



# East Harlem Neighborhood Plan Health Impact Assessment

## Connecting Housing Affordability and Health

Lindsey Realmuto, MPH | Shauneequa Owusu, MS | Kimberly Libman, PhD, MPH



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# FOREWORD

The New York Academy of Medicine’s Health Impact Assessment—the first to be conducted for the East Harlem Community and only the second in New York City’s history—was created to inform the future implementation of the housing component of the East Harlem Neighborhood Plan.

East Harlem has lost approximately 1,854 units of affordable housing since 2011 and is estimated to lose 6,817 units over the next 10 years. A failure to develop more affordable housing will continue to lead to evictions, displacement, decreased housing affordability and potentially poor health outcomes. This report offers options to avoid these risks.

Residents and policy makers must realize that housing policy is also health policy. Health Impact Assessments can be a critical tool for understanding the negative and potentially positive effects policies from many sectors such as housing, transportation, urban planning and business can have on a community’s health.

**Jo Ivey Boufford, MD**  
**President, The New York Academy of Medicine**

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# INTRODUCTION

Decisions made about community development are directly related to the health and well-being of community residents.<sup>1</sup> This growing awareness has led developers, planners, and health professionals to embrace a more holistic approach to building neighborhoods. This approach considers the multiple factors that impact health and integrate them into a broader neighborhood strategy that combines real estate investments with social and economic supports for residents, and builds leadership and local capacity through community engagement. Such strategies for revitalizing neighborhoods require partnerships across sectors to simultaneously address many factors that impact health (including transit-oriented development, healthy housing, park renovation and community safety).

*This report aims to inform the implementation of the East Harlem Neighborhood Plan by providing information about the potential health impact of the plan's affordable housing and zoning recommendations.*

There is increasing recognition that economic development is an essential ingredient for local action on the broader determinants of health.<sup>2</sup> Land use policies can reduce residential segregation by promoting mixed-income communities and mixed-use development. These policies are among the most promising strategies for advancing health, equity and sustainability in cities.<sup>3</sup>

A Health Impact Assessment (HIA) is a structured process to assess the potential health impacts of a policy, plan, or project and make recommendations on how to mitigate negative health impacts and increase health benefits. As a practice, HIAs aim to inform decision-makers and the public when policies or plans with significant potential to impact health are being considered.

The New York Academy of Medicine (the Academy) conducted this rapid HIA to provide an examination of the potential health effects of implementing the New York City (NYC) government's new mandatory inclusionary housing policy in East Harlem, as described in the East Harlem Neighborhood Plan (EHNP). This HIA is only the second ever conducted in New York City.<sup>4</sup> It is intended to help inform future decisions made by Manhattan Community Board 11, the East Harlem Neighborhood Plan Steering Committee (Steering Committee), and the City Council as specific proposals for zoning changes and new development emerge.

Established in 1847, The New York Academy of Medicine continues to address the health challenges facing New York City and the world's rapidly growing urban populations. We accomplish this through our Institute for Urban Health, home of interdisciplinary research, evaluation, policy and program initiatives. Our current priorities are healthy aging, disease prevention, and eliminating health disparities.

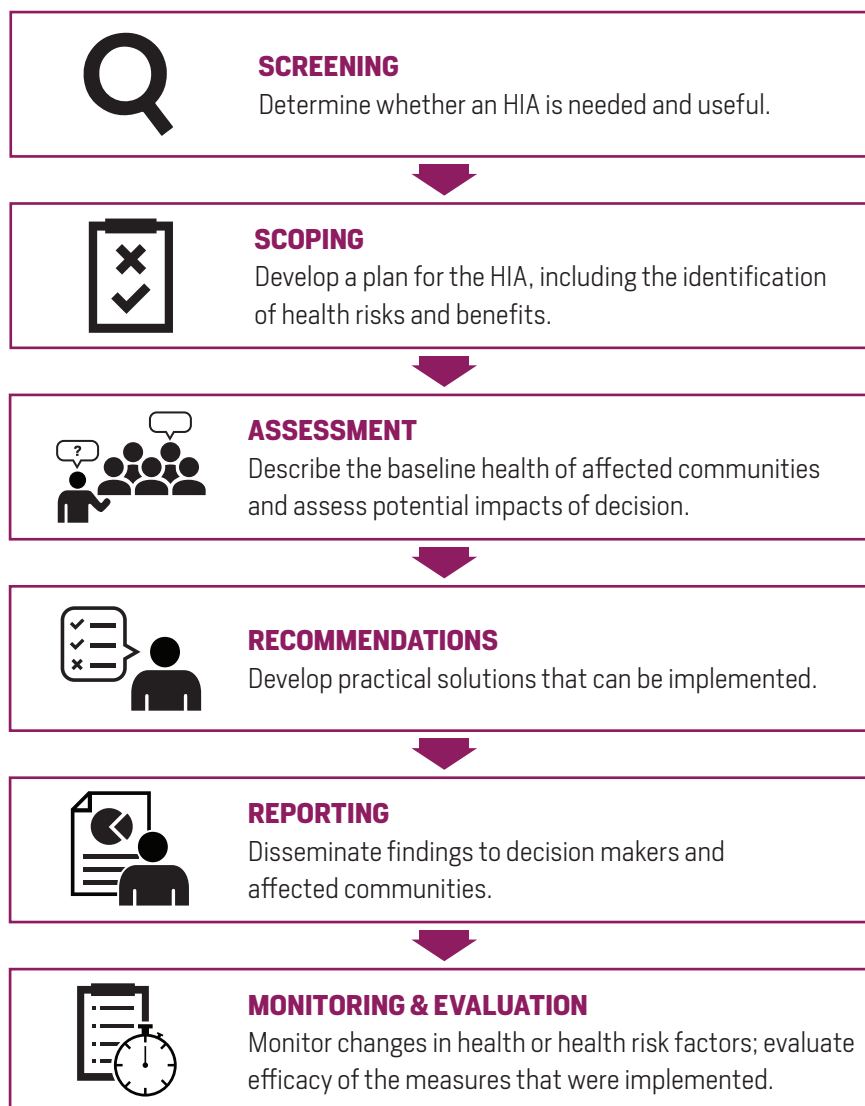
This HIA leverages the Academy's capacity to act as a neutral convener to bring the latest evidence on health and planning to inform the implementation of the EHNP.

This report aims to elevate health and equity within the ongoing debate around mandatory inclusionary housing in New York City and affordable housing in New York City (NYC). Promoting health in East Harlem through the neighborhood planning process is another way this HIA attempts to promote health equity. Ultimately, the greatest opportunity to improve health and equity lies in the chance to improve living conditions for this neighborhood's poorest residents.

# HEALTH IMPACT ASSESSMENT

An HIA is a structured process to assess the potential health impacts of a policy, plan, or project and make recommendations on how to lessen negative health impacts and increase health benefits. HIAs look at health from a broad perspective that considers social, economic and environmental influences and brings together key community members and stakeholders to help build consensus and represent the affected community. The standard steps of HIA are illustrated in Figure 1. The methods used in this HIA applied—to the best of our abilities—the *Minimum Elements and Practice Standards for Health Impact Assessments*<sup>5</sup> used in the United States, and information from the *Health Equity Impact Assessment Workbook*<sup>6</sup> that guides HIA practice in Canada, as well as international scholarly and grey literature.<sup>7-9</sup>

**FIGURE 1: HIA STEPS**



Guidelines for HIAs were first developed in Europe in the early 1990s and therefore have a longer and more robust history of practice in Europe, particularly in Western European countries, although they have also been used extensively in Australia, Canada and New Zealand.<sup>10</sup> Within the United States, HIAs were first used in San Francisco, CA, in 1999 to provide information on the health impacts of a policy to increase the minimum wage. Since then, three states in the US—Washington, Massachusetts and Vermont—have passed legislation establishing a formal process for the incorporation of health considerations into decision-making.<sup>11</sup>

The Massachusetts Healthy Transportation Compact in Chapter 25 of the Act of 2009, for example, requires the use of HIAs to assess the effect of transportation projects on public health and vulnerable populations.<sup>12</sup> According to the Health Impact Project, a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trusts that promotes the use of HIAs in decision making, as of 2015 more than 400 HIAs were completed or in process in the US.<sup>13</sup>

One of the core values of HIAs is equity and HIA practitioners, in both the U.S. and abroad, have strived to advance equity in decision-making processes through the use of HIAs.<sup>14</sup> Health equity is achieved when all people have full and equal access to opportunities to lead healthy lives. Health disparities, or differences in the health status of social groups, are largely avoidable. These gaps in health outcomes result from differences in the social, economic, and environmental conditions that shape people's lives. The EHNP presents an opportunity to improve health equity through changes to the built environment and the social determinants of health.

# POLICY CONTEXT

In May 2014, New York City Mayor Bill de Blasio announced *Housing New York: A Five-Borough, Ten-Year Plan*, a \$41 billion plan to build or preserve 200,000 affordable units across the city. A cornerstone of the plan is to use mandatory inclusionary housing, with a range of affordability targets, to increase production of new affordable housing units in areas where developers are eager to invest. Mandatory inclusionary housing is a zoning tool that requires developers to include affordable housing in areas that are rezoned to allow for more housing development.<sup>15</sup> Beyond the goals of increasing and preserving affordable housing, Mayor de Blasio's housing plan aims to:

- Plan for growth and increased density using a place-based approach guided by early and regular community input.
- Estimate and communicate the co-benefits of increasing neighborhood economic diversity. This includes mandatory inclusionary housing and strategic preservation of existing affordable units.
- Leverage new investments to meet neighborhood infrastructure and service needs.
- Estimate and communicate the co-benefits of potential strategies for integrating workforce development with investment in new affordable housing.
- Estimate and communicate the co-benefits of alleviating the rent burden on low- and middle-income households.
- Engage NYCHA residents and the surrounding communities in meaningful and respectful conversation about local needs and opportunities for increasing affordable housing.



As of March 22, 2016, the New York City Council approved the Mandatory Inclusionary Housing (MIH) amendment mandating new affordable units in new housing capacity approved through land use actions. In essence, the MIH amendment means that when a developer is allowed to develop larger, more dense buildings than the zoning allows, or if a neighborhood rezoning plan creates greater density zoning in that neighborhood, new buildings and developments are required to include a portion of affordable units. Previously, the inclusion of affordable units in NYC was voluntary. There are several options the City Council and New York City Planning Department (DCP) can choose from when new housing capacity is approved in a neighborhood.

1. 25% affordable housing set aside at an average of 60% AMI (area median income), with 10% of units required at 40% AMI. 60% AMI equates to an annual income of \$47,000/year for a family of three, while 40% AMI equates to \$31,000/year for a family of a three.
2. 30% affordable housing set aside at an average of 80% AMI (\$62,000/year for a family of three).

With the adopted amendment, the City Council may also add one or both of two other options:

3. 20% affordable units at 40% AMI (\$31,000/year for a family of three).
4. 30% affordable units at 115% AMI (\$89,000/year for a family of three), with 5% required at 70% AMI (\$54,000/year for a family of three) and 5% required at 90% AMI (\$70,000/year for a family of three).<sup>16</sup>

An important component of the adopted MIH amendment is that the affordable housing will be permanent since there is no expiration of the affordability requirements on the apartments.

## LAND-USE GOVERNANCE IN NEW YORK CITY

The first zoning ordinance in NYC passed in 1916 and stipulated land use types and density limits. The city's initial zoning ordinance did not include mandates for permitting all projects, allowing a great deal of development to occur without public review. This practice was called "as-of-right planning." In 1963, the NYC Charter was amended to establish Community Boards representing 59 Community Districts. Community Boards are the most local unit of municipal government in NYC, and function as the formal interface between community members, elected official and developers in the rezoning process. Borough Presidents appoint Community Board Members. Community Boards were initially conceived as a mechanism for local coordination of city services. In 1975, the City Charter was amended, creating the Uniform Land Use Review Process (ULURP), and further tasked Community Boards with reviewing all local land use applications. These include reviews of zoning changes, special permits (i.e. liquor licenses), acquisition and disposition of city property.<sup>17</sup> Their votes on land use change proposals are nonbinding, serving to advise their local council representative. ULURP requires applications for land use changes to undergo six phases of review within seven months:

1. Department of City Planning certification
2. Community Board review and approval
3. Borough President review and approval
4. Planning Commission review and approval
5. City Council review and approval
6. Mayoral review and approval.

ULURP also determines if the land use change under review will require a full environmental impact review. In NYC, Environmental Impact Statements (EIS) must follow State and City Environmental Quality Review (SEQR and CEQR) guidelines, neither of which addresses social determinants of health. EISs have limited capacity to influence binding mitigation of identified harms. Their purpose is limited to disclosure that informs the review process.

# THE EAST HARLEM NEIGHBORHOOD PLAN & STEERING COMMITTEE

East Harlem is one of 15 neighborhoods selected for rezoning under *Housing New York*. In response to the Mayor’s plan, Speaker Melissa Mark–Viverito, who represents East Harlem on the City Council, created the EHNP Steering Committee. The Steering Committee is a diverse group of 21 local stakeholders empowered to craft a plan that identifies broad community development goals and specific needs, all informed through rich community engagement.<sup>18</sup> The Steering Committee led several activities to inform the final recommendations for DCP to guide the rezoning plan for the neighborhood. These included asset mapping, a series of community visioning sessions, and expert consultations. As one of the first neighborhoods to begin a community–driven planning process, the process used to create the EHNP has the potential to inform the community planning process in other areas across the City.

The EHNP aimed to:

- Collect and organize community concerns and ideas in order to influence city agencies’ planning and rezoning processes
- Create a human capital development plan that focuses on the betterment of East Harlem residents
- Develop an approach to preserving and expanding East Harlem’s affordable housing, including public housing
- Support and preserve East Harlem’s cultural identity
- Develop implementable recommendations that reflect community input<sup>18</sup>

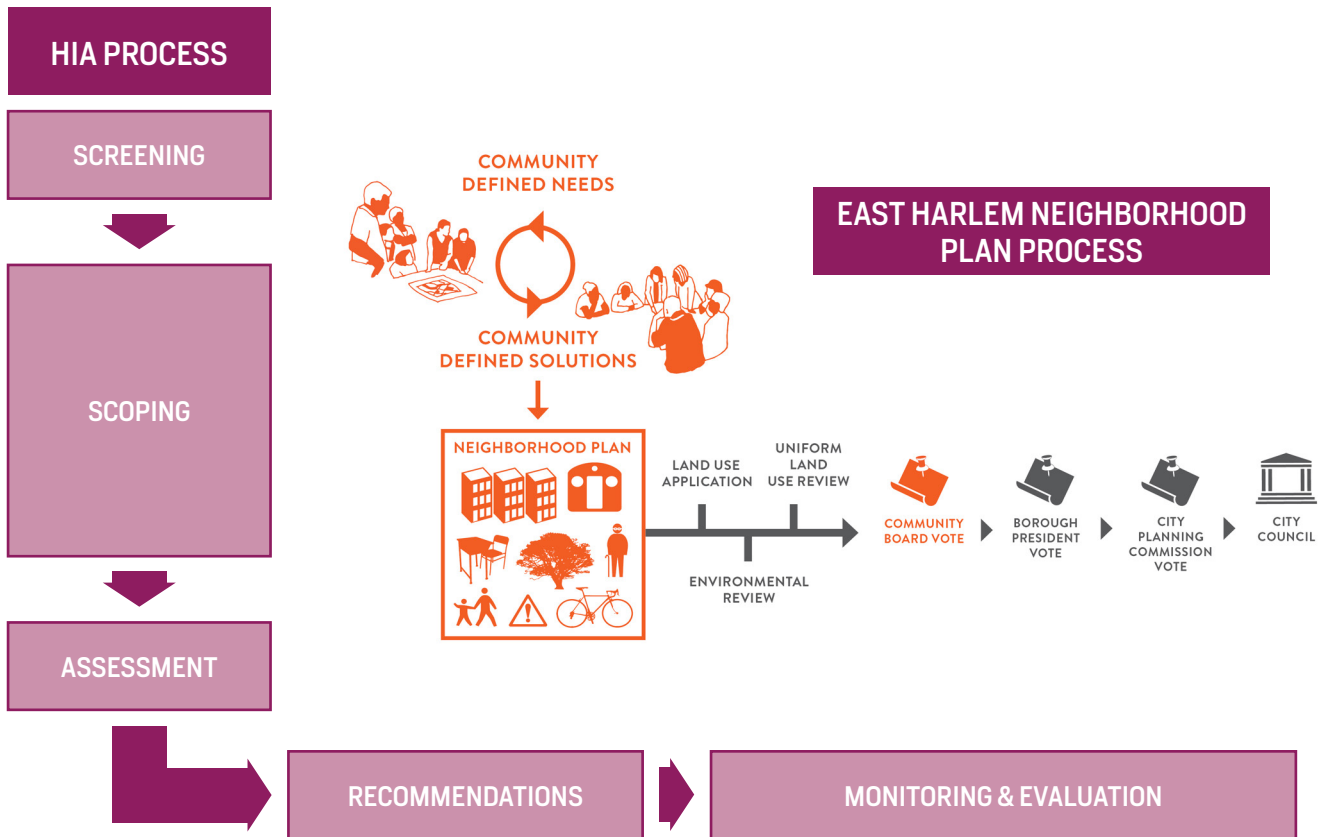
In addition to serving as the lead on health and aging activities for the Steering Committee, the Academy also conducted an HIA on the recommendations that were produced by the EHNP Steering Committee. A more in–depth explanation of the HIA process and how these two processes were done in tandem is provided below.

In keeping with HIA's core value of equity, our approach emphasizes health equity in its focus on East Harlem, a neighborhood rooted in a history of public health and environmental justice activism.<sup>19</sup> This report foregrounds health equity by contextualizing data about health and living conditions in East Harlem with Manhattan and citywide data. Based on the best evidence available, including community inputs, this HIA's recommendations suggest ways to maximize the neighborhood-level health impacts of implementing the housing affordability and zoning EHNP recommendations, potentially bringing the community's health status closer to parity with Manhattan and NYC.



# APPLICATION OF THE HIA TO THE EAST HARLEM NEIGHBORHOOD PLAN

FIGURE 2: PARALLEL INTEGRATION OF HIA PROCESS INTO THE EAST HARLEM NEIGHBORHOOD PLAN\*



The fast-paced nature of the EHNP presented challenges in doing a more traditional HIA, which can sometimes take up to 18 months and involves considerable stakeholder engagement within every step of the HIA process. The timing of the EHNP and the City’s planned ULURP for the rezoning of East Harlem, led the HIA team to do a rapid HIA. The rapid HIAs conducted in Los Angeles, CA<sup>20</sup> and St. Louis, MO<sup>21</sup> provided models for integrating meaningful community participation into the EHNP and HIA process.

For this HIA, we utilized the community engagement and visioning sessions that occurred as part of the EHNP to help define the health concerns of interest and the focus of the HIA. Figure 2 (below) illustrates how the HIA was incorporated into the existing EHNP framework.

\*Hester Street Collaborative graphic of the East Harlem Neighborhood Plan Process.

Within each step of the process, the HIA team leveraged multiple inputs from the EHNP development process:

- The Academy's involvement with the East Harlem Steering Committee,
- Attendance and notes from community visioning sessions, and
- Publicly available data from City agencies and other institutions, such as the NYC Department of Health and Mental Hygiene and the NYU Furman Center.

Appendix A describes the data and methods applied at each step of this HIA process.

# SCREENING

Screening is the first step in the HIA process; during this step it is determined whether an HIA is an appropriate course of action and whether it would add value to the decision-making process. Some of the factors considered at this point in the process are:

- The potential for the decision or project to result in substantial effects on public health;
- The potential for unequally distributed impacts;
- The potential for impacts on populations with poor health;
- The potential for the HIA to add new information that would be useful for decision-makers;
- The availability of data, methods, resources, and technical capacity to conduct analysis.

As a first step, an internal group within the Academy reviewed and completed a screening worksheet developed by Human Impact Partners, a nonprofit research, advocacy, and capacity building organization that uses HIAs as one of their main tools to evaluate health impacts. From the results of the screening tool, it was determined that the proposed rezoning process and subsequent development would most likely have an impact on the health of the East Harlem community and conducting an HIA could provide an important health perspective to future conversations regarding rezoning and revitalization. At this point, the HIA team contacted Manhattan Community Board 11 and the City Council Speaker's office about their interest in integrating this HIA into the EHNP process.

# SCOPING

During the scoping step of an HIA, the research team determines which health impacts to evaluate, methods for analysis, and a work plan. This step is usually completed early in the course of an HIA. The scoping phase for this HIA, however, was unusually long, relative to the duration of the entire study, due to the nature of the EHNP community engagement process. Between May 2015 and January 2016, six topic-specific community visioning workshops were conducted by the ENHP Steering Committee, in addition to a public event to initiate the planning process and a final community forum where residents and stakeholders responded to and prioritized EHNP recommendations. Between 83–175 participants attended each of the six visioning workshops. The larger community forums each had 350–400 attendees. Each visioning workshop was organized using participatory design methods to elicit information about the needs and concerns facing the East Harlem community. Participants gathered in groups of 8–10 and engaged in a series of facilitated activities and discussions. Facilitators took notes in each group and summaries were developed for each session by aggregating and thematically organizing those notes. Additionally, survey data, developed by the EHNP Steering Committee for each community visioning session, were also collected at these sessions to supplement the qualitative data. The Academy’s HIA team was present at each of the community visioning workshops and larger community events. Written notes from each of the sessions were also available on the EHNP’s website.

The main themes from the Community Visioning sessions were:

- East Harlem residents recognize there are necessary tradeoffs to creating more housing at deep and varied levels of affordability.
- In addition to affordable housing, participants hoped increasing residential density would create jobs for local residents.
- Residents and small business owners are concerned the creation of new market rate housing will lead to gentrification and displacement.
- Residents believe some affordable housing should be set aside for seniors and people who are homeless.
- Perceptions of violence and dangerous street traffic have led people to stay indoors and limit their physical activity and use of neighborhood amenities like parks.



The health impacts evaluated in this HIA were selected from the main themes above and the final recommendations approved by the EHNP Steering Committee and voted on by the community at the January 27, 2016 community forum (A full list of the EHNP objectives and recommendations are available online at <http://www.eastharlemplan.nyc/>). Information from these sessions was thematically analyzed to identify the health issues that were of greatest concern to community members.

The priority health concerns in East Harlem were identified as:

1. Hypertension
2. Diabetes
3. Asthma
4. Infant Mortality
5. Mental health
6. Violence

This list of health concerns was culled from the results of the Health and Seniors Community Visioning workshop, information from the Health and Seniors subgroup made up of representatives from community-based organizations and the East Harlem District Public Health Office (DPHO), and the available health data for East Harlem (see Health Status section on page 16). Appendix B contains full descriptions of these priority health concerns.

## Results of Scoping

Based on the scoping process, the recommendations proposed by the EHNP Steering Committee, and the East Harlem Manhattan Community Board 11's 2017 Statement of Needs Report,<sup>22</sup> it was decided to focus the HIA on how the Affordable Housing Development and Zoning and Land Use Sub Group recommendations in the EHNP<sup>18</sup> would affect the most pressing health conditions and concerns in the community.

# ASSESSMENT OF HEALTH IMPACTS

Once the focus issue for the HIA was identified, the next step was to understand the most probable health impacts of these EHNP affordable housing and zoning recommendations. First, we collected baseline information on East Harlem and then reviewed literature across multiple academic fields to address how the proposed recommendations connect with the most pressing health challenges in the community. This HIA aims to address this overarching question: **How will the zoning and affordable housing preservation strategies recommended for East Harlem by the EHNP Steering Committee impact the health of neighborhood residents?**

## The East Harlem Community

East Harlem is a vibrant, culturally diverse community with a rich social history. Located in the northeastern corner of Manhattan, its geographic boundaries are 96th to 142nd streets between Fifth Avenue and the East River. East Harlem's history tells a story of an immigrant community that served as a home to various ethnic groups including people of Dutch, German, Italian, Irish, African American, Puerto Rican and more recently Mexican and Chinese heritage.

In the late 19th century, improvements to transportation made East Harlem an attractive area in which to live and work. By 1900 East Harlem became an active commercial and residential neighborhood and was considered one of the most densely packed neighborhoods in the world second only to the Lower East Side.<sup>23</sup> These rapid population and development changes provided character, diversity and density that shaped the foundation of the neighborhood.

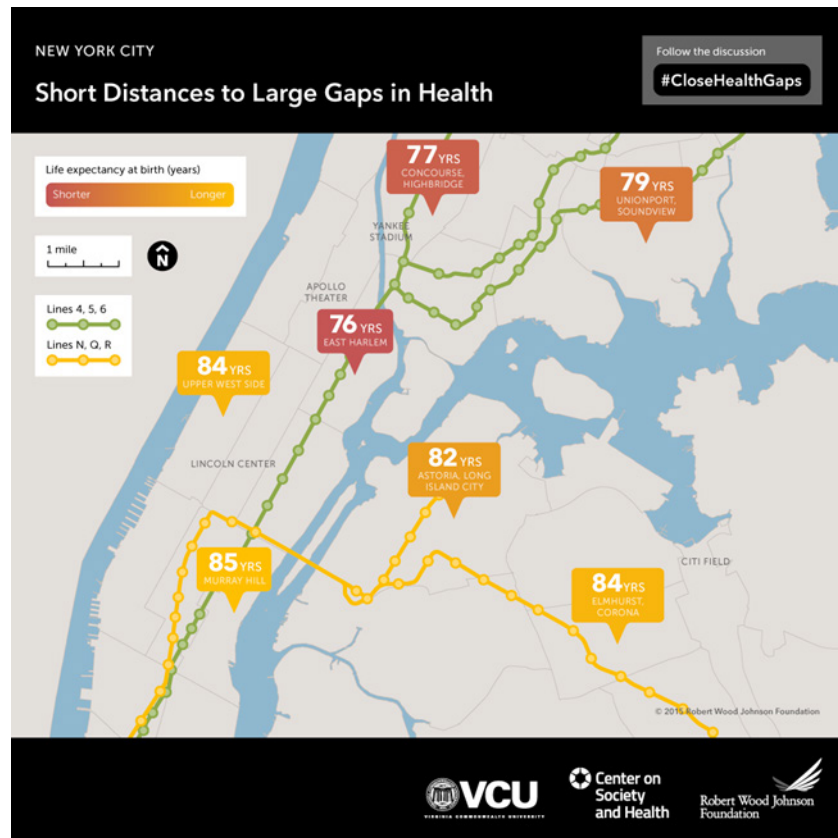
Starting in 1898, when Puerto Rico became a US territory, Puerto Ricans began migrating to New York. Known as the Great Migration, the Puerto Rican population swelled during and after World War II. As Puerto Rican cultural tradition became embedded in the community, East Harlem became known as Spanish Harlem/ El Barrio. By 1950, the Puerto Rican population reached 210,000 with a density of 142,000 people per square mile in comparison to 89,091 people per square mile in Manhattan.<sup>24</sup> During the same time frame, East Harlem began experiencing significant urban decline.<sup>25</sup> Large sections of the neighborhood were leveled for urban renewal projects, including rapid development of public housing, supported by subsidies to create low-income public housing provided through the Federal Housing Act. Areas chosen for public housing were located in neighborhoods characterized by overcrowded tenements, poor building conditions, and populated with low-income residents. By the 1960s, approximately one third of the East Harlem population lived in public housing and by 1965 the last major public housing complex was built.<sup>26</sup>

Presently, East Harlem contains the highest geographical concentration of low-income public housing projects in the United States, and it continues to be impacted by the disinvestment that occurred decades earlier. In recent years, there have been a variety of community development and rezoning efforts to enhance the vitality of East Harlem. New interest has led to an increase in market rate housing construction, including luxury condos and co-ops.

## Health Status

The latest Community Health Profile of East Harlem from the Department of Health and Mental Hygiene (DOHMH) highlights the existing health inequities and disproportionate burden of disease faced by East Harlem residents. For example, the life expectancy of East Harlem residents is 76 years, compared to 85 years in Murray Hill, a short train ride south of East Harlem in Manhattan (see Figure 3). The following tables summarize statistics on the economic and demographic conditions of East Harlem and a summary of select health conditions, with comparisons to Manhattan and NYC overall.

FIGURE 3: LIFE EXPECTANCY MAP OF NEW YORK<sup>27</sup>



As shown in Table 1, East Harlem has higher burdens of disease across all measures compared to Manhattan and NYC. Only 70% of East Harlem residents self-report their health as “excellent,” “very good” or “good,” compared to 83% of Manhattan residents or 78% of NYC residents. East Harlem ranks within the top five neighborhoods for the highest rates of adult obesity, highest alcohol-related and drug-related hospitalizations, premature mortality rate, avoidable asthma hospitalizations, and has the highest rate of psychiatric hospitalizations in the city. The East Harlem Community Health Profile also indicates that East Harlem residents have higher rates of smoking, are more likely to consume sugary drinks, and are less likely to eat fruits and vegetables or engage in regular physical activity compared to Manhattan and NYC overall. For a more complete understanding of the health conditions in East Harlem, see DOHMH’s 2015 Community Health Profile of East Harlem.<sup>28</sup>



**TABLE 1: SUMMARY OF HEALTH CONDITIONS IN EAST HARLEM COMPARED TO MANHATTAN & NEW YORK CITY<sup>28, 29</sup>**

		<b>EAST HARLEM</b>	<b>MANHATTAN</b>	<b>NEW YORK CITY</b>
<b>Infant Mortality</b>	Infant mortality rate (per 1,000 live births)	6.0	3.4	4.7
	Preterm births (% of all live births)	10.0	8.1	9.0
<b>Asthma</b>	Child asthma hospitalizations (per 10,000 children ages 5-14)	75	33	36
	Avoidable adult hospitalizations for asthma (per 100,00 adults)	648	196	249
<b>Diabetes</b>	Obesity (% of adults)	33%	16%	24%
	Diabetes (% of adults)	13%	7%	10%
<b>Hypertension</b>	Hospitalizations due to stroke (per 100,000 adults)	401	264	319
	Number of deaths caused by hypertension, 2013 (per 100,000 population)	21.4	10.6	11.6
<b>Mental Health</b>	Alcohol-related hospitalizations (per 100,000 adults)	2,333	1,084	1,019
	Drug-related hospitalizations (per 100,000 adults)	2,822	1,025	907
	Psychiatric hospitalizations (per 100,000 adults)	2,016	755	684
<b>Violence</b>	Non-fatal assault hospitalizations (per 100,000 population)	143	51	64
	Premature mortality rate (per 100,000 population)	301	152.7	198.4

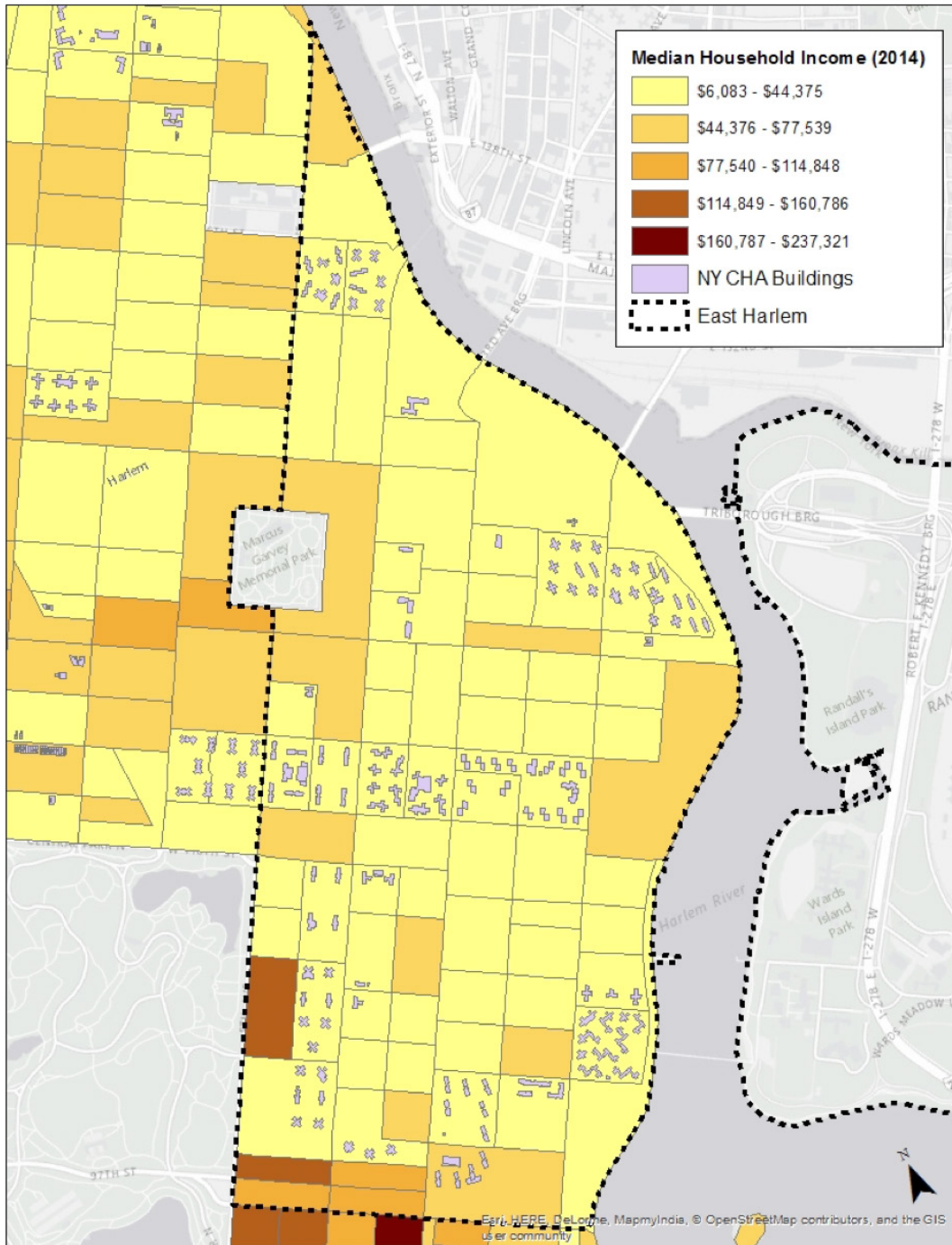
## Economic Status

As shown in Table 2, East Harlem, in comparison with the rest of Manhattan and NYC, is a predominantly low-income, working class minority community, with higher than average unemployment and poverty rates. Figure 4 maps the median household income by Census block group and the location of NYCHA housing footprints in East Harlem. The map demonstrates that a majority of East Harlem census tracts have a median income of less than \$44,000 per year.

**TABLE 2: KEY ECONOMIC AND DEMOGRAPHIC STATISTICS FOR EAST HARLEM COMPARED TO MANHATTAN & NEW YORK CITY<sup>31</sup>**

	<b>EAST HARLEM</b>	<b>MANHATTAN</b>	<b>NEW YORK CITY</b>
Population	129,713	1,636,268	8,491,079
Poverty rate	36%	18%	21%
Median household income	\$31,380	\$76,185	\$53,063
% With less than high school education	26%	14%	20%
% Unemployment	11%	7%	8%
% Foreign born	25%	29%	37%
% Limited english proficiency	20%	16%	23%
% Population 65+	12%	14%	13%
<b>RACE &amp; ETHNICITY</b>			
% Latino/hispanic	48%	26%	29%
% Black/african american	32%	13%	22%
% White	12%	47%	32%
% Asian	7%	12%	14%

**FIGURE 4: MEDIAN HOUSEHOLD INCOME AND NYCHA DEVELOPMENTS IN EAST HARLEM**



## Housing

Table 3 summarizes a number of key housing indicators relevant to health and equity in East Harlem. An overwhelming majority of residents in East Harlem are renters and half of all rental units are public housing or other types of subsidized rental units. Over half of all renters in East Harlem are also moderately or severely rent-burdened, meaning they spend more than 30% of their gross income on rent and therefore have less money to spend on other necessities, like food, childcare, transportation, or health care.

*East Harlem has lost approximately 1,854 units of affordable housing since 2011, and absent any policy intervention, is estimated to lose 6,817 units over the next 10 years. In low-vacancy real estate markets like Manhattan, any new housing construction including some permanently affordable units will benefit housing affordability overall.*

East Harlem has also seen large increases in median rent over the past 13 years, similar to the rest of Manhattan, but at a higher pace than the rest of NYC. Across NYC, there has been a loss of affordable, unsubsidized units and a loss of rent-stabilized/controlled units. In the City as a whole, these make up the vast majority of rental units that are affordable to low-income households.<sup>30</sup> The loss of affordable housing units and increased rent creates unmanageable living conditions for many residents. East Harlem has lost approximately 1,854 units of affordable housing since 2011, and is estimated to lose 6,817 units over the next 10 years.



**TABLE 3: HOUSING CONDITIONS IN EAST HARLEM COMPARED TO MANHATTAN & NEW YORK CITY<sup>31, 32</sup>**

	<b>EAST HARLEM</b>	<b>MANHATTAN</b>	<b>NEW YORK CITY</b>
Public & other income-restricted subsidized rental units	51%	20%	16.4%
Median asking rent	\$1995	\$3150	\$2800
Homeownership rate	5.2%	22.7%	31.2%
Serious housing code violations (per 1,000 privately owned rental units)	64.9	41.4	48.3
Severe crowding rate (% of renter households)	3.5%	2.5%	4.1%
Moderately rent burdened (30–50% of income spent on rent)	24%	24%	25%
Severely rent-burdened (over 50% of income spent on rent)	25%	23%	30%
% increase in median rent between 2005–2009 and 2010–2014	20%	12%	9%
Population Density (1,000 persons per square mile)	56.1	71.7	28.1

## Literature Review

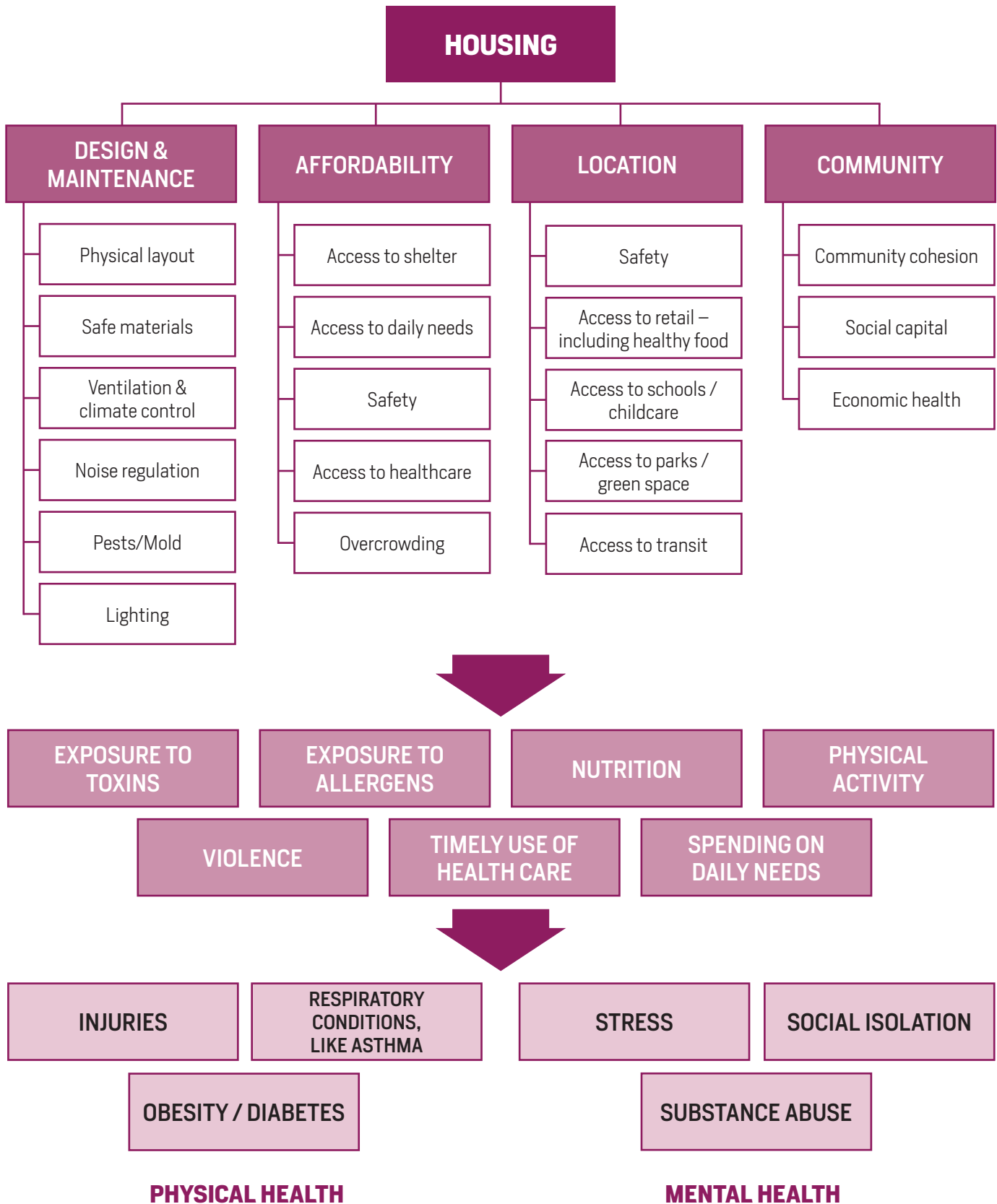
Figure 5 (Page 24) outlines the various ways that housing can impact health, adopted from a previous health pathway diagram created by Human Impact Partners. The abbreviated literature review below summarizes what we know about the health impact of different aspects of housing and community development—particularly around affordability, mixed-income development, design and maintenance, residential density, displacement, small business development, and the accessibility of community assets. The more complete literature review is located in Appendix C.

### Housing Affordability

There is evidence that higher out-of-pocket rent burdens are associated with worse self-reported health conditions and a higher likelihood to postpone medical services for financial reasons.<sup>33</sup> Evidence also exists for associations between unaffordable housing and poor mental health for low to moderate-income groups<sup>34</sup> and adverse health outcomes for individuals who are severely rent burdened or have high housing costs relative to their incomes. Housing costs and income imbalances may also account for fewer resources for other necessities such as food and health care and may even result in acceptance of substandard housing conditions, leading to overcrowding, longer commute times, and higher risks for infectious diseases, noise and fires.<sup>35</sup>

During the community visioning sessions, community land trusts were brought up as a potential opportunity to create affordable housing by functioning to “acquire and hold land for the benefit of a community and provide secure affordable access to land and housing for community residents.”<sup>36</sup> While having the potential to expand access to affordable homeownership in East Harlem,<sup>37</sup> community land trusts can be limited by difficulties with financing and management and an ability to meet the needs of low-income households.<sup>38</sup> Additionally, there is little empirical evidence supporting the potential benefits of community land trusts.

**FIGURE 5: HOUSING AND HEALTH PATHWAY DIAGRAM**



## Mixed-Income Neighborhoods and Developments

Variability in neighborhood income has been shown to have positive benefits on the health and well-being of residents, such as lower body mass index, reduced prevalence of diabetes, and improved mental health compared to a control groups that stayed within low-income public housing.<sup>39,40</sup> A report on New York City Housing Authority (NYCHA) public housing residents found that developments adjacent to high-income neighborhoods had lower violent crime rates, higher annual household earnings, and public school students had higher test scores compared to developments surrounded by low-income neighborhoods.<sup>41</sup> Research has also shown that mixed-income developments have brought benefits in terms of environmental improvements to housing and neighborhoods.<sup>42</sup>

There are potential drawbacks of mixed income development, such as social isolation<sup>40-43</sup> especially in older adults, and uneven power dynamics. Furthermore, other claimed benefits, such as economic desegregation and poverty alleviation, have not been found to occur in mixed income developments.<sup>40,42</sup>

*To prevent negative health impacts and promote health equity, implementation should prioritize maintaining existing affordable housing and building new units, as well as preventing displacement of long-term residents and local businesses.*

## Housing Conditions and Maintenance

Evidence consistently shows that poor indoor environmental quality can affect health conditions, such as asthma,<sup>44,45</sup> and blood pressure.<sup>46</sup> These are major health concerns in East Harlem.

## Residential Density

Research has demonstrated that in areas with greater urban sprawl and less density, people are less likely to walk and engage in physical activity, weigh more and are more likely to suffer from high blood pressure than those living in denser counties.<sup>47,48</sup> Differences in residential density have also been studied in relation to economic segregation, linking higher residential density lower levels of income segregation, most likely due to the likelihood of affordable housing.<sup>51</sup>

However, higher residential density may negatively affect social and physical activity among physically impaired adults,<sup>50</sup> and people living in dense, urban areas are more likely to experience mental health issues due to the effects of over-crowding and a lack of green space.<sup>51–53</sup>

## **Displacement**

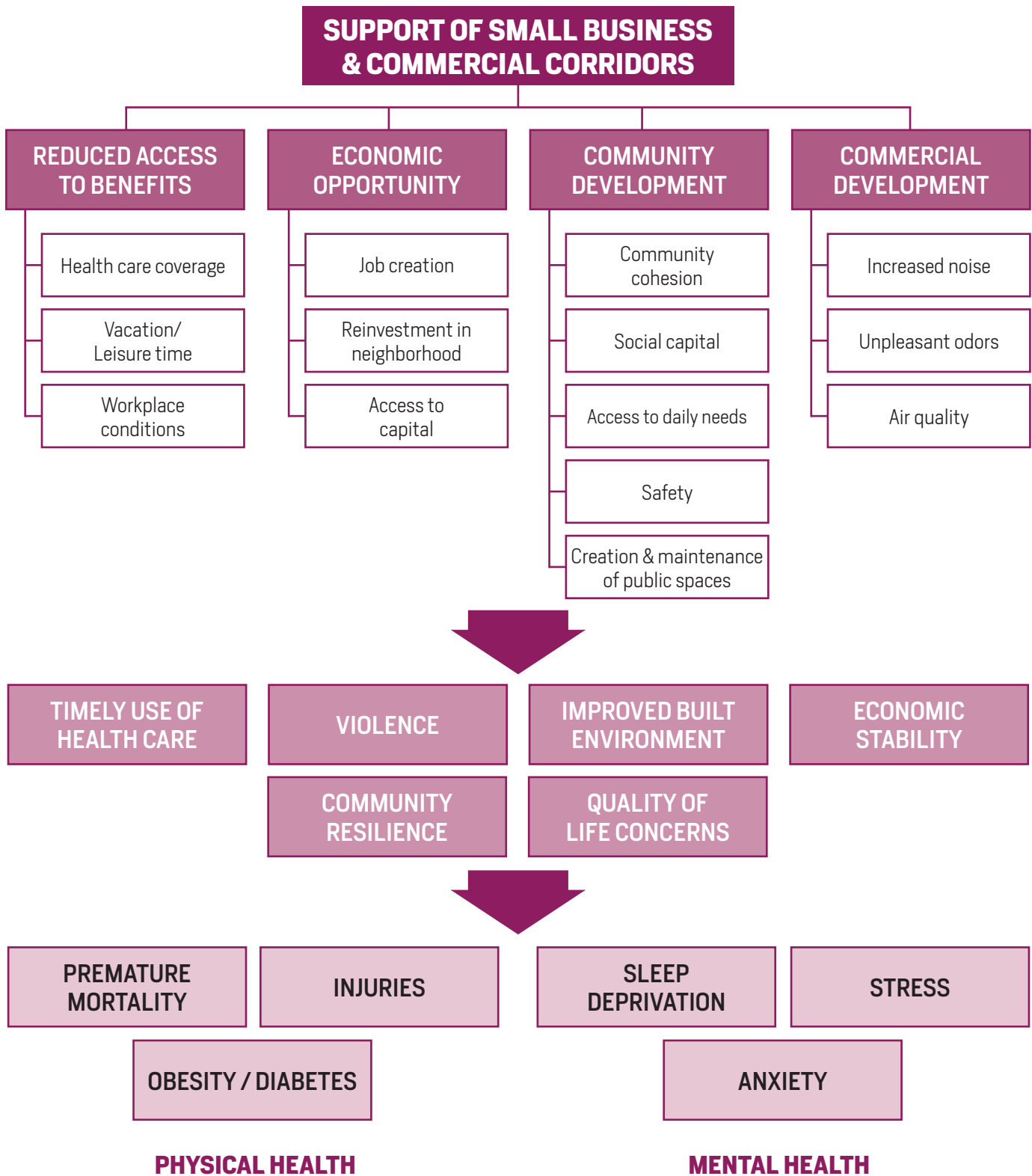
Residential displacement or the permanent loss of affordable housing can have a number of negative health effects related to stress, new housing costs, poor environmental conditions, higher transportation costs, housing quality and social disruption. Stress in pregnancy is associated with poorer birth outcomes and stress alone is associated with chronic diseases including heart disease, hypertension and diabetes. Homelessness itself is an increasing problem in New York City<sup>54</sup> and is linked to a number of negative health outcomes, including increased risk of respiratory infections, infectious diseases, mental health issues (particularly among children), hunger and higher death rates.<sup>55</sup>

## **Space for Jobs and Small Businesses**

There is a strong and growing body of literature demonstrating the negative effects of lower income and poverty on health.<sup>56–60</sup> A study in NYC showed that lower income is associated with physical inactivity, poor nutrition, obesity, smoking, depression and reduced health access<sup>61</sup> and that an increase of the minimum wage to \$15 would result in strong positive health benefits with a reduction in premature death rates, particularly for low-income communities.

One study found that counties in the US with a greater concentration of small businesses are associated with healthier communities, having lower rates of mortality, obesity and diabetes.<sup>62</sup> Research has also shown that locally-owned small businesses generate a greater return for the local economy compared to national chains.<sup>63</sup> Small business ownership is of particular significance to immigrants<sup>64</sup> who accounted for 44% of the City's entire workforce in 2011 and make up a significant portion of NYC entrepreneurs.<sup>65</sup> Figure 6 outlines the potential health impacts that can result from supporting small businesses and commercial corridors.

**FIGURE 6: SMALL BUSINESS AND COMMERCIAL CORRIDORS HEALTH PATHWAY DIAGRAM**





There are, however, some potential negative health impacts of dense commercial development adjacent to residential development, such as loud noise, unpleasant odors or air quality concerns.<sup>66</sup> Small businesses also have a harder time providing strong benefits for their employees, such as health insurance or paid time off, though recent legislative changes like the Affordable Care Act and the Earned Sick Time Act are helping to address this problem.<sup>67</sup>

The inclusion and/or preservation of industrial zoning in a dense urban setting has also created health dilemmas. While industries in low-income communities of NYC have historically caused a number of public health concerns<sup>68</sup> related to poor air quality conditions,<sup>68</sup> manufacturing jobs within cities is seen as attractive from a job quality and equity perspective, offering higher annual wages than the average private sector job and not requiring advanced degrees.<sup>69</sup>

### **Accessibility to Community Assets**

The EHNP zoning recommendations addressed neighborhood amenities, such as cultural institutions, greenspaces and community gardens. Residents of urban neighborhoods report that most of the benefits of urban revitalization come from improvements in the surrounding area and greater satisfaction with nearby services and amenities,<sup>42</sup> including various businesses, health and social services, green space and cultural institutions.

Research has found that the arts, as provided by cultural institutions, can induce positive physiological and psychological changes in clinical outcomes; reduce drug consumption, improve mental health care, and reduce depression and blood pressure.<sup>35</sup> Community gardens can provide a source of fresh fruits and vegetables for the community, and research shows that living in greener environments is associated with fewer self-reported health symptoms and better self-rated health.<sup>70</sup> Gardens can also provide a venue for social interaction, supporting social cohesion and social capital<sup>35</sup> and community gardens have been shown to have a positive impact on BMI, with gardeners in a community having a lower BMI than their non-gardening neighbors.<sup>71</sup>

## Health Assessment

In order to assess the health impacts of the EHNP recommendations proposed by the Affordable Housing and Zoning subgroups, we developed a health assessment table that synthesizes evidence from the literature review, health concerns identified during the community visioning sessions, information gathered from key informants, and the combined expertise in public health and community development of the HIA team. For each of the recommendations in the health assessment table, the HIA team considered the following questions to help determine the potential health impacts:

- Would the recommendation impact the availability of affordable and quality housing?
- Would the recommendation reduce or increase the risk of displacement among East Harlem residents?
- Would the recommendation impact the density of East Harlem and the ability of residents to access services and amenities?
- Are there specific populations within East Harlem that would be impacted by this recommendation? What proportion of the East Harlem community does this population represent?
- How many studies link the recommendation and health outcome? Do these studies agree on the direction of health impacts (positive or negative)? Or, are there mixed findings?

The East Harlem community prioritized the objectives of the EHNP during the January 27, 2016 public meeting. The EHNP recommendations under each prioritized objective included in this assessment are those that the research team thought were most likely to be addressed by the NYC government's rezoning processes, and were connected with health. EHNP recommendations that proposed future studies were not included in the assessment table. The following parameters were used to characterize potential health impacts of the EHNP recommendations.

## RECOMMENDATIONS RATING KEY:

**Direction and Strength:** The icons in the key in this section indicate whether the recommendation has the potential to be beneficial or negative in terms of health as well as the strength of that direction. The strength of the recommendation is related to the magnitude of population affected and the strength of evidence known for that recommendation and its effects on health.

- ++ Strong positive health effects
- + Positive health effects
- 0 Neither health promoting or negative; or health effects unknown
- (-) Negative health effects
- (-- ) Strong negative health effects

**Magnitude:** Indicates how widely the effects would be spread within the East Harlem population



Potential to impact most or all of East Harlem



Potential to impact several sub-populations or large geographic area of East Harlem



Potential to impact a large sub-population of residents in East Harlem



Potential to impact a sub-population of residents or small geographic area of East Harlem



Potential to impact a small sub-population of East Harlem residents





**Special Populations:** Indicates whether the recommendation is likely to impact specific sub-populations or vulnerable populations, including:

- Older adults
- Youth
- Low-income residents
- Homeless
- NYCHA residents




**Strength of Evidence:** Indicates the type and strength of evidence that is known about the ENHP recommendations and its connection to health.



- *Strong* =  $\Delta\Delta\Delta$ : Connections to health are well supported by meta-analyses and scientific reviews synthesizing evidence from multiple studies and sources.
- *Intermediate* =  $\Delta\Delta$ : There is enough evidence supporting the connections with health but the evidence is based on small-scale studies, very few larger studies, or there may be conflicting evidence in the literature.
- *Weak* =  $\Delta$ : There is little to no evidence supporting the connection with health; or the connections with health are speculative but not well supported.

**TABLE 4.1: EAST HARLEM NEIGHBORHOOD PLAN RECOMMENDATIONS – HEALTH ASSESSMENT TABLE (AFFORDABLE HOUSING OBJECTIVES AND RECOMMENDATIONS)**






<b>OBJECTIVE</b>	<b>RECOMMENDATION</b>	<b>DIRECTION &amp; STRENGTH</b>	<b>MAGNITUDE</b>	<b>SPECIAL POPULATIONS</b>	<b>STRENGTH OF EVIDENCE</b>
1. Increase the amount of affordable housing with deep and varied levels of affordability in any new development.	1.1 Establish a target of at least 50% affordable housing in total across any new development on public sites and privately rezoned sites with Mandatory Inclusionary Housing.	+		Low-income populations, older adults	△△△
	1.2 For the 50% affordable housing, establish targets of low and moderate AMI bands that related to the neighborhood medians and establish a target that 20% of the affordable units are at or below 30% of AMI.	++		Low-income populations, older adults	△△△
	1.3 Ensure the enforcement of regulatory agreements that outline affordability requirements. Empower tenants and CBOs to be involved in such enforcement. Work with HPD to make regulatory agreements more accessible to the public, and provide annual reports to the CB, City Council and BP.	0 – +		Low-income residents, older adults	△
	1.4 Assure permanent affordability in the units created through Mandatory Inclusionary Housing and developed on public sites.	++		Low-income populations, older adults	△△△

(continued on P32)





<b>Table Color Key:</b>
 Light Plum, is positive health effects
 Dark Plum, is strong positive health effects
 Grey, is neutral health effects

OBJECTIVE	RECOMMENDATION	DIRECTION & STRENGTH	MAGNITUDE	SPECIAL POPULATIONS	STRENGTH OF EVIDENCE
1. Increase the amount of affordable housing with deep and varied levels of affordability in any new development.	1.5 Aim to achieve total new development of affordable housing that exceeds the estimated current loss of rent regulated housing (which projects forward to an approximate loss of 280 units per year for the next 15 years) and addresses a significant portion of the severe housing need documented in East Harlem, which includes the percent of the local population that is homeless, overcrowded, and severely rent burdened.	++		Low-income populations, older adults	△△△
	1.8 Ensure that construction jobs for affordable housing production pay living wages, advance local hiring and provide certified apprenticeship programs so that East Harlem residents can be ensured well-paying and safe work environments, with long-term career opportunities.	++		Low-income populations	△△△

(continued on P33)


<b>OBJECTIVE</b>	<b>RECOMMENDATION</b>	<b>DIRECTION &amp; STRENGTH</b>	<b>MAGNITUDE</b>	<b>SPECIAL POPULATIONS</b>	<b>STRENGTH OF EVIDENCE</b>
2. Expand affordable housing tools and resources to increase affordable housing in new development.	2.1 Exclusively public sites that can be redeveloped, with or without a change in zoning designation, should be built with 100% affordable units, and these units should be required to reach deep and varied levels of affordability up to 130% of AMI, and to establish a target of at least 20% of the units at or below 30% of AMI.	+		Low-income populations, older adults	△△
	2.2 If residents decide that new infill development is appropriate for their NYCHA development, create additional affordable housing on available NYCHA sites in conjunction with active engagement with the development residents.	+		Low-income populations, NYCHA residents	△△△
	2.3 Explore the potential for adaptive re-use, co-location and development of underutilized buildings for affordable housing and other community uses.	+		Low-income populations	△
	2.4 HPD should provide more affordable artist live/work spaces through its programs in East Harlem. Locate these spaces in appropriate areas as part of potential rezoning, such as along the Park Avenue viaduct (allow artist live/work housing to use commercial FAR should the area be rezoned).	0 - +			△
	2.5 Encourage HPD to work with the community to identify sites and funding to create more affordable housing for seniors.	++		Older adults	△△△

[continued on P34]


OBJECTIVE	RECOMMENDATION	DIRECTION & STRENGTH	MAGNITUDE	SPECIAL POPULATIONS	STRENGTH OF EVIDENCE
2. Expand affordable housing tools and resources to increase affordable housing in new development.	2.6 Seek to create more supportive housing and ensure that it is built in conjunction with an experienced non-profit supportive housing providers for those groups most in need in the district as identified by the Community Board.	++		Homeless	△△△
	2.8.5 Explore the potential for the conveyance of vacant and underutilized City-owned land to a community land trust.	+		Low-income residents	△
	2.9 Encourage private developers to work with East Harlem community (non-profit developers, community based organizations, service providers, the Community Board, etc.) to ensure that all new developments meet community needs and priorities.	0 - +		Low-income residents, older adults, NYCHA residents	△
	2.10 Make community preference in affordable housing a requirement of development in East Harlem.	0 - +		Low-income residents, older adults, NYCHA residents	△






**TABLE 4.2: EAST HARLEM NEIGHBORHOOD PLAN RECOMMENDATIONS – HEALTH ASSESSMENT TABLE (ZONING & LAND USE OBJECTIVES AND RECOMMENDATIONS)**

OBJECTIVE	RECOMMENDATION	DIRECTION & STRENGTH	MAGNITUDE	SPECIAL POPULATIONS	STRENGTH OF EVIDENCE
<p>1. Preserve important East Harlem buildings and reinforce neighborhood character.</p>	<p>1.1. Preserve areas with unique East Harlem neighborhood characteristics through rezoning, such as 116th Street east of 3rd Avenue, Madison Avenue between 126th and 132nd Streets, and midblock areas.</p>	<p>+</p>			<p>△△</p>
	<p>1.2 Protect buildings and sites with significant local and cultural heritage by considering landmark status or ensuring they are rezoned into preservation districts. This will depend on context and neighboring zoning.</p>				
	<p>1.3 Study the creation of historic districts in areas such as Pleasant Avenue, 116th Street east of Park Ave., the corner of 106th and Lexington Avenue, and Pleasant Village (along E. 119th Street between 1st Avenue and Pleasant Avenue).</p>				



(continued on P36)

OBJECTIVE	RECOMMENDATION	DIRECTION & STRENGTH	MAGNITUDE	SPECIAL POPULATIONS	STRENGTH OF EVIDENCE
<p>1. Preserve important East Harlem buildings and reinforce neighborhood character.</p>	<p>1.4 Redefine the Transit Land Use Special District, which was mapped in 1973 along 2nd Avenue and has remained unchanged since. In addition to correcting their current locations to reflect the current Second Avenue Subway station plan, the Special District itself should be rewritten to include the following:</p> <p>1.4.1. Urban design guidelines to ensure that sidewalks are unobstructed for larger pedestrian flows and that built form enhances local character.</p> <p>1.4.2. Incentivize connectivity to help manage future pedestrian flows. Encourage new buildings to connect directly to new subway stations where possible, promote seamless underground connections between existing and new subway lines and between subways and MNR lines, and address connections to express buses.</p> <p>1.4.3. Evaluate the potential for creating a mechanism around the 125th Street intermodal hub that would capture value from significantly greater density to be used for improvements to the historic station, station plaza, and public space, street, and under viaduct areas within close proximity to the hub.</p> <p>1.4.4. Incentivize opportunities for mixed-use development along 125th Street that incorporates requisite 2nd Avenue Subway infrastructure.</p>	<p>++</p>		<p>Older adults</p>	<p>△△△</p>



(continued on P37)

OBJECTIVE	RECOMMENDATION	DIRECTION & STRENGTH	MAGNITUDE	SPECIAL POPULATIONS	STRENGTH OF EVIDENCE
2. Allow for increased density in select places to create more affordable housing and spaces for jobs.	2.1 A rezoning to create more affordable housing should consider the widest avenues (3rd, 2nd and 1st Avenues) for increased density. Potential zoning districts discussed through this planning process include the commercial equivalents to R9 or R9A to trigger MIH.	0 - +			△△
	2.2 A rezoning to create more commercial and/or light industrial space should consider Park Avenue between 115th and 132nd Streets due to the street's proximity to the rail viaduct.	-, + (has both positive and negative health impacts)			△
	2.3 A rezoning should consider higher density commercial districts around the MetroNorth Station, the 125th Street Lexington Avenue line express stop, and future 2nd Avenue subway terminus in the area outside the 125th Street Special district. Specifically:  2.3.1. Park Avenue from 122nd Street to 124th Street, and from 126th Street to 128th Street, currently zoned as C8-3, M1-2, M1-4, and R7-2. The potential zoning districts discussed during the planning process were C6-2 and C6-3D, which are commercial equivalents of R8 and R9D. Lexington from 122nd Street to 124th Street. R7D was discussed for most of the length of Lexington Ave. south of 124th Street, but C4-4D (R8A equivalent) was discussed as an option for the portion from 122nd Street to 124th Street.	-, + (has both positive and negative health impacts)		Homeless	△△

(continued on P38)

OBJECTIVE	RECOMMENDATION	DIRECTION & STRENGTH	MAGNITUDE	SPECIAL POPULATIONS	STRENGTH OF EVIDENCE
2. Allow for increased density in select places to create more affordable housing and spaces for jobs.	<p>2.3.2. Lexington from 122nd Street to 124th Street. R7D was discussed for most of the length of Lexington Ave. south of 124th Street, but C4-4D (R8A equivalent) was discussed as an option for the portion from 122nd Street to 124th Street.</p> <p>2.3.3. 3rd Avenue from 122nd Street to 124th Street, excluding the Taino Tower portion of that area, is currently zoned as C4-4, but considering transit access and the existing large-scale Taino Towers, this area was discussed for C6-3 or C6-4, the residential equivalents of which are R9 and R10.</p> <p>2.3.4. 2nd Avenue from 123rd Street to 124th Street, west side of street, currently zoned as R7-2 was also discussed for C6-3 and C6-4 due to its proximity to Taino Towers and transportation access.</p>	-, + (has both positive and negative health impacts)		Homeless	△△
	<p>2.6 A rezoning should target the midblocks of 116th Street from Madison to 3rd Avenue, which at 100 feet wide is an appropriate place for increased density. This district should protect the character of the street with a height limit, and ensure active ground-floor uses in keeping with the existing character of the street. The eastern portion of 116th was remapped in 2003 as a preservation district (R7B), and no changes should be considered in that area.</p>	0 - +			△△

(continued on P39)

OBJECTIVE	RECOMMENDATION	DIRECTION & STRENGTH	MAGNITUDE	SPECIAL POPULATIONS	STRENGTH OF EVIDENCE
2. Allow for increased density in select places to create more affordable housing and spaces for jobs.	2.10 Other city-owned public sites that are potential redevelopment sites for affordable housing should be developed at higher densities, such as R8A on narrower streets and R10 on wider streets.	0 - +			△△
	2.11 Any potential rezoning should eliminate minimum parking requirements.	+			△

### Housing Affordability and Mixed Income Development

The EHNP recommendations with the strongest evidence and most consistently positive with the largest magnitude of effect, are those calling for increases in affordable housing with specific income targets [1.1, and 1.2 under Affordable Housing]. The EHNP recommends that at least 50% of units in new developments be affordable housing and that the units should be affordable for those at the lower affordability bands (30% AMI). Based on current demographics of East Harlem, this deep affordability represents a high need for its residents. This recommendation could have strong positive health benefits for East Harlem residents by reducing the risk of displacement, reducing the percent of household that are moderately or severely rent burdened, and providing new housing units that are not plagued by maintenance and repair deficits. As mentioned in the literature review, community land trusts (2.8.5 under Affordable Housing) have the potential to expand access to affordable homeownership in East Harlem, which currently has a very low rate of homeownership. New affordable units would particularly benefit low-income residents, those at high risk of being displacement and becoming homeless, or those already homeless, and older adults.

***An important component of the adopted MIH amendment is that affordable housing will be permanent since there is no expiration of the affordability requirements on the apartments. This also means that the depth of affordability must be balanced with the operating costs over the long-term.***

Despite the potential health benefits, it is unclear how developers will be able to finance new developments with affordability bands at the lower levels of 30% AMI without additional subsidies or investment from other sectors.<sup>72</sup> It is also unknown whether new affordable units will be built fast enough to help those that are already being displaced due to the loss of affordable housing, estimated at approximately 1,854 units since 2011 and is estimated to be 6,817 units over the next 10 years.<sup>32</sup>

***More flexible, more established inclusionary zoning policies lead to higher production of affordable units and there is usually a relatively small to modest production of affordable homes.<sup>73</sup> It is important to address already occurring displacement and poor housing conditions in the neighborhood to improve community health and to avoid negative health outcomes.***

Additionally, recommendations for Mandatory Inclusionary Housing, for addressing the loss of rent-regulated housing and for varied levels of affordability (1.4, 1.5 and 2.1 under Affordable Housing) are also strong and positive. Mixed-income development could be helpful in addressing asthma disparities and increasing physical activity, through the provision of new, well-maintained housing and improved neighborhood amenities, such as parks or exercise facilities. However, it is important to note that creating a greater mix of incomes within developments could lead to social isolation and perceptions of disempowerment by lower-income residents within their buildings.

## Density

Recommendations calling for increasing density (2.1 through 2.11 under Zoning) have mixed effects, relatively lower strengths in evidence, and smaller spread in the East Harlem population. Based on the available evidence, it is difficult to predict how increases in density in an already dense urban environment will affect health, particularly since car ownership is already very low and public transit utilization is high within the neighborhood. Increases in density within East Harlem will strain the existing infrastructure in the community, particularly public transportation.

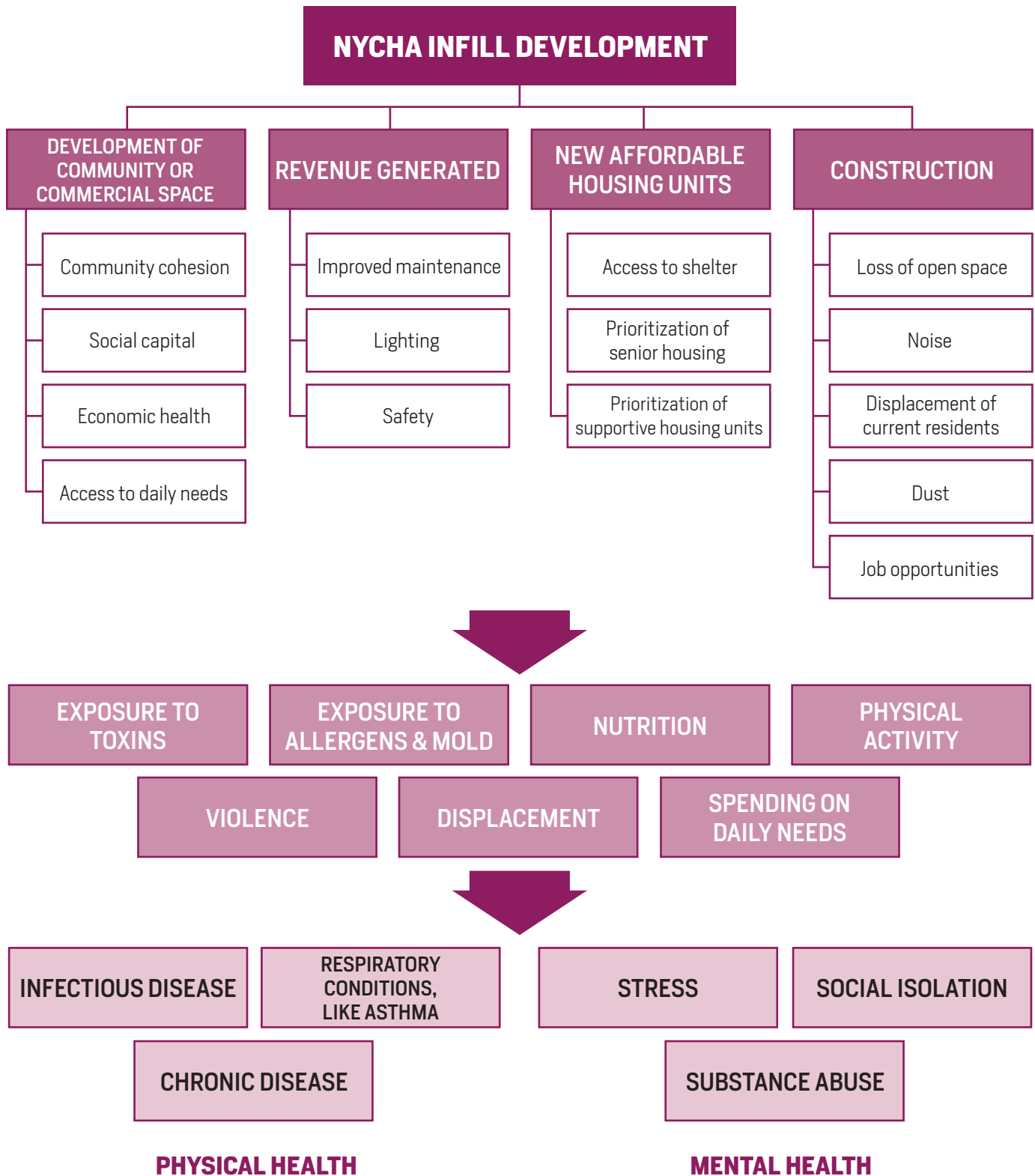
*The new MIH requirements for affordability only apply to land parcels rezoned for increased density, limiting their potential to independently drive rapid changes to the neighborhood environment.*

## Housing Design and Maintenance

Integrated into the EHNP recommendations are the development of new housing and rental units, new infill developments that entail design updates, as well as enhancements and maintenance improvements (Objectives 1 and 2 under Affordable Housing) which have implications for health outcomes of East Harlem residents. Both asthma and high blood pressure are major health concerns in the neighborhood, which also has some of the highest rates of maintenance defects in renter-occupied homes.<sup>28</sup> Improving the housing quality in East Harlem, either through new affordable units built or improved maintenance in New York City Housing Authority (NYCHA) developments, could result in improved health outcomes. The following health pathway diagram (fig. 7) outlines how potential infill development on NYCHA property could impact health with the assumption that new development would improve NYCHA's ability to catch up on backlogged maintenance issues within developments through increased revenue.<sup>74</sup>



**FIGURE 7: NYCHA INFILL DEVELOPMENT HEALTH PATHWAY DIAGRAM**



## **Job Creation and Supporting Small Businesses**

Aside from the employment opportunities for construction jobs (1.8 under Affordable Housing), maintaining affordable commercial space for existing and new small businesses, and creating new commercial space through rezoning could have a positive effect on the health of East Harlem residents through economic development (2.3 under Affordable Housing and 2.1 through 2.3 under Zoning). Supporting small locally owned and immigrant run businesses promotes health by ensuring that these groups have the financial resources necessary to secure adequate housing and food. Although there are potential negative health impacts to increased commercial activity or manufacturing in the neighborhood (such as increased noise or air pollution), the great need for increased economic opportunity and resources for East Harlem residents is expected to counterbalance negative health outcomes.

# RECOMMENDATIONS

The next stage in the HIA process is developing actionable recommendations based on the evidence gathered from the literature review and the analytic methods that have been developed for use in the HIA.

Based on this analysis, failure to promote the development of more affordable housing will continue to lead to evictions, displacement and decreased affordability, potentially leading to poor health outcomes for East Harlem residents. Based on the approved Mandatory Inclusionary Housing amendment and the findings from our HIA, the following strategies can serve as a guide to DCP and the NYC government on how to maximize the health promoting factors outlined in the EHNP, while minimizing the health risks detailed in the plan, as they implement and monitor the overall EHNP Steering Committee recommendations.

- Reduce the risk of displacement and provide new, affordable housing options for existing East Harlem residents by striving to include the 25% affordable housing set-aside at 60% AMI with 10% required at 40% AMI **and** the additional option of 20% units at 40% AMI in order to replace the amount of existing rent-controlled or rent-stabilized housing stock that is already being lost and reduce the risk to East Harlem residents.
- Reduce the possibility of displacement by ensuring that existing affordable units, particularly in privately owned buildings, are maintained in East Harlem by implementing recommendations from the Housing Preservation section of the ENHP, particularly under Objectives 1, 2, and 4. The City should monitor important indicators of displacement caused by increased housing costs and gentrification in the neighborhood.

- Focus efforts and available funding on improving the indoor environmental conditions of existing housing stock, particularly in aging buildings and within NYCHA developments, to improve health outcomes in the community.
  - Set measurable goals for year-on-year reductions in housing code violations in East Harlem buildings.
  - Pursue innovative strategies for resident involvement in code enforcement.
  - Strengthen collaboration among various City agencies responsible for inspection and enforcement of residential code enforcement and maintenance.
  - Implement environmental sustainability strategies that improve health and make housing less expensive to operate and maintain, such as smoke-free housing policies, integrated pest management, water conservation, and green cleaning.<sup>75</sup>
- If infill development is allowed on NYCHA developments:
  - Ensure NYCHA residents play an active and continuing role in the decision-making process
  - Require inclusion of active design principles into new developments
  - Include alternative green spaces into design to compensate for loss of open space, such as rooftop gardens or other opportunities for green space within buildings
  - Ensure construction activity provides for mitigation of dust exposure to existing residents to reduce negative health impacts from construction.
- New development allowed next to the Park Avenue viaduct should require design and construction specifications that reduce noise pollution from the viaduct and exterior design amenities that create an appealing and well-lit sidewalk environment to promote safety.
- In regards to commercial development in East Harlem, in order to mitigate potential negative health outcomes, provide robust small business technical assistance programs that connects small employers with affordable health benefits for their employees and develop a BID (Business Improvement District) or provide capacity building support to existing merchant associations and neighborhood chambers of commerce to better support the small business community.

# MONITORING

The final step in HIA is evaluation and monitoring in order to track the implementation of recommendations for action – in this case, recommendations from the EHNP—and to advance the science and practice of HIA.

## Impact Evaluation

The focus of a monitoring and evaluation effort should be on what, if any, impacts the HIA had on the decision-making process and implementation of recommendations by the Department of City Planning. The EHNP Steering Committee intends to monitor the outcomes of the rezoning process as it unfolds and the Academy is committed to supporting this process.

## Outcomes Evaluation

With the goal of increasing transparency in the implementation of Housing New York, the Public Advocate and Speaker of the New York City Council have introduced legislation (Int. No. 1132) to establish a publicly accessible database to track all commitments made by the city as part of any city-sponsored application subject to ULURP. Should this proposal become law, the resulting database would be an important resource for monitoring implementation of EHNP recommendations and their health impacts.

Responsibility for monitoring the health effects of any rezoning and development initiated by *Housing New York* or the EHNP should lie with DOHMH and the local DPHO, supported by the EHNP Steering Committee and Manhattan Community Board.

In the short term, the goal of this monitoring should be to capture and categorize changes to the housing stock, affordability, and neighborhood conditions. In the long term, the goal of this monitoring should be to understand if and how those changes observed in neighborhood conditions have affected community health.

DOHMH already monitors and disseminates information on community health and neighborhood conditions through its Community Health Profiles, which already include measures of social determinants like rent burden and retail access.<sup>22</sup> We recommend using this, or a similar mechanism, to disseminate information about the health effects of changes to the East Harlem neighborhood associated with recent policy changes.

In addition to those measures already included in the 2015 Community Health Profiles, we recommend tracking<sup>1</sup>:

**Residential mobility** as a proxy measure of displacement. It can be calculated as the number of persons living in the same house they lived in one year ago, divided by the total population one year of age and older to calculate the percent of persons who are still living in the same house.

**Population density**, calculated by dividing the total population within a census tract by the total acreage in that tract.

**Ethnic diversity** measured as the probability that two persons, chosen at random from the same area, belong to different race or ethnic groups. The Environmental Systems Research Institute (ESRI), provides information on ethnic diversity as well as racial diversity in their Diversity Index.

**Changes in the rent stabilized housing stock**, data available through the New York City Rent Guidelines Board.

**Public investments** in East Harlem should also be monitored. As part of the Mayor's 10-year capital strategy for 2016–2025, the City has established four funds valued at \$1.6 billion to support neighborhood improvements connected to *Housing New York*.<sup>77</sup> These funds will be overseen by the city's Economic Development Corporation and administered by the Department of Environmental Protection to support priority projects that grow out of neighborhood rezoning plans, like the EHNP, that aim to increase affordable housing through increased urban density. These projects include playgrounds, streetscape improvements, water and sewer infrastructure improvements, land acquisition and site preparation costs.

<sup>1</sup> The indicators listed are selected from the San Francisco Indicator Project, developed to comprehensively measure neighborhood characteristics and conditions important to human needs and environmental protection.<sup>35</sup>

# LIMITATIONS

There are several limitations to this research and its associated recommendations. As stated earlier, this HIA was a rapid assessment conducted in the context of a fast-paced community planning and policy change process. Time and resource constraints limited our ability to do more robust predictive modeling of the potential health impacts from the EHNP recommendations for affordable housing. The time frame also prevented collection of more primary data and thus we relied on a secondary analysis of qualitative and survey data collected through community engagement activities associated with the EHNP as well as our participant observation in this process. By focusing on one neighborhood, the recommendations from this HIA have limited generalizability to other neighborhoods and cities although the HIA process is applicable. Another limitation of this HIA stems from the limited evidence available from the literature on the health impacts of macroeconomic policy and associated upstream health determinants. While there is substantial evidence linking housing affordability to health, for example, there is no clear evidence that would predict a “dose response” relationship between different levels of affordability and health.



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# GLOSSARY OF TERMS AND ACRONYMS

<b>AREA MEDIAN INCOME (AMI)</b>	The Area Median Income is calculated annually based on all incomes available for a given area. The AMI is the "middle" number of all of the incomes for a given area; 50% of people in that area make more than that amount, and 50% make less than that amount.
<b>DEPARTMENT OF CITY PLANNING (DCP)</b>	The Department of City Planning is New York City's primary land use agency and is instrumental in designing the City's physical and socioeconomic framework.
<b>DEPARTMENT OF HEALTH AND MENTAL HYGIENE (DOHMH)</b>	The New York City Department of Health and Mental Hygiene is one of the largest public health agencies in the world and works on a broad range of issues, including ensuring the safety of food in restaurants to investigating suspicious clusters of illnesses and collecting data on important health conditions facing New Yorkers, such as diabetes and heart disease.
<b>EAST HARLEM NEIGHBORHOOD PLAN (EHNP)</b>	The East Harlem Neighborhood Plan describes both a process and document that was established to create a community-based Neighborhood Plan for East Harlem that addresses the needs of existing residents and informs the future neighborhood rezoning proposal. The Neighborhood Plan considers anticipated future growth and utilizes a broad community development framework that goes beyond plans for the built environment to address the development of human capital and enhancements to quality of life.
<b>EAST HARLEM NEIGHBORHOOD PLAN STEERING COMMITTEE</b>	The East Harlem Neighborhood Plan Steering Committee is comprised of local leaders and organizations with a rich history serving the East Harlem community. The Steering Committee reviewed the community's needs and concerns and then approved the Neighborhood Plan's recommendations.
<b>HEALTH IMPACT ASSESSMENT (HIA)</b>	Health Impact Assessment is a structured process to assess the potential health impacts of a policy, plan, or project and make recommendations on how to mitigate negative health impacts and increase health benefits.

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<p><b>HOUSING PRESERVATION AND DEVELOPMENT (HPD)</b></p>	<p>The New York City Department of Housing Preservation and Development’s mission is to promote the construction and preservation of affordable, high quality housing for low- and moderate-income families in thriving and diverse neighborhoods in every borough by enforcing housing quality standards, financing affordable housing development and preservation, and ensuring sound management of the City's affordable housing stock.</p>
<p><b>MANDATORY INCLUSIONARY HOUSING (MIH)</b></p>	<p>The Mandatory Inclusionary Housing text amendment was approved by the New York City Council in March 2016. MIH mandates new affordable units be built in new housing capacity that is approved through land use actions.</p>
<p><b>NEW YORK CITY HOUSING AUTHORITY (NYCHA)</b></p>	<p>The New York City Housing Authority's mission is to increase opportunities for low- and moderate-income New Yorkers by providing safe, affordable housing and facilitating access to social and community services.</p>
<p><b>UNIFORM LAND USE REVIEW PROCESS (ULURP)</b></p>	<p>The Uniform Land Use Review Process is a standardized procedure whereby applications affecting the land use of the city would be publicly reviewed. Key participants in the ULURP process are now the Department of City Planning and the City Planning Commission, Community Boards, the Borough Presidents, the Borough Boards, the City Council and the Mayor.</p>
<p><b>ZONING FOR QUALITY AND AFFORDABILITY (ZQA)</b></p>	<p>The Zoning for Quality and Affordability text amendment was approved by the New York City Council in March 2016. The ZQA establishes new limits on the use, size, and shape of buildings and addresses several ways in which City zoning regulations, drafted a generation ago, have in practice discouraged the affordability and quality of recent buildings.</p>

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# APPENDICES

## APPENDIX A – East Harlem HIA Work Plan

	<b>SCREENING</b>	<b>SCOPING</b>	<b>BASELINE HEALTH ASSESSMENT</b>	<b>IMPACT ANALYSIS</b>	<b>RECOMMENDATIONS</b>
<b>INPUTS - INCLUDING DATA AND RESOURCES</b>	<p>East Harlem designated as neighborhood to be rezoned by Mayor’s housing plan</p> <p>Creation of the East Harlem Neighborhood Study Steering Committee</p> <p>The Academy’s identification &amp; participation as the health &amp; senior lead on EH Steering Committee</p>	<p>Community visioning session and notes</p> <p>Workgroup and steering committee meetings</p> <p>Newspaper articles/ general public sentiment (feelings of disempowerment from community)</p> <p>Involvement of the Academy in the Healthy Neighborhood work in East Harlem</p> <p>East Harlem Steering committee recommendations</p> <p>Photographs from neighborhood</p>	<p>Community health profile of EH</p> <p>NYC DOHMH EpiQuery</p> <p>Furman Center housing reports</p> <p>Steering Committee presentations to EH community</p> <p>Health &amp; Senior subgroup meetings</p> <p>Grey literature on EH</p> <p>Aging improvement district work previously done by the Academy</p> <p>Maps from community visioning sessions and others produced for the workgroup meetings</p> <p>Key informant interviews</p>	<p>Epidemiological literature on health priority areas</p> <p>Literature on affordable housing, particularly mandatory inclusionary housing (MIH) (includes testimony before the city, key informant interviews, and grey literature)</p> <p>Steering committee recommendations on MIH in EH</p> <p>WXY scenario modeling</p> <p>Social impact calculator</p>	<p>Survey results from community visioning sessions</p> <p>Testimony</p> <p>Key informant interviews</p> <p>Steering committee recommendations</p>

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	<b>SCREENING</b>	<b>SCOPING</b>	<b>BASELINE HEALTH ASSESSMENT</b>	<b>IMPACT ANALYSIS</b>	<b>RECOMMENDATIONS</b>
<b>METHODS</b>	Human Impact Partners Screening worksheet*  Involvement in Steering Committee	Systematic review of steering committee recommendations  Attending visioning sessions and committee meetings  Qualitative assessment of notes	Review available data and summarize	Literature review  Developing health pathway diagrams  Assessing impacts from recommendations on EH population	Review findings from impact analysis & data identified above to develop recommendations
<b>METRICS/ OUTPUTS</b>	Completed screening worksheet	8 Public meetings – close to 1500 in attendance  Specific HIA research question(s) and focus identified	Tables comparing health, social and economic factors for East Harlem compared to rest of NYC	Impact analysis tables  Health pathway diagrams	Presentation to Steering Committee  Letter sent to DCP during open comment period of ULURP

\* Human Impact Partners. HIA Screening Worksheet. Accessed March 1, 2015. Available at: <http://www.humanimpact.org/new-to-hia/tools-a-resources/>

## APPENDIX B – Priority Health Concerns in East Harlem

<p><b>HYPERTENSION</b></p>	<p>Hypertension (also known as high blood pressure) is when the pressure in a person's arteries (or blood vessels) when the heart contracts and relaxes is higher than it should be. Prolonged high blood pressure can cause damage to your heart and lead to other health problems. Hypertension is one of the major risk factors for chronic diseases like diabetes, heart disease, and stroke. Lack of physical activity, poor diet, obesity, alcohol abuse, and tobacco use are associated with an increased risk of hypertension.</p>
<p><b>DIABETES</b></p>	<p>Diabetes is a disease where blood glucose levels are above normal and your body can no longer properly regulate the amount of sugar in your blood. Diabetes can cause serious health complications including heart disease, blindness, kidney failure, and lower-extremity amputations. Risk factors for diabetes include older age, obesity, family history of diabetes, physical inactivity, and race/ethnicity. African Americans and Hispanic/Latino Americans are at particularly high risk for type 2 diabetes.</p>
<p><b>ASTHMA</b></p>	<p>Asthma is a disease that affects your lungs. It is one of the most common long-term diseases of children, but adults can have asthma too. Asthma causes wheezing, breathlessness, chest tightness, and coughing at night or early in the morning. Asthma can be triggered by allergens (like pollen, mold, animal dander, and dust mites), occupational hazards, tobacco smoke, air pollution, and airway infections.</p>
<p><b>INFANT MORTALITY</b></p>	<p>The death of a baby before his or her first birthday is called infant mortality. Over 50% of infant mortality cases are caused by the following: birth defects—preterm birth, low birth weight, sudden infant death syndrome, maternal complications of pregnancy and injuries. Pregnancy-related health outcomes, including infant mortality, are influenced by factors such as race, ethnicity, age, and income, but most importantly—a woman's health.</p>
<p><b>MENTAL HEALTH</b></p>	<p>Mental health is defined as “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community.” Researchers distinguish between three domains of mental health: (1) emotional well-being, (2) psychological well-being, and (3) social well-being. Mental health has been found to be strongly related to our physical health and our health-related behaviors.</p>
<p><b>VIOLENCE</b></p>	<p>Violence can affect individuals at all stages of life, from infancy to older adulthood, and is a very serious public health concern. Survivors of violence often suffer physical, mental, and or emotional health problems throughout the rest of their lives.</p>

## APPENDIX C – Expanded Literature Review

### Housing Affordability

Our literature review found higher out-of-pocket rent burdens were associated with worse self-reported health conditions and a higher likelihood to postpone medical services for financial reasons.<sup>33</sup> Evidence from Australia, provided by an analysis of two large Australian datasets—the Household, Income and Labour Dynamics in Australia and the General Social Survey—found small but significant associations between unaffordable housing and poor mental health for low to moderate-income groups.<sup>34</sup> Based on a health review compiled for the San Francisco Indicator Project—a neighborhood-level data system measuring how San Francisco performs in eight dimensions of a healthy, equitable community—being severely rent burdened or having high housing costs relative to the income of an individual or household can lead to several adverse health outcomes. For example, households or individuals that cannot find affordable housing may be willing to accept substandard housing conditions, such as overcrowding or pest infestations, or moving to an area where housing costs are lower, which means leaving their social networks and spending more time getting to and from work. Overcrowded housing conditions can increase the risks for infectious disease, noise, and fires. Additionally, spending a high proportion of income on rent or a mortgage means fewer resources for food, heating, transportation, health care, and child care.<sup>35</sup>

Another potential opportunity to create affordable housing is through the creation of a community land trust, which was brought up during the community visioning sessions. Community Land Trusts are defined as, “a private nonprofit corporation created to acquire and hold land for the benefit of a community and provide secure affordable access to land and housing for community residents.”<sup>36</sup> Community land trusts do have the potential to expand access to affordable homeownership in East Harlem, which currently has a very low rate of homeownership, and preserve affordability over time; potentially promoting wealth accumulation, property maintenance and neighborhood stability.<sup>37</sup> However, several limitations have been identified with community land trusts, including difficulties with financing and management as well as their ability to meet the needs of low-income households.<sup>38</sup> Additionally, there is little empirical evidence supporting the potential benefits of community land trusts. Thus, while community land trusts could represent one avenue to create more affordable housing, their ability to impact health in a substantial way is unknown.



## Mixed-income Neighborhoods and Developments

Variability in neighborhood income has been shown to have positive benefits on the health and well-being of residents. For example, findings from a study that followed residents who participated in the US Department of Housing and Urban Development's Moving to Opportunity<sup>2</sup> demonstration project found that low-income residents who moved to less economically disadvantaged neighborhoods were found to have a lower body mass index, a reduced prevalence of diabetes, and improved mental health compared to a control groups that stayed within low-income public housing.<sup>39,40</sup> Another report that looked at the effects of neighborhood change on New York City Housing Authority (NYCHA) public housing residents found that developments located next to high-income neighborhoods have lower violent crime rates, higher annual household earnings, and the public school students residing in NYCHA buildings score higher on standardized math and reading tests, compared to developments surrounded by low-income neighborhoods.<sup>41</sup> These findings suggest that changes in neighborhoods surrounding NYCHA developments that create a more mixed-income environment, can have positive impacts from the perspective of NYCHA residents. Research has also shown that mixed-income developments have brought benefits in terms of environmental improvements to housing and neighborhoods.<sup>42</sup>

However, other claimed benefits, such as economic desegregation and poverty alleviation, have not been found to occur in mixed-income developments.<sup>40, 42</sup> One study on a mixed-income development in Chicago, which brought market rate homeowners and former public housing residents into a new development, found that "relocated public housing residents in these contexts are more likely to withdraw socially, isolating themselves and avoiding engagement or interaction."<sup>43</sup> In another study of a mixed public housing development in Toronto, Canada, researchers found that the interactions between residents resulted in very uneven power dynamics where "the higher income residents with their superior 'social capital' and political influence ... dominate the local decision-making process."<sup>77</sup> Thus, creating new mixed-income buildings with affordable units provided to very low-income residents, may result in social isolation, which has been found to affect health in a myriad of ways, particularly older adults.

<sup>2</sup> The US Department of Housing and Urban Development's Moving to Opportunity demonstration project offered housing vouchers, via a random lottery, to families with children living in high-poverty public housing projects in order to facilitate moving to less-distressed (higher-income) areas.

## **Housing Conditions and Maintenance**

Poor indoor environmental quality can affect health in several ways; exposure to moisture, mold, and allergens that results from poor housing conditions are linked to asthma and exacerbation of asthma symptoms. Housing construction and materials also affect health; proper ventilation and the use of noise reduction materials can reduce the risk of exposure to air pollutants and noise pollution. Improvements to the indoor environmental quality of housing have been found to improve asthma outcomes, such as a decrease in asthma related emergency department use.<sup>44,45</sup> Improving an individual's housing conditions is associated with statistically significant decreases in blood pressure and self-reported health.<sup>46</sup>

## **Residential Density**

Much of the public health research on the relationship between residential density and health finds linkages between urban sprawl, generally characterized by low-density development, reliance on automobiles, and negative health outcomes. Research has demonstrated that in areas with greater urban sprawl and less density, people are less likely to walk, weigh more and are more likely to suffer from high blood pressure than those living in denser counties.<sup>47</sup> A more recent study comparing residential density across different cities worldwide confirm these findings. This study analyzed minutes of physical activity in relation to residential density, mixed use development, public transport density, and the number of parks in 14 cities worldwide and found that greater residential density was positively related to physical activity.<sup>48</sup> Specifically, in cities with greater residential density, people were found to do on average 30 minutes more of physical activity each week than those living in less dense cities.

Differences in residential density have also been studied in relation to economic segregation. One study that looked at the relationship between residential density and income segregation across 50 US metropolitan areas found that higher residential density is significantly associated with lower levels of income segregation, most likely because higher average density is more likely to allow for affordable housing to be built.<sup>49</sup>

On the other hand, one study found that higher residential density was negatively associated with the likelihood of reporting optimum social and physical activity among physically impaired adults. However, the authors note that the findings should be interpreted with caution and that other factors, such as the quality of community infrastructure, may have influenced feelings of community accessibility.<sup>50</sup> There is also evidence to suggest that people living in dense, urban areas are more likely to experience mental health issues and that feelings of over crowdedness and lack of green space within the urban environment can negatively impact mental health.<sup>51–53</sup>

## **Displacement**

Residential displacement or the permanent loss of affordable housing can have a number of negative health effects. Both displaced residents and those entering the housing market may have to pay more for housing, the health effects of which are described above. Others may accept affordable but inadequate, substandard, or poorer quality housing. Additionally, some may move out of the city or region while others may move into a temporary living situation with a friend or family member. This can result in a disruption of important social support, erosion of social capital, and social cohesion as well as increased transportation costs for a family. Finally, some may become homeless, itself linked to a number of negative health outcomes, including increased risk of respiratory infections, infectious diseases, mental health issues (particularly among children), hunger, and the death rates for homeless individuals have found to be several times higher than the general population.<sup>55</sup> In NYC, homelessness has reached record high levels not seen since the Great Depression and the primary cause, particularly among homeless families, is the lack of affordable housing; leading to eviction and severe overcrowding.<sup>54</sup>

Displacement can also increase stress. Studies have linked the experience of stress with chronic diseases including heart disease, hypertension, and diabetes. Among pregnant women, stress has also been associated with a greater likelihood for preterm delivery and low birth weight birth—both factors potentially leading to developmental delays and increased infant morbidity and mortality.

## Space for Jobs and Small Businesses

There is a strong and growing body of literature demonstrating the negative effects of lower income and poverty on health,<sup>56–60</sup> and a recent study of NYC data confirms that “lower income is associated with a wide range of health risk factors, such as physical inactivity, poor nutrition, obesity, smoking, depression and reduced health access.”<sup>61</sup> This same article also found that increasing the minimum wage in NYC to \$15 would result in strong positive health benefits with a reduction in premature death rates, particularly for low-income communities in NYC. These findings demonstrate the importance of employment, and well-paid employment, on population health.

While the connections between income and health are well understood, there is less known about if and how the size of businesses within a community affects health, i.e. how the percentage of small businesses versus large businesses affects health. However, one research study that evaluated the link between the number of small businesses and population health in US found that counties with a greater concentration of small businesses are associated with healthier communities, having lower rates of mortality, obesity and diabetes.<sup>62</sup> Other research has shown that locally owned businesses generate a greater return for the local economy in which they are operating in compared to national chains.<sup>63</sup> Additionally, small businesses play an important role for immigrant communities. Nationally, over half of dry cleaner and grocery store business owners and a third of restaurant, jewelry and clothing store owners are immigrants.<sup>64</sup> The current and historical importance of immigrants in creating thriving economies in neighborhoods across New York City cannot be overstated. Immigrants accounted for 44% of the City’s entire workforce in 2011 and make up a significant portion of NYC entrepreneurs.<sup>65</sup>

Generally speaking, the economic and community development opportunities can have positive impacts on health, such as an increase in job creation and community cohesion. However, there are some potential negative health impacts of dense commercial development adjacent to residential development. Some of these health concerns are related to general quality of life issues, such as loud noise, unpleasant odors, or air quality concerns that result from large ventilation units or emissions from businesses such as dry cleaners or shoe repair shops.<sup>66</sup> It is also important to note that small businesses have a harder time providing strong benefits for their employees, such as health insurance or paid time off, which could impact people's ability to access health care or increase stress. However, in New York State, the passing of the Affordable Care Act offers individuals greater opportunity to be covered under Medicaid or private insurers. Also, the passage of NYC'S Earned Sick Time Act ensures the legal right to sick leave for 3.4 million private and nonprofit sector workers and has helped improve working conditions across NYC.<sup>67</sup>

Another important health consideration is the inclusion and/or preservation of industrial zoning in a dense urban setting. Historically, industries in low-income communities of NYC have caused a number of public health concerns and problems, including the release of toxic fumes and the presence of heavy truck traffic that discharges diesel fumes,<sup>66</sup> both create poor air quality conditions, leading to increases in asthma, respiratory allergies, and potential lung cancer.<sup>68</sup> At the same time, retaining manufacturing jobs within cities is seen as attractive from a job quality and equity perspective. Manufacturing jobs in the US have grown since 2009 and continue to offer annual wages nearly 23% higher than the average private sector job. Manufacturing jobs do not require an advanced degree, thus making them good employment opportunities in areas with high unemployment among lower-skilled workers, such as East Harlem.<sup>69</sup>

## **Accessibility to Community Assets**

Neighborhood services and amenities is a broad way of describing the various businesses, health and social services, green space, and cultural institutions of a community. Most of the benefits of urban revitalization, as reported by residents, come from improvements in the surrounding area and greater satisfaction with nearby services and amenities.<sup>42</sup> Neighborhood amenities specifically addressed by the EHNP zoning recommendations include cultural institutions, greenspaces and community gardens.

In terms of cultural institutions, research has found that the arts, as provided by cultural institutions, can induce positive physiological and psychological changes in clinical outcomes; reduce drug consumption, improve mental health care, and reduce depression and blood pressure.<sup>35</sup> In regards to community gardens and greenspace, community gardens can provide a source of fresh fruits and vegetables for the community, particularly in an area where access to fresh foods is difficult. Research shows that living in greener environments is associated with fewer self-reported health symptoms and better self-rated health.<sup>70</sup> Gardens can also provide a venue for social interaction, supporting the development or maintenance of social cohesion and social capital.<sup>35</sup> Lastly, community gardens have been shown to have a positive impact on BMI, with gardeners in a community having a lower BMI than their non-gardening neighbors.<sup>71</sup>

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