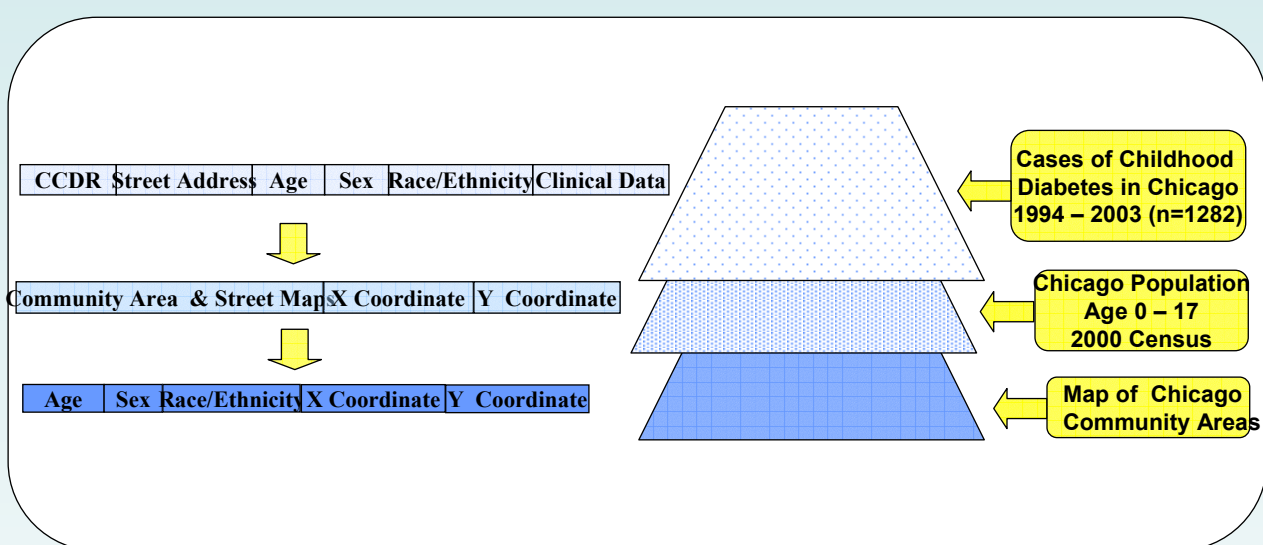


BACKGROUND: Social and environmental factors are implicated in temporal trends observed in the incidence of type 1 and type 2 diabetes in youth.

OBJECTIVE: To examine the geographic variation in the incidence of type 1 (T1) and non-type 1 (nT1) diabetes in youth ages 0 - 17 in the city of Chicago.

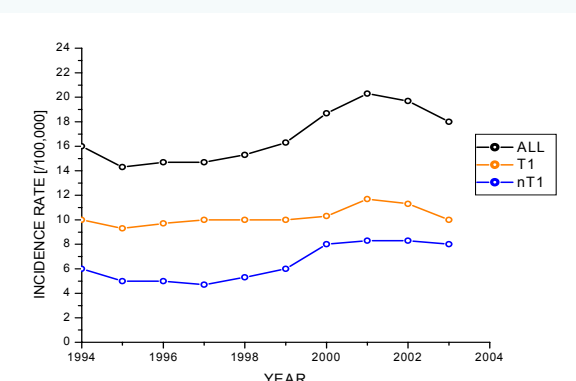
METHODS: Children aged 0 – 17 years diagnosed with diabetes between 1994 and 2003 were identified (N = 1282) using a city-wide incidence registry. Cases were geocoded to one of 77 Chicago community areas based on street address. Census counts of children aged 0 – 17 in each community area provided denominators for the calculation of incidence rates. A spatial scan statistic was used to identify clusters of high or low risk for diabetes.

Figure 1. Data Linkage and Geocoding



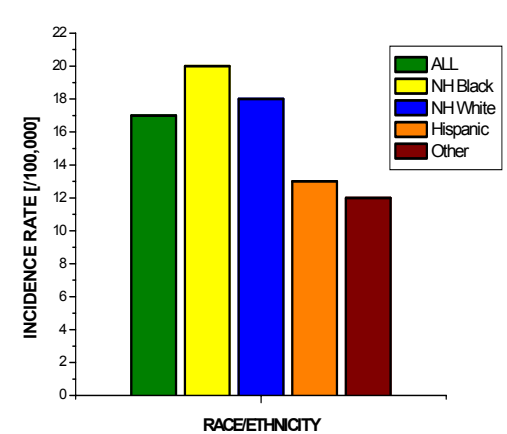
RESULTS:

Figure 2. Three-Year Moving Average Of Diabetes Incidence in Chicago Youth Aged 0 - 17 1994 - 2003



The overall incidence rate of childhood diabetes increased between 1994 and 2003.

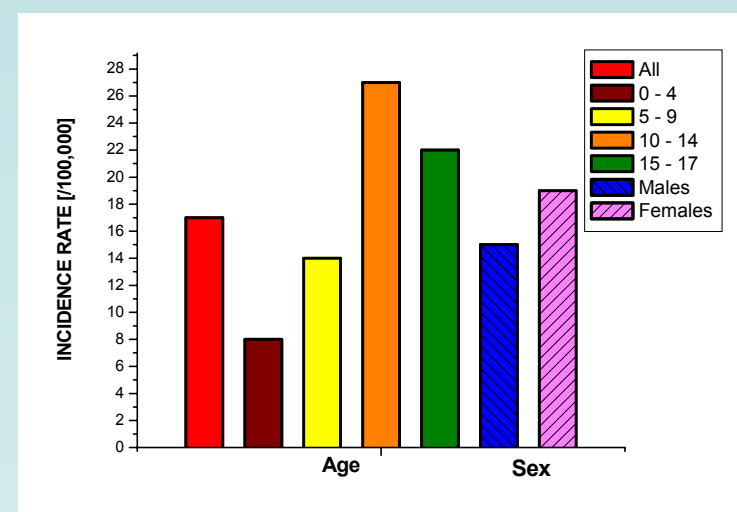
Figure 3. Incidence Rate of Diabetes In Chicago Youth Aged 0 – 17 By Race/Ethnicity 1994 - 2003



The incidence rate of childhood diabetes (both T1 and nT1) was highest in non-Hispanic Blacks.

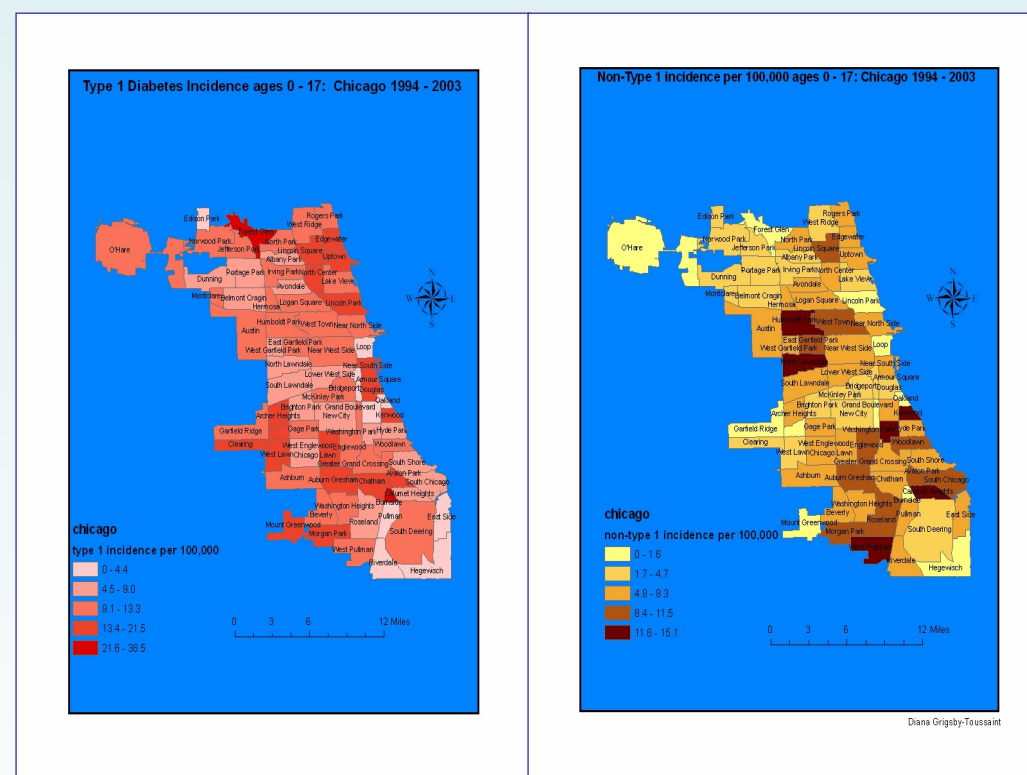
RESULTS:

Figure 4. Incidence Rate of Diabetes In Chicago Youth By Age and Sex 1994 - 2003



The incidence rate of childhood diabetes (both T1 and nT1) was highest in children aged 10 – 14 and females.

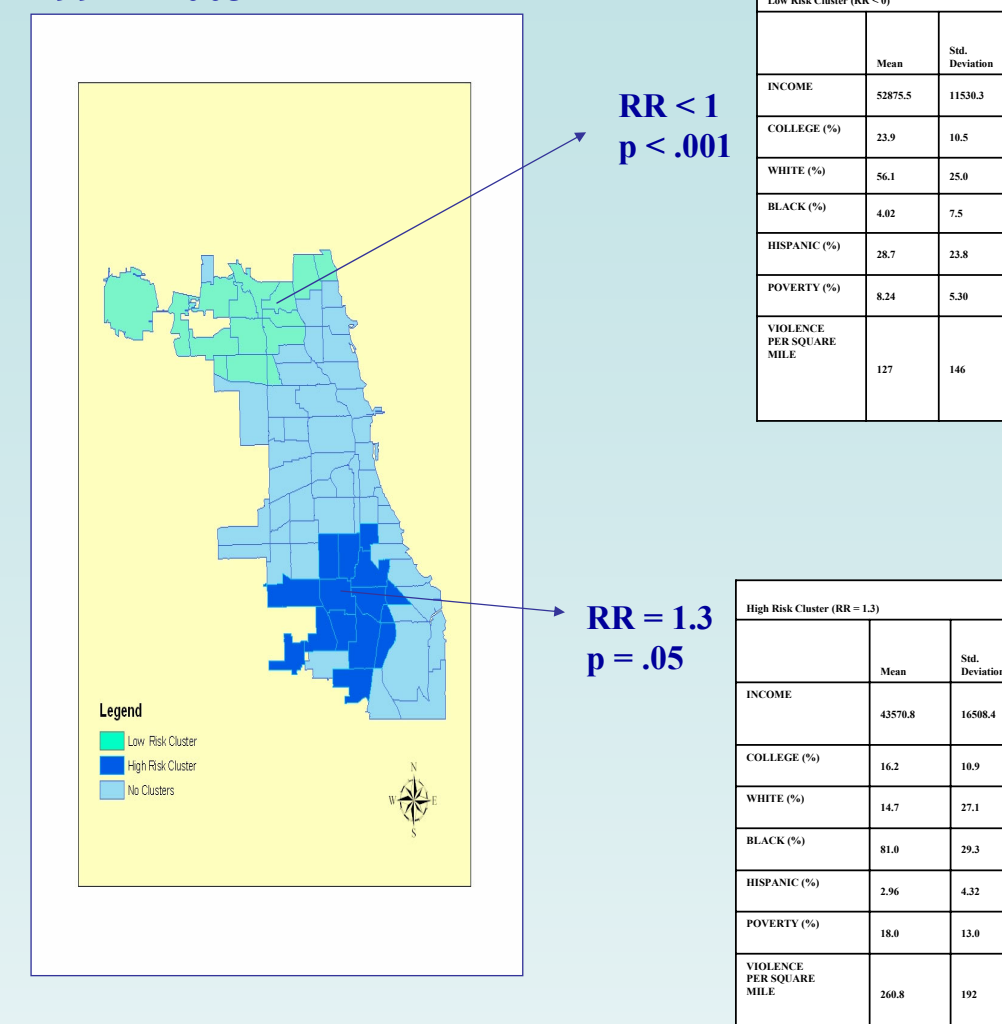
Figure 5. Incidence Rates of Type 1 and non-Type 1 Diabetes Across Chicago Community Areas 1994 - 2003



On average, neighborhoods with the highest type 1 rates had more White residents (55%), lower unemployment rates (7%) lower poverty rates (14%) and fewer reports of violent crime (103.9 per square mile) compared to the rest of Chicago.

In contrast neighborhoods with the highest non-type 1 rates had more Black residents (86%), higher unemployment rates (17%), higher poverty rates (38%) and more reports of violent crime (291 per square mile) on average, compared to the rest of Chicago.

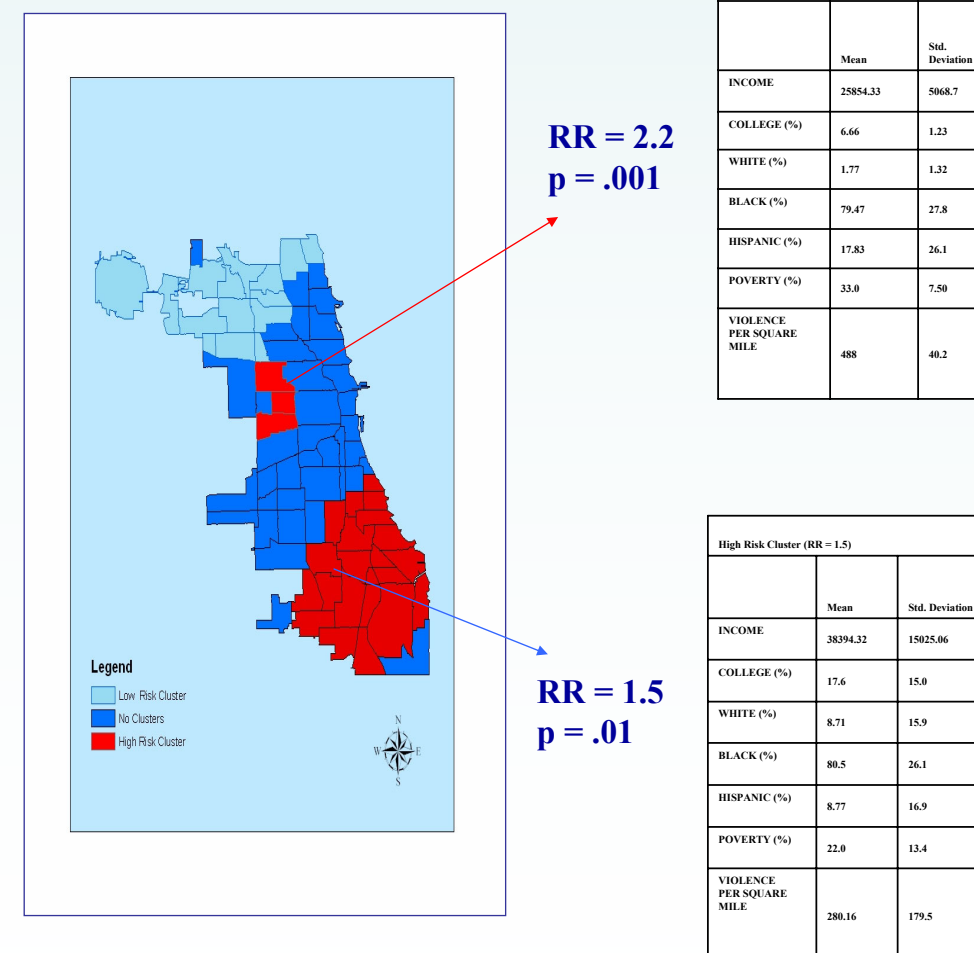
Figure 6. Identified Clusters of Childhood Diabetes in Chicago 1994 - 2003



RR < 1
p < .001

RR = 1.3
p = .05

Figure 7. Identified Clusters of non-Type 1 Diabetes in Chicago Youth 1994 - 2003



RR = 2.2
p = .001

RR = 1.5
p = .01

CONCLUSIONS:

•The risk of childhood diabetes does vary by community area in Chicago.

•The observed differences may be due to social and environmental risk factors.

•Additional analyses exploring a broader set of individual and community level factors, however, are needed to fully understand these observed differences.

ACKNOWLEDGEMENTS:

•ASPH/CDC/PRC Minority Fellowship Program

•Chicago Childhood Diabetes Registry Staff, University of Chicago

•Illinois Prevention Research Center

•Office of Epidemiology, Chicago Department of Public Health

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