

Health Indicators Project Issue Brief Series

Diabetes ❖ Part 1

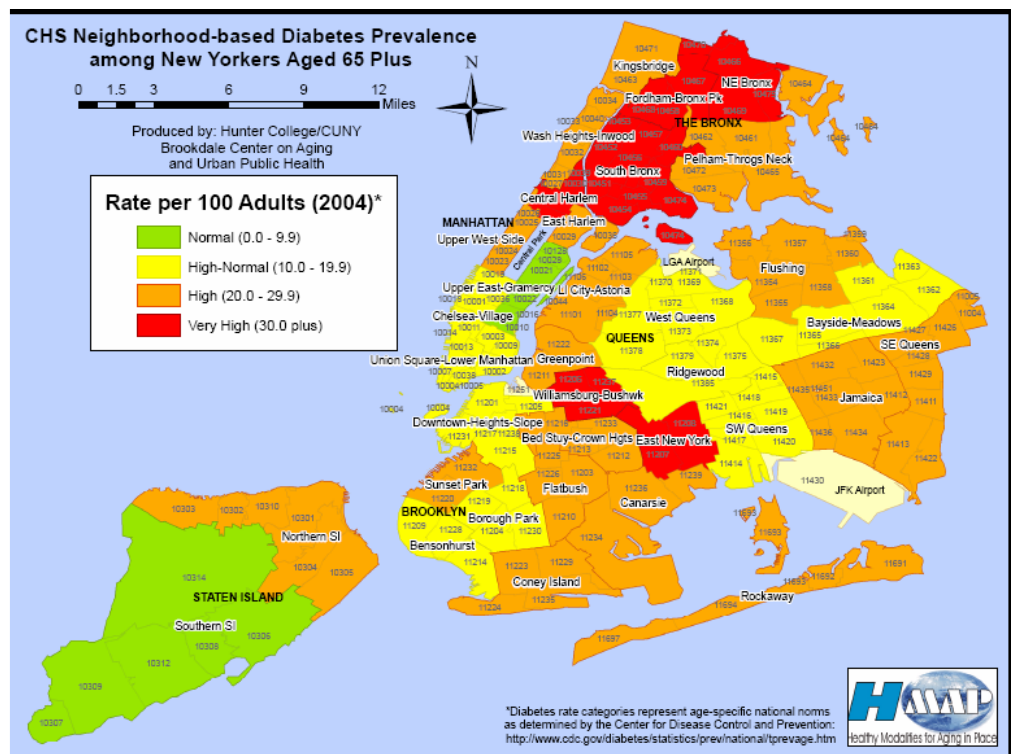
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Improvements in medical science, along with the rapid growth of the baby boomer generation, have resulted in a dramatic rise in the number of older adults living with chronic conditions, including diabetes. Because the burden of illness increases with age, public health efforts are needed to guide older adults in the management of their condition in ways that promote independence and healthy aging. Part 1 of this Diabetes Issue Brief presents findings from the 2008 Health Indicators Project (HIP) survey, which was funded by the New York City (NYC) Mayor's Office and administered by the Department for the Aging. The survey assessed the health and social well-being of 1,870 older adults aged 60 and above attending 56 NYC senior centers. (See *Technical Notes on page 6 for a detailed description of the HIP study.*) Part 2 describes evidence-based programs aimed at reducing the magnitude of diabetes and its related complications.

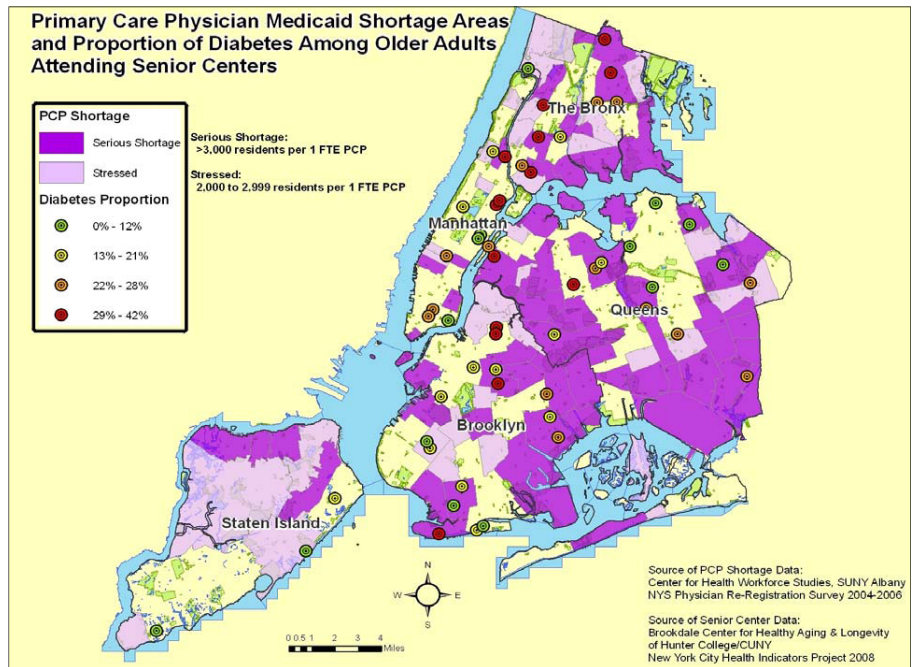
Diabetes affects 18% of older Americans and 1 in 4 New Yorkers attending the City's senior centers, which translates to nearly 6,500 of NYC's senior center population

- Diabetes imposes a tremendous financial burden on NYC as a whole, and is currently the leading cause of widening racial/ethnic disparities in health among the City's elderly.
- Data from the NYC Department of Health and Mental Hygiene's Community Health Survey (CHS) reveal that neighborhood-based disparities exist with regard to diabetes prevalence rates among older New Yorkers, with the highest rates found in neighborhoods in the Bronx and Brooklyn.



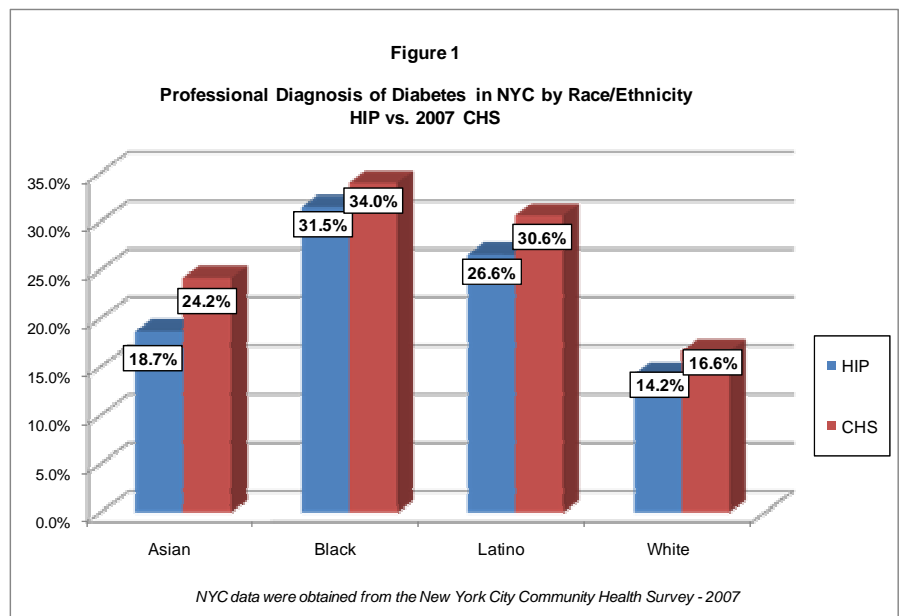
Use of Senior Centers to Target Neighborhoods in Need

- Alarming, mapping techniques show that many older diabetics attending senior centers reside in NYC neighborhoods experiencing shortages of primary care physicians accepting Medicaid.
- Senior centers are prime locations to develop health linkage programs with existing community resources such as health centers, outreach programs, and community advocacy groups to bridge the gap between health and social services, promoting the well-being of older New Yorkers in far-reaching, cost-effective ways.



Prevalence of Diabetes Among Older New Yorkers

- Results from the HIP reveal that racial/ethnic disparities exist among older New Yorkers, as shown in Figure 1, with 32% of Blacks, 27% of Latinos, 19% of Asians, and 14% of Whites reporting that they were diagnosed with diabetes by a health care professional.
- These findings compare closely with those of the general NYC population of older adults, as shown by results from the 2007 NYC Community Health Survey.



Diabetes Management

- Nearly all respondents indicated that they managed diabetes well (92%) and were knowledgeable about the condition (89%).
- The American Diabetes Association (ADA) recommends that diabetics check their hemoglobin A1c levels at least twice a year. About 85% of those surveyed indicated that they had their levels checked within the past six months.
- Racial/Ethnic disparities with regard to diabetes management were found, as Asian elders were least likely to report participating in a variety of diabetes management activities (i.e., taking insulin, testing blood sugar, using diet control, exercising, checking feet for sores, taking aspirin, or using healing rituals or other techniques).
- Findings indicate that diabetes management may still be an issue in this population, as 7% had visited the emergency room for diabetes-related symptoms in the past year.

Table 1. Diabetes Management Activity by Race/Ethnicity

Activity	Asian % (n=43)	Black % (n=112)	Latino % (n=113)	White % (n=104)	Total % (n=372)
Take insulin***	4.9	32.4	38.1	16.5	26.6
Take diabetes medication	90.2	81.8	85.8	81.6	83.9
Test blood sugar***	55.0	79.3	90.2	75.0	78.7
Use diet control***	53.7	60.4	85.0	72.8	70.7
Exercise regularly***	39.0	66.7	79.6	56.3	64.7
Check feet for sores***	24.4	81.1	69.0	78.6	70.4
Take aspirin regularly***	22.0	47.3	59.8	56.3	50.8
Measure blood pressure at home	36.6	32.7	45.5	28.2	35.8
Use dietary supplements, home remedies, etc.	0.0	10.0	8.9	7.1	7.7
Use healing rituals, prayer, etc.***	2.4	27.3	32.1	11.0	21.5

*** Statistically significant association was found at the $p \leq 0.001$ level

Diabetes and Comorbidities

Diabetes often co-occurs with a host of other major health problems highlighted by the CDC, including depression, heart disease, obesity, and falls

- About 5% of diabetics were also severely depressed, and nearly a third were mildly depressed as measured by the PHQ-9 (See *Technical Notes for a description.*).
- Nearly 40% of diabetic adults over age 60 also reported that they had a heart condition.
- Being overweight or obese is a significant health concern throughout the nation, and especially among diabetic older adults – nearly three-quarters of those with the condition were also overweight/obese.

Table 2. Selected Health Problems by Diabetes

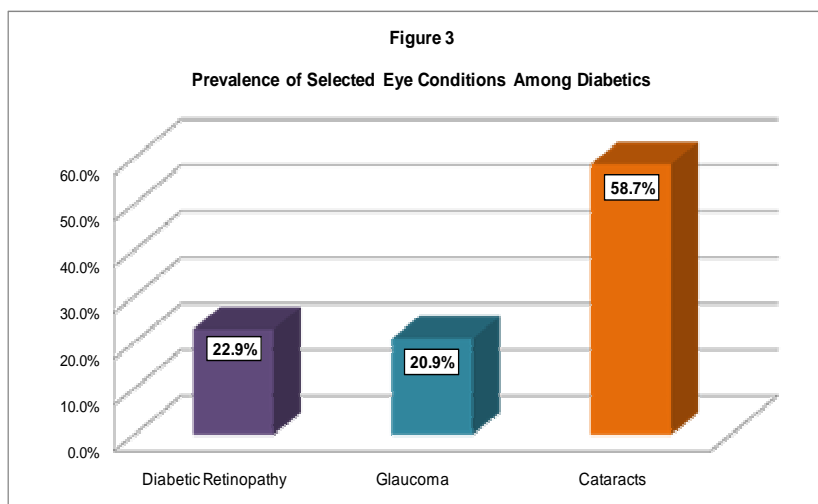
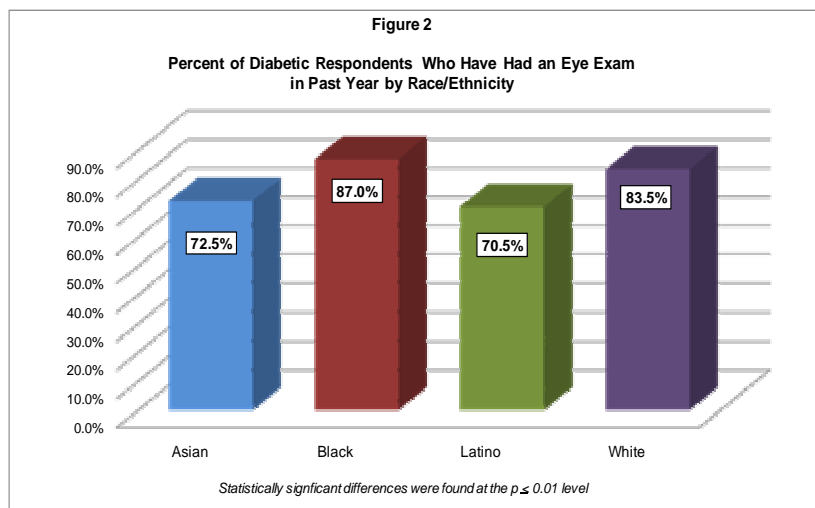
Presence of Leading Health Problems per CDC	Diabetes %	P-Value
Depression ¹		$p \leq 0.01$
mild/moderate depression	29.1	
severe depression	4.9	
Heart Condition	37.2	$p \leq 0.01$
Cancer	14.1	NS
Arthritis	61.4	NS
Overweight and Obesity ²	73.1	$p \leq 0.001$
Falls (in the past year)	34.8	$p \leq 0.001$
¹ Depression was defined as a score of ≥ 5 on the PHQ-9		
² Overweight and Obesity refers to a BMI of ≥ 25		
NS = Association was not found to be statistically significant		

- Individuals living with diabetes are often challenged with impaired vision, contributing to the likelihood of falls, both of which are serious problems among the elderly. About 35% of respondents with diabetes indicated they fell within the past year.

Diabetes and Vision

Diabetes increases the risk of a number of eye diseases, including diabetic retinopathy, cataracts, and glaucoma. Because of the high risk of eye disease, it is essential that older adults with diabetes have an annual eye examination by an ophthalmologist or optometrist.

- Older adults with diabetes were nearly 1.5 times more likely to report having difficulty seeing even when wearing glasses compared with those without diabetes.
- While the American Diabetes Association and the National Eye Institute recommend that diabetics over age 30 have a dilated eye exam annually, results indicate that overall about 20% of diabetics did not have a comprehensive eye examination in the past year. Figure 2 illustrates the differences in eye examination rates by race/ethnicity.
- About 23% of diabetic older adults also indicated a diagnosis of diabetic retinopathy, a common complication that affects the tiny blood vessels in the retina. The risk of diabetic retinopathy may be reduced by controlling blood glucose and blood pressure levels.
- About 59% of diabetics reported that they had been diagnosed with cataracts, and about 21% indicated being diagnosed with glaucoma.



Technical Notes

This Issue Brief is based on the Health Indicators Project (HIP) baseline health status assessment survey of a stratified representative sample of 1,870 older adults attending 56 randomly selected NYC senior centers (10 in the Bronx, 16 in Brooklyn, 13 in Manhattan, 14 in Queens, and 3 on Staten Island) diverse in race/ethnicity and size. Face-to-face interviews were conducted in 2008 using a comprehensive structured survey instrument consisting of standardized questionnaire items from validated national and local surveys such as the Behavioral Risk Factor Surveillance System Survey (BRFSS), and extended with guidance from other sources, such as the WHO-NYC Age-Friendly Cities Project.

Depression was measured using the nine item Patient Health Questionnaire (PHQ)-9, a powerful and widely-used standardized tool used to diagnose and grade depression severity. Body mass index (BMI) was calculated as weight (in kilograms) divided by height (in meters) squared, with overweight defined as a BMI of between 25.0 and 29.9, and obese as a BMI of greater than or equal to 30. To permit for meaningful statistical comparisons with large enough groups, all statistical associations with regard to race/ethnicity were limited to four major subgroups: Asian, Black, Latino, or White.

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