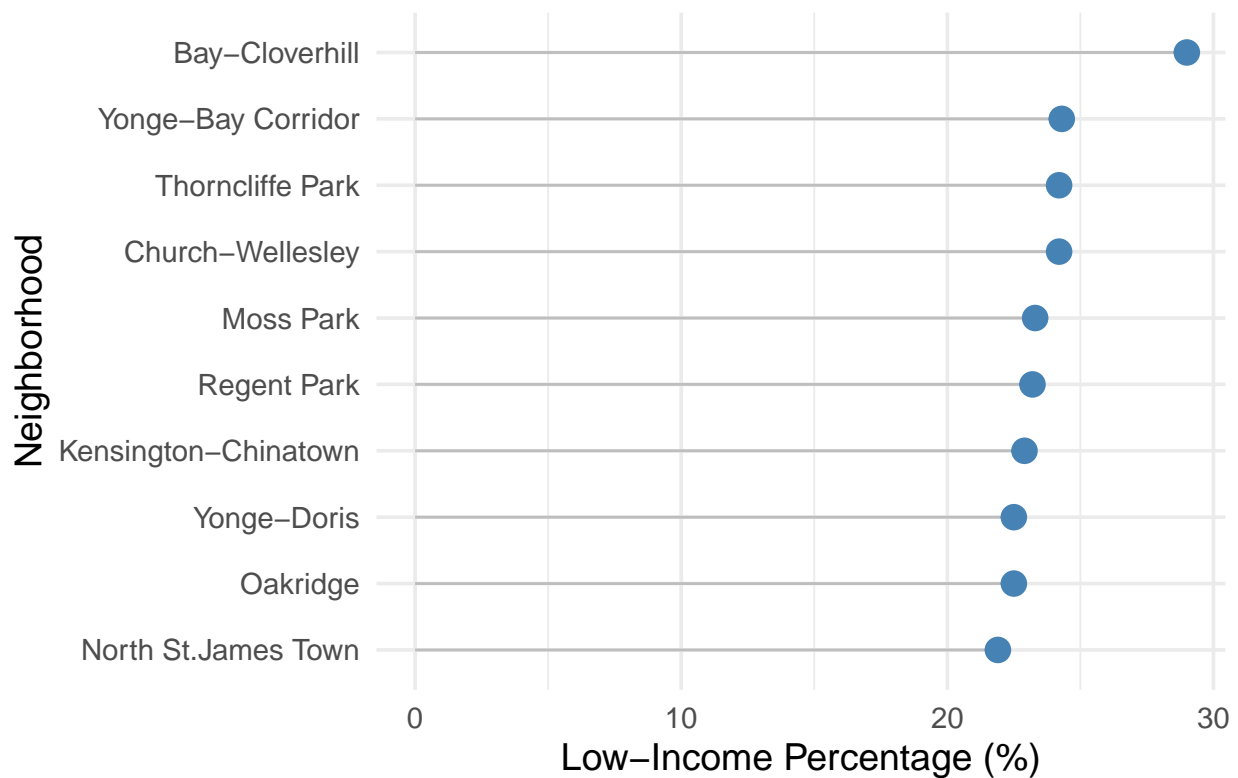
Table 1: Summary of Low Income and Diabetes Rate Across Toronto Neighborhoods

Number of Neighborhoods	Mean Low Income (%)	Median Low Income (%)	Min Low Income (%)	Max Low Income (%)	Mean Diabetes Rate (%)	Median Diabetes Rate (%)	Min Diabetes Rate (%)	Max Diabetes Rate (%)
158	12.9	12.2	4.1	29	11.8	11.1	4.8	22.7

### Top 10 Neighborhoods by Diabetes

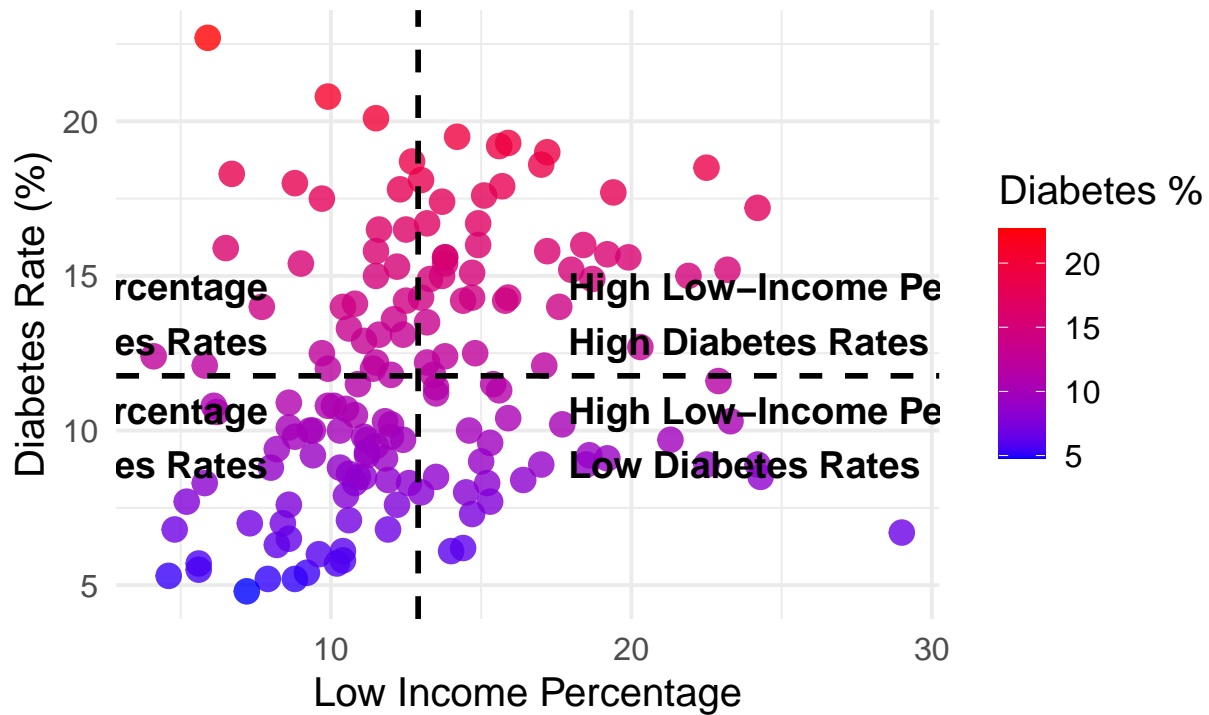


### Top 10 Neighborhoods with Highest Low-In



# Diabetes vs. Income by Neighborhood

Quadrants Highlight Risk and Resilience Patterns



```
## # A tibble: 4 x 2
##   Quadrant      Neighborhoods
##   <chr>         <chr>
## 1 High Income + High Diabetes West Humber-Clairville, Thistletown-Beaumont Heig-
## 2 High Income + Low Diabetes  Humber Heights-Westmount, Edenbridge-Humber Valle-
## 3 Low Income + High Diabetes  Mount Olive-Silverstone-Jamestown, Rexdale-Kiplin-
## 4 Low Income + Low Diabetes   New Toronto, Newtonbrook West, Willowdale West, S-
```