

# **The Need to Breathe: Investigating the Burden of Adult Asthma in East Harlem** (research paper excerpt: by Jasmine Burton)

## **New York City Department of Health and Mental Hygiene: Adult Asthma**

The New York City Department of Health and Mental Hygiene (NYCDOHMH) leadership seeks to expand their asthma programming to reach adults with asthma. Because of limited funding for adult asthma programs at this time, the NYCDOHMH needs to determine which neighborhood in NYC to invest resources for adult asthma treatment and programming. Additionally, information is being sought to determine which subset of the NYC adult demographic to target. Reviewing the literature of published adult asthma studies as well as analyzing the NYCDOHMH adult asthma prevalence data are two viable methods to assist the NYCDOHMH with these programming decisions. Adult asthma studies typically focus on young adults, between the ages of 18 and 24, middle-aged adults between the ages of 25 and 65, or elderly adults above the age of 65.

### **Asthma: The Community and Global Burden**

From 2002 until 2011, the New York City Department of Health and Mental Hygiene (NYCDOHMH) surveyed the asthma prevalence in varying adult age demographics in the South Bronx, East and Central Harlem, and North and Central Brooklyn compared to other neighborhoods across the city. The severity of asthma in East and Central Harlem in comparison to the other neighborhoods across New York would help determine the need for NYCDOHMH to invest in prevention and treatment programming for adult asthma. The figures in the appendix depict the trends of asthma over the past 10 years within different age demographics and neighborhoods of New York. In 2005, there was no adult asthma data recorded by the NYCDOHMH.

The prevalence of adult asthma in young adults between 18-24 years in East and Central Harlem was average compared to the other neighborhoods in NYC as depicted in figure 1; yet, in 2009, East and Central Harlem's prevalence of adult asthma skyrocketed to approximately 42%. However, in 2010, the prevalence plummeted to 0%. This drastic drop could represent inconsistencies in the data collected for this age group, such as an insufficient number of survey participants, which skewed the data in 2009 and 2010. Additionally, the East Harlem Asthma Center of Excellence (EHACE) walk-in facility opened in 2010. While EHACE has provided asthma treatment and prevention programming to 1200 children and 465 families, asthma awareness in the East Harlem community began to more effectively spread as parents, teachers and health care providers began to promote the importance of individual asthma control (Serrano, 2010). Although more adults learned about asthma and potential prevention and treatment plans, the programming was not directly targeted to them or to their most effective methods for learning and retaining information.

Similar to the 18-24 year old data, the 24-44 year olds in East and Central Harlem had an average percentage of asthma relative to the other low-income neighborhoods with the exception of the possibly skewed data from 2009 and 2010, as depicted in figure 2. The percentage of adults with asthma is less than North Brooklyn, Central Brooklyn and South Bronx.

The percentage of adults with asthma between the ages of 45-64 in East and Central Harlem is less than that of North and Central Brooklyn and the South Bronx, as shown in figure 3. Figure 4 depicts the prevalence of asthma in adults 65 years and older. After 2005, North and Central Brooklyn have the highest prevalence of asthma of all the elderly populations surveyed across NYC except in 2009 when East Harlem has

the highest prevalence. Overall, the percentage of adults with asthma in all of these impoverished neighborhoods has been approximately 10% higher than the percentage of adults with asthma in the more affluent communities of NYC. The prevalence of asthma in East and Central Harlem over the past 10 years has been approximately 20-25%. The NYCDOHMH could use these analyses to create an adult asthma program targeted to 18-24 year olds or 65+ year olds in Harlem or the South Bronx to improve these adults' standard of living and to decrease the community health care costs and ED usage.

## **Discussion**

Based on the aforementioned studies and statistics, the NYCDOHMH should focus their adult asthma programming efforts on young adults or elderly adults in Harlem or the South Bronx. Since the EHACE already successfully exists, the most practical option for the pilot program would be to develop it in East Harlem and target only young adults. This plan would best utilize the extremely sparse funding currently allocated to the adult asthma intervention program. Perhaps the demographic could further be refined to specifically target young adult women between 18 and 24 in East Harlem. Subsequently, after years of successfully decreasing the prevalence of asthma in the young adult population, the programming could expand to target elderly adults. Eventually, the programming could spread to the South Bronx, North and Central Brooklyn, and other impoverished NYC neighborhoods. Due to the anticipated exponential increase in asthma by 2020, thorough studies and literature reviews should be done in every major city regarding their specific prevalence of asthma in their varying adult demographics.

While this understanding of adult asthma seems holistic, there are numerous gaps in these conclusions. One of the main perspectives that the NYCDOHMH should obtain before implementing the new programming is health care provider feedback. Currently, the NYCDOHMH is developing a survey to obtain feedback from approximately 30 health care providers about the needs of their adult asthma patients, common co-morbid conditions, the percentages of adult female asthmatics compared to male, the effectiveness of asthma action plans, and whether or not they use spirometry, a pulmonary function test. Without obtaining and synthesizing the health care provider survey results, the aforementioned conclusions about the demographic and location of the adult asthma intervention is not completely informed. The provider surveys will give the Department of Health a more complete understanding of adult asthma in the NYC community from the perspective of all of the stakeholders.

### **Call to Action**

In addition to obtaining healthcare provider survey data, there are numerous directions that the NYCDOHMH could move which would decrease the negative effects of adult asthma. Establishing partnerships with community health organization, non-profits, and faith based organizations in an effort to increase awareness about the severity of adult asthma in the NYC area would be a community level future goal. Specifically, a partnership with the non-profit, Not One More Life, Inc, whose mission is “to provide asthma education to help reduce the negative impact of the disease among African Americans and Latinos” would give the NYCDOHMH access to useful resources and health care professionals (Not One More Life). In terms of policy, the Department of Health should continue its efforts in promoting green cleaning, pest control, trash collection, and mold removal services in the impoverished neighborhoods.

Lastly, there are opportunities for design solutions that could potentially propel the adult asthma control and prevention programs. The NYCDOHMH could distribute uniquely designed and aesthetic albuterol inhalers which encourage young adult women to celebrate being their own asthma care takers. The inhaler could be carried on key rings similar the pepper spray that was rebranded to be feminine and fashionable. The albuterol outercase could also act as a source for coupons, encouraging women who might not care about aesthetics to carry their inhalers for the sake of discounted foods with markets or stores that have partnered with EHACE in promoting health in the community. Distributing free abuterol inhalers would also be appealing to asthmatic adults because they are aware of the high costs of inhalers. In addition to these rebranded albuterol inhalers, young adults could benefit from telemedicine or eHealth coaches that could be available via smart phone applications or online websites to help adults control their asthma without relying on the ED. Providers could prerecord answers to frequently asked questions or potentially be available for a live virtual chat with their patients. By partnering with local librarians or internet cafes, healthcare providers could make these medical sites readily available to the public. Ultimately, adult asthma is a controllable disease that many East Harlem residents and impoverished Americans struggle to recognize and self-manage. The NYCDOHMH could be an example to all city health deparments in specifically targetting interventions at adult asthma and relieving the community of the asthma burden.

## Appendix

Workers at Risk	Agents
Animal Handlers	Animal urine, dander
Bakers	Enzymes, flour/grain dust/mites
Carpenters	Acrylate, amines, diisocyanates, epoxy resins, wood dusts
Cleaners/Janitors	Cleaning materials, dusts, molds
Daycare providers	Cleaning materials, dusts, latex (natural), molds
Electronic workers	Amines, colophony, metals, soldering flux
Farmers	Animal urine, dander, grain dusts, mites, insects
Hairdressers	Henna, persulfate
Health care workers	Formaldehyde, glutaraldehyde, latex, methyldopa, penicillins, psyllium
Laboratory workers	Animal urine, dander, feathers, enzymes, formaldehyde, glutaraldehyde, insects, latex
Machinists/Tool setters	Metal working fluids, oil mists
Office workers	Cleaning materials, dusts, molds
Pharmaceutical workers	Cephalosporins, pancreatin, papain, pepsin, psyllium
Photographers	Complex amines
Plastic/Rubber workers	Anhydrides, diisocyanates
Sawmill workers	Wood dusts
Seafood processors	Crabs, prawns
Teachers	Cleaning materials, dusts, molds
Textile workers	Dyes, gums
Welders	Welding fumes

Table 1 (New York State Department of Health, 2008)

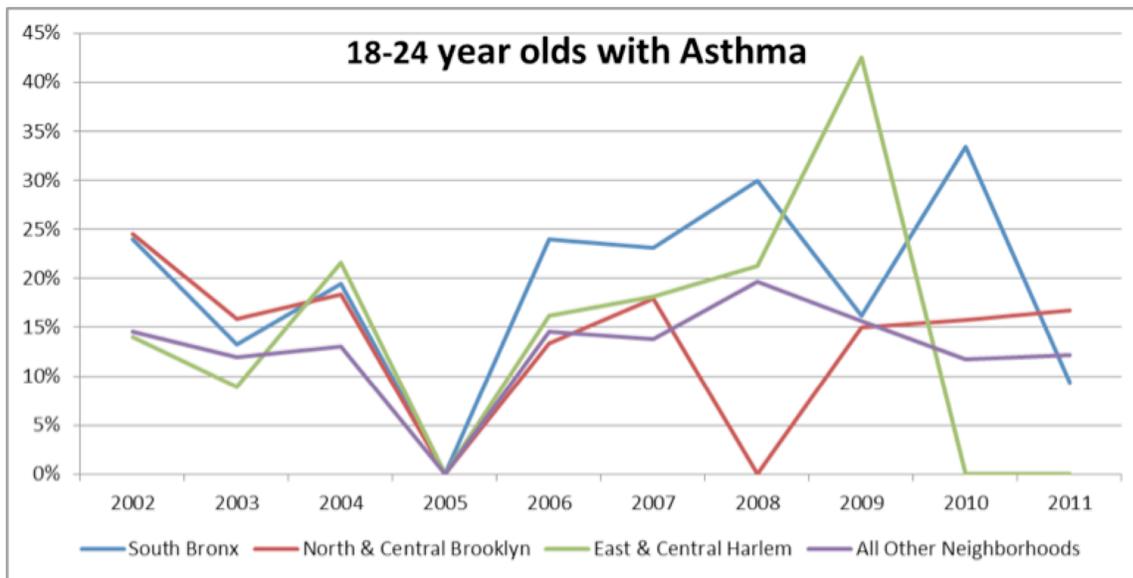


Figure 1 (New York City Department of Health and Mental Hygiene)

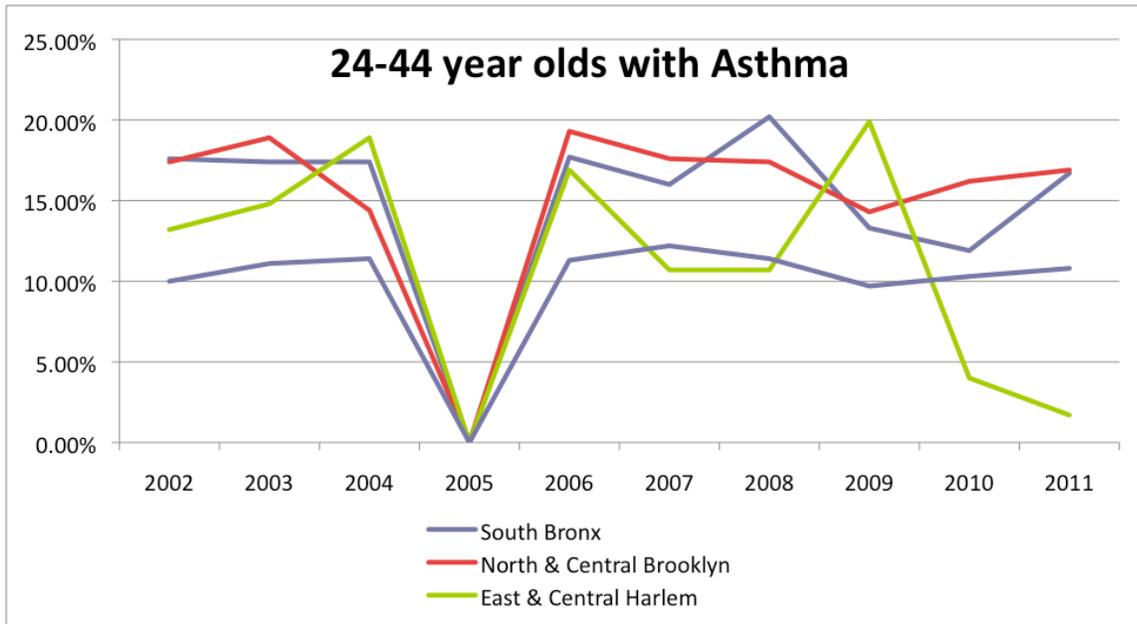


Figure 2 (New York City Department of Health and Mental Hygiene)

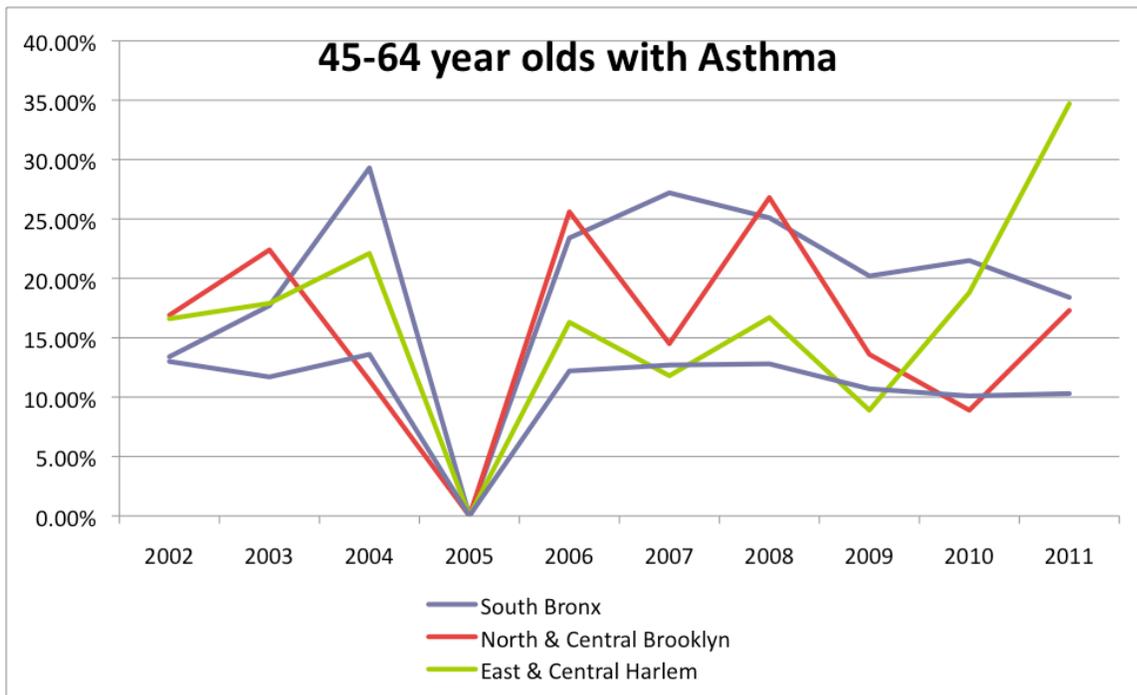


Figure 3 (New York City Department of Health and Mental Hygiene)

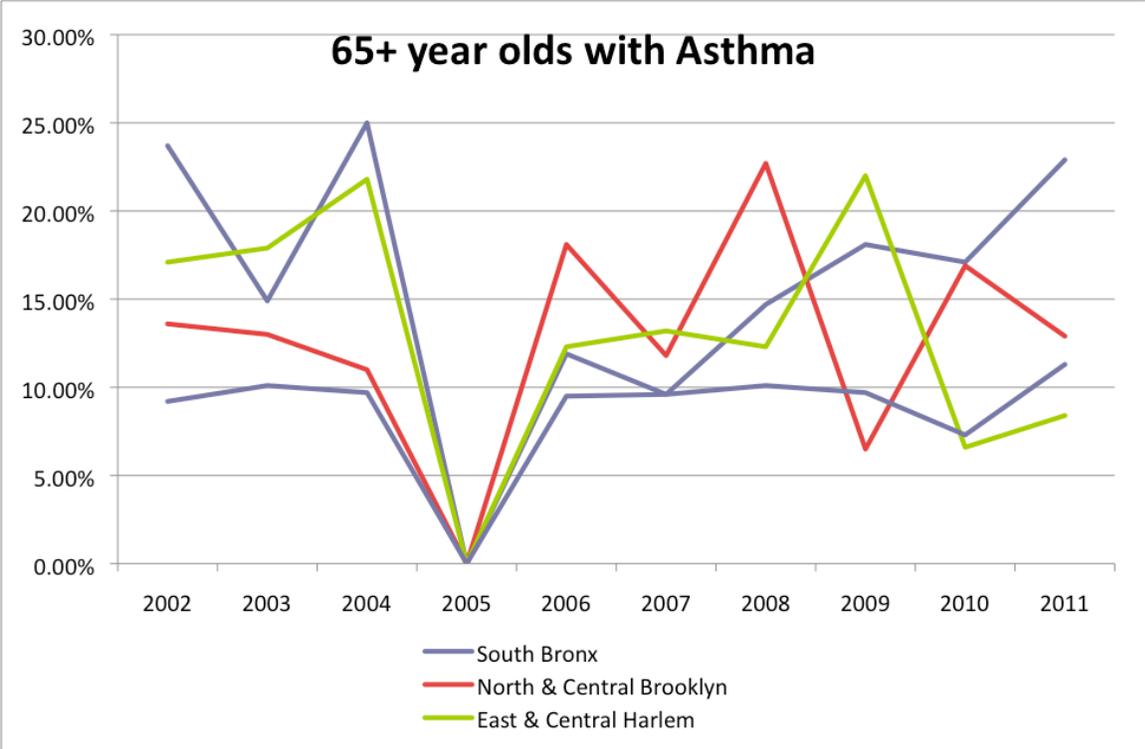


Figure 4 (New York City Department of Health and Mental Hygiene)

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