A HEALTH IMPACT ASSESSMENT OF SUBSIDIZED HOUSING IN DUVAL COUNTY, FLORIDA

A Look at the Health Impacts of Subsidized Housing Quality in Duval County
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HIA Contributors:

- Ann R. Shorstein, Volunteer Attorney, Jacksonville Area Legal Aid
- Chris W. Baynard, Ph.D., Center for Economic and GIS Research, Coggin College of Business, University of North Florida
- James A. Kowalski Jr., President and CEO, Jacksonville Area Legal Aid
- Katherine Hanson, Staff Attorney, Jacksonville Area Legal Aid
- Sheena Gupta, MD, MBA - Pediatric Resident at UF College of Medicine - Jacksonville
- Stephen Pitel, Staff Attorney, Jacksonville Area Legal Aid
Executive Summary

The Health Planning Council of Northeast Florida (HPC) spearheaded a health impact assessment (HIA) initiative to study the quality of life and housing conditions of residents living in subsidized housing in Duval County, Florida, with support and input from Jacksonville Area Legal Aid. The purpose of this assessment is to carefully examine the issues faced by residents of subsidized housing and to use data and research to develop priorities and promote policy changes that will improve the health of subsidized housing residents.

Affordable quality housing is an important determinant of health. Residents in subsidized housing communities face many barriers to their health and well-being, and they often feel powerless in making the changes necessary to improve their living conditions. Exposure to mold, fungi, dust mites, mosquitoes and other issues associated with improper air circulation, excess moisture, and lack of screens have been proven to have many adverse effects on health, including asthma and respiratory issues. Without screens on doors and windows, residents may also have excess exposure to pests and vectors of disease, such as mosquitoes.

HIAs are a flexible, data-driven approach used to help create healthier communities by identifying the potential health effects of a policy or program on a population, particularly on vulnerable or disadvantaged groups. Recommendations are produced for stakeholders, with the goal of maximizing the proposal’s positive health effects and reducing its negative health effects. HIAs can benefit the field of public health, community members, and decision-makers.¹

HIAs involve a 6-step process that includes: Screening (identify projects or policies for which an HIA would be useful, including the context and background as applicable); Scoping (identify which health effects to consider); Assessing risks and benefits (identify which people may be affected and how they may be affected); Developing recommendations (suggest changes to proposals to promote positive or mitigate adverse health effects); Reporting (present the results to decision-makers); and Evaluating (determine the effect of the HIA on the decision).²

This project utilized the rapid HIA method due to time and resource constraints. A rapid, or mini, HIA has been described as a “desk top” exercise that relies on information already available “off the shelf” and requires limited consultation with stakeholders.³ Through the HIA process, participants convened to review demographic and socioeconomic data, environmental indicators, health data, health literature, and community input in the form of testimony and surveys of subsidized housing residents living in Duval County.

Health data reviewed included leading causes of death, influenza and pneumonia death rates, maternal and child health indicators, respiratory illness rates, analysis of respiratory illness-related hospital discharge data, and heat-related health care utilization data. In addition, data collected from the 500 Cities Project, an initiative of the Centers for Disease Control and Robert Wood Johnson Foundation (RWJF), were mapped to show physical and mental health characteristics as well as health insurance access issues of Duval County residents.

Community input from residents of subsidized housing units was gathered through tenant surveys and testimonials, which illustrate the problems related to the poor housing conditions experienced by these residents. This HIA also includes an analysis of Municipal Code Compliance violations in one of Duval

County’s subsidized housing complexes. Eureka Gardens Apartments, a subsidized apartment complex, was selected for the qualitative analysis component of the HIA because its residents face many issues related to their basic housing needs and because qualitative data for Eureka Gardens were readily available.

This HIA and previous reports from the Florida Department of Health-Duval County found that residents living in Health Zone 1 (HZ 1) experience disparities in many health indicators in comparison to other areas of Duval County. HZ 1 has a high concentration of residents living in subsidized housing units – 47.6% of subsidized housing (also known as “Federally assisted subsidized housing” or project-based Section 8 housing) in Duval County is located in HZ 1 – as well as the highest percentage of minorities living in poverty. Poverty and poor housing conditions can both contribute to the existence of health disparities. Residents living in HZ 1 experience a higher percent of births with low birth weight, higher rates of influenza and pneumonia deaths, higher rates of asthma-related hospitalizations and emergency room visits (for both children and adults), and higher rates of heat-related emergency room visits.

Qualitative data analysis revealed that residents living in subsidized housing face poor-quality housing conditions, including lack of air conditioning and screen doors, missing window screens, insect infestations, moisture and mold issues, as well as numerous repair requests for their housing units that go ignored. Residents living with mold and moisture issues are at an increased risk for serious and costly health issues, such as asthma and respiratory illness. Additionally, due to inadequate screens and lack of air conditioning, subsidized housing residents could be at risk of exposure to mosquito-borne illness, such as the Zika virus, if they seek air ventilation by leaving doors or windows open without screen barriers to block mosquitos.

HIA participants also examined local initiatives aimed at improving quality of life that closely relate to the focus of this HIA to look for health improvement opportunities and partnerships. The University of Wisconsin’s Population Health Institute and RWJF produce the County Health Rankings and Roadmaps, which rank U.S. counties according to a number of factors that influence health. In 2016, Duval County ranked 48th out of 67 Florida counties in health outcomes, leading Jacksonville Mayor Lenny Curry to create the Journey to One initiative to move Duval County to the number one ranked county in Florida. According to Journey to One, the health of a city is defined by the well-being of its citizens. Duval County ranked 58th of 67 counties in the physical environment category, which includes indicators related to severe housing problems. Good health depends on having homes that are safe and free from physical hazards. According to RWJF, adequate housing protects individuals and families from harmful exposures and can make important contributions to health. In an effort to help move Duval County to the number one county in Florida, it is useful to understand existing health initiatives in place, like Journey to One.

The information collected in this HIA helped identify priority areas for improvement for residents living in subsidizing housing communities. HIA participants proposed changes to existing housing policy, including the Jacksonville Ordinance Code and Florida Statutes, to promote the health and well-being of vulnerable communities. HIA participants also developed several other recommendations aimed at improving community health, increasing partner coordination, and encouraging the consideration of health in community decision-making processes. The HIA recommendations are as follows:

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4 See appendix for an explanation of this number.
- City of Jacksonville (COJ) should update the Ordinance Code and Florida legislators should update Florida statutes to include modifications that would require screens for every door opening directly to outdoors and for all windows, unless a building has central air conditioning capable of adequately cooling and ventilating the building. Further, COJ should improve enforcement and compliance with existing and new standards. Proposed changes to housing policy are intended to maximize positive health outcomes and mitigate negative health outcomes for vulnerable populations living in subsidized housing. Door screens on rental units are not currently required by Florida law, and many residents of project-based Section 8 housing complexes in Jacksonville (including Eureka Gardens and Washington Heights) live without central air conditioning or ceiling fans and leave their doors open to get ventilation in the summer months. This puts these low-income residents at increased risk of mosquito bites. Providing screen doors to tenants who do not have central air conditioning will allow these residents to ventilate their apartments by leaving their doors open without exposure to mosquitos or other pests.

- COJ should reassess the code inspection tracking process and periodically report on inspection results.
  - Establish ongoing training to increase the quality of code enforcement inspections and to raise awareness of housing-related health issues among inspectors.
  - COJ leadership should consider modifying the inspection schedule based on property and tenant characteristics. Modifying the schedule to account for property age and property size may minimize health risks, as these housing characteristics are often associated with a greater number of health-related housing quality issues. Though affordable housing tenants may all be considered to be vulnerable populations based on their income, subgroups within this population may be at an increased risk. The frequency of inspections should vary depending on:
    - Housing characteristics: age of property, number of units, unfavorable inspection history
    - Composition of tenancy: older adults, families with children, individuals with disabilities, minorities, and other vulnerable populations

- Coordinate between the Florida Department of Health in Duval County, Health Planning Council of Northeast Florida, healthcare providers, and U.S. Department of Housing and Urban Development to monitor and address chronic health conditions of subsidized housing residents.

- Implement a single standard across entities, which is most likely to find health-related quality and safety problems in order to optimize health. A standardized physical inspection tool will increase consistency in reporting and non-compliance remediation, which will improve health.

- Incorporate the “Health in All Policies” approach in COJ decision-making processes. Health in All Policies (HiAP) recognizes that health is a result of many factors, including factors that are traditionally outside the scope of public health. These factors, also called the social determinants of health, include education, housing, transportation options, and neighborhood safety. HiAP is an approach that seeks to improve health through collaboration across sectors and the consideration of health in decision-making processes of all agencies, not just those agencies directly responsible for health. Several national health organizations promote the use of HiAP, including the Centers for Disease Control and Prevention, the American Public Health Association, and the National Association of County and City Health Officials. HIA participants will meet with local elected officials to share results of the health impact assessment and discuss these recommendations. From there, steps will continue to be taken to promote the HIA recommendations to improve the quality of life for residents living in subsidized housing in Duval County.

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Introduction

The link between housing conditions and health has not always been central to local, state, and federal agency decision-making processes or policy. This health impact assessment (HIA) seeks to bring systematic consideration of health into the discussion of housing policy changes. This HIA was conducted between September 2016 and February 2017 by the Health Planning Council of Northeast Florida with input and support from Jacksonville Area Legal Aid. Through the assessment process, participants reviewed current policies for subsidized housing in the city of Jacksonville and the state of Florida and proposed changes to policy. Proposed recommendations are rooted in data and literature gathered during the HIA process and are intended to address potential health impacts of housing policy on low-income tenants.

Quality of housing is an important social determinant of health. Where we live, work, and play have the potential to help—or harm—our health in many ways. For example, poor quality and inadequate housing contribute to health problems such as infectious and chronic disease, injuries, and poor childhood development.11 On the contrary, healthy homes can promote good physical and mental health and can lead to more positive health outcomes. Signs of poor housing can include overcrowding, insect and rodent infestation, mold, and the presence of lead-based paint. Low-income, minority populations are especially vulnerable to poor housing conditions because persons with fewer resources are both more likely to encounter substandard housing and have less capacity to remedy issues than those with greater resources, which contributes to health disparities across socioeconomic groups in the U.S.12 While subsidized housing serves an important role in providing access to affordable housing for low-income families, substandard housing conditions can lead to significant health issues furthering health disparities.

The HIA tool was used because it helps decision-makers better recognize the potential health consequences of non-health policy decisions. By bringing health into the conversation, leaders can have more informed conversation and decision-making surrounding changes to policies, projects, and programs. More recently, HIAs have grown in popularity in the United States because they fill a critical gap in policy making.

The frequency with which HIAs are conducted in the housing sector has grown in recent years. “Between 2012 and 2014, 17 housing HIAs were completed or underway, up from just one completed between 2002 and 2004”.13 Many completed housing HIAs focused on specific housing features or broader community development proposals.14 This HIA seeks to further link housing and health through incorporating health in the conversation about subsidized housing policy in Jacksonville, Florida.

14 Health Impact Project. 2016.
Background on Subsidized Housing

“Federally-assisted subsidized housing,” which is the subject of this study, is not “Public Housing.” Public Housing was established in 1937 through the United States Housing Act. Today, there are 943,000 households that live in Public Housing units. Public Housing is limited to low-income families and individuals earning below 80% of the area median income. Before Congress suspended the federal preferences for Public Housing in the mid-1990s, applicants facing involuntary displacement, living in substandard housing, or paying more than 50% of income for rent had highest priority for admission. In 1998, Congress authorized local housing authorities to establish admission preferences to reflect local community needs.

Public Housing is owned and operated by a local housing authority in Jacksonville: the Jacksonville Housing Authority (JHA). Because Public Housing began in the mid-1930s, there was no air conditioning in any of the units. Today, all “Public Housing” units owned by the JHA are now air conditioned. Whether all Public Housing units throughout the state of Florida have been updated with air conditioning is unknown at this time.

Congress has not funded the construction of new units in decades, and to produce or acquire Public Housing units, the following methods are utilized:

1. The Public Housing Authority (hereinafter referred to as PHA) may act as the developer of a project to be newly constructed or substantially rehabilitated.
2. Under the Turnkey program, the PHA may solicit bids from private developers, select one, and then purchase the project upon completion.
3. PHA may acquire existing residential buildings on the private markets.

However, in recent years, new units have only been constructed pursuant to funding provided under special programs such as HOPE VI, Choice Neighborhoods, or in mixed-financed developments.

“Federally assisted subsidized housing” (hereinafter “Subsidized Housing”) is privately owned complex housing usually built with Federal HUD assistance, and whose tenants’ rents are, in part or in whole, subsidized by Federal HUD Section 8 Project-based contracts where the residents pay 30% of their adjusted gross income towards their rent and Federal HUD pays the balance. Some of these complexes were built prior to being used as Subsidized Housing, such as Roosevelt Gardens, which was built in 1949. Most of these Subsidized Housing complexes, like Eureka Gardens (1971) and Washington Heights (1969), were built starting in the late 1950s and continued to be built into the early 1980s when the program was stopped. While some of the elderly and disabled complexes are newer, the newest of the family complexes in Jacksonville, Mandarin Trace Apartments, was built in 1983. Most of these complexes did not have air conditioning when originally built (except for complexes for the elderly). Most, but not all, of these complexes now have installed air conditioning systems. These complexes range from

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17 National Housing Law Project. (2012). HUD Housing Programs: Tenants' Rights (4th ed.), Section 1.2.1
20 Phone conversation with Jacksonville Housing Authority
22 National Housing Law Project. (2012). HUD Housing Programs: Tenants' Rights (4th ed.), Section 1.2.1
23 National Housing Law Project. (2012). HUD Housing Programs: Tenants' Rights (4th ed.), Section 1.2.1
under a dozen units, to some containing several hundred units. In Jacksonville, there are over 3,000 units of this type, home to about 10,000 residents and children.

In 1968, Congress began the Section 236 program, which replaced Section 221(d)(3) Below Market Interest Rate (BMIR) mortgage insurance program and which was also intended to subsidize the development of privately owned housing for low and moderate income families.25 This program was active until Congress stopped appropriating funds for it in 1973.26 Under Section 236, nonprofit or private limited dividend sponsors developed newly constructed or substantially rehabilitated apartment buildings financed with FHA-insured mortgages. In the late 1970s to early 1980s, HUD converted almost all the units in Section 236 projects that were subsidized under the Rent Supplement (or RAP programs) to the project-based Section 8 program.27

Section 8 Vouchers are tenant-based vouchers through which HUD provides rental subsidies for standard-quality units that are chosen by the tenant in the private market.28 The vouchers are administered through local PHAs, HUD, or any state or local agency authorized to administer Section 8 tenant-based assistance. Each agency has a cap on the number of vouchers it is authorized to administer. An agency’s number of authorized vouchers is the sum of the vouchers that the agency has been awarded since the start of the voucher program. Congress appropriates funds for the program annually but froze appropriations in 1995 for several years despite the growing need.29 Congress later began funding a small number of new vouchers and renewed virtually all of the existing ones. The new vouchers are issued as “special-purpose” vouchers which are designated for special populations such as veterans and disabled persons.30
Methodology & Health Impact Assessment Steps

The World Health Organization uses the following definition of health impact assessment:

“A combination of procedures, methods and tools by which a policy, program or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population.”

HIAs involve a 6-step process, which includes:

- **Screening** (identify projects or policies for which an HIA would be useful, including the context and background as applicable);
- **Scoping** (identify which health effects to consider);
- **Assessing** risks and benefits (identify which people may be affected and how they may be affected);
- **Developing recommendations** (suggest changes to proposals to promote positive or mitigate adverse health effects);
- **Reporting** (present the results to decision-makers);
- **Evaluating** (determine the effect of the HIA on the decision).

A rapid, or mini, HIA has been described as a “desk top” exercise that relies on information already available “off the shelf” and requires limited consultation with stakeholders. This project will utilize the rapid HIA method due to resource and time constraints, such as a desire to use the results of this HIA during 2017 policy-making (e.g., the 2017 Florida legislative session).

While utilizing the HIA framework has many benefits, it also has limitations. First, it is difficult to estimate the full range of health effects resulting from educational and behavioral interventions, because these are realized over a long period of time and often have confounding factors. The best way to overcome this would be to complete a longitudinal study as a part of the evaluation phase which would monitor the actual health effects over long spans of time while controlling for as many other variables as possible or using a control group and a randomized sample. At the time of this HIA, a longitudinal study was not an option due to time and resource constraints, but would be a worthwhile goal in the future.

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34 Parry, Jayne and Andrew Stevens. (2001).
Screening & Scoping

Screening
The first step in the HIA process is screening. Screening involves determining whether an HIA would be a useful tool for evaluating the project, program, or policy in question. The underlying purpose of this step is to outline:

- The potential for the decision/policy public health effects which will likely affect the population of interest, particularly those effects which are avoidable, involuntary, adverse, irreversible, or catastrophic.
- The potential for health impacts on vulnerable populations.
- Stakeholder concerns about health impacts.
- Potential for the HIA to add new information or to result in changes to the decision.
- Availability of data and alternative opportunities.

In the initial screening conversation, HIA participants identified subsidized housing policy change as a possible need in Jacksonville, Florida. Proposed changes to housing policy are intended to maximize positive health outcomes and mitigate negative health outcomes for vulnerable populations living in subsidized housing. Below are the proposed addition to the Jacksonville Ordinance Code and the current Florida Statutes with proposed amendments indicated by underlining:

Proposed Amendments to Jacksonville Ordinance Code

§ 518.419(f)(9)

(iii) Every door opening of an apartment, apartment house, multiple dwelling, dwelling unit within a multiple dwelling, roaming house, or roaming unit, which opens directly to the exterior shall be supplied with a self-closing screen door with screens of not less than 16 mesh an inch as a protection against mosquitoes, flies and other insects. Screens on said exterior doors shall be stretched and fitted and maintained without open rips or tears. Dwelling units within the above described buildings containing central air conditioning which is capable of adequately cooling and ventilating the dwelling unit are not required to have self-closing screen doors on the door openings to the exterior.

Proposed Amendments to the Florida Statutes

§ 83.51 Fla. Stat.

(b) Where there are no applicable building, housing, or health codes, maintain the roofs, windows, doors, floors, steps, porches, exterior walls, foundations, and all other structural components in good repair and capable of resisting normal forces and loads and the plumbing in reasonable working condition. The landlord must install screens on all exterior openable windows and doors.

The landlord, at commencement of the tenancy, must ensure that all screens are installed in a reasonable condition. Thereafter, the landlord must promptly repair damage to screens when necessary, and at least once annually, until termination of the rental agreement. Buildings containing central air conditioning equipment which is capable of adequately cooling and ventilating the building are not required to have screens on windows or other openings used for ventilation.

The screening conversation led to the understanding that the subsidized housing sectors in Jacksonville and throughout the nation primarily deal with low-income and racially diverse populations, which means changes to subsidizing housing policy could positively impact health inequities. Additionally, subsidized housing in Jacksonville has recently been the focus of media and political attention. Both community leaders and citizens are interested in the health impacts and poor health outcomes possibly associated with subsidized housing. These factors combined demonstrate that an HIA is an appropriate tool to examine housing policy change at both the local (i.e. Duval County) and state levels. This HIA has the potential to provide new information on the subject of housing and health in Florida and to improve health outcomes of residents living in subsidized housing communities.

Scoping

The goal of the scoping step is to define the scope (e.g., geography, health impacts, etc.), objectives, and approach for the assessment phase. Scoping answers the following questions:

- Which health effects should the HIA address?
- What concerns have stakeholders expressed about the pending decisions?
- Who will be affected by the policy or project, and how?

According to the HIA Practice Standards, this stage determines the roles of HIA participants and goals of the project and also determines:

- The project alternatives in question.
- Potential health impacts and vectors of each.
- Demographic, geographic, and temporal boundaries of the analysis of health impacts.
- Vulnerable populations.
- Research question(s) or methodology to be used.
- Roles for stakeholders and key informants.
- Plan for dissemination of information.

During the scoping phase, the Health Planning Council of Northeast Florida and HIA participants examined scientific literature, reports, and government research to document the impact of housing on human health. Community feedback was obtained through surveys and testimony from current subsidized housing residents. Through this research, the HIA participants determined research questions, assessment methods, data sources, and recommendations, and the health pathway diagrams showing possible effects of policy changes. Figure 1 shows the health pathways associated with requiring central air conditioning in housing units, and Figure 2 shows the health pathways associated with requiring screen doors in housing units.

**Figure 1. Health Pathways Associated with Changing Policy to Require Central Air Conditioning**

Proposed Δ to current subsidized housing policy to include central A.C. in homes

Δ in living conditions

↓ moisture

↓ mold

↓ allergies

↓ asthma, respiratory disease

↓ disruption for property managers

↑ time property managers spend on other property issues

↑ resources for supportive services

↓ operating expenses at multifamily projects

↓ indoor air quality

**Figure 2. Health Pathways Associated with Changing Policy to Require Screen Doors**

Proposed Δ to current subsidized housing policy to include screen doors on homes

Δ in living conditions

↓ vectors (pests)

↓ mosquito exposure and bites

↓ mosquito-borne illnesses

↓ skin infection & infectious diseases

↓ allergies

↓ disruption for property managers

↑ time property managers spend on other property issues

↓ operating expenses at multifamily projects

↑ resources for supportive services
Housing & Respiratory Health

Exposure to mold, fungi, dust mites, pests, and other issues associated with a lack of air circulation and excess moisture have many adverse effects on health. Respiratory issues, including wheezing, coughing, asthma, and other chronic respiratory problems, have an extremely strong correlation to the presence of dampness and/or mold in living quarters.

In general, approximately 8% of the United States population suffers from asthma, with more children than adults being affected. Additionally, asthma affects more minorities than whites. Though perhaps not directly related to dampness or mold, the presence of cockroaches and pesticides contributes to the development of asthma in children. Pest infestations are generally underreported.

A comprehensive meta-analysis conducted by the World Health Organization concluded that “[t]he overall evidence shows that house dampness is consistently associated with a wide range of respiratory health effects, most notably asthma, wheeze, cough, respiratory infections and upper respiratory tract symptoms”. Most significantly, the WHO observed that “dampness or [mold] in the main living area of a house was related in a dose-response fashion to asthma development in infants and children”. This dose-response relationship was not a new observation, however; a similar dose-response relationship was observed by Williamson, et al. in 1997, and a 2001 study concluded “there is now evidence that the relation between damp housing and ill health is causal”. A more recent study concluded that 8-20% of bronchitis and respiratory infections are caused by – not merely correlated with – mold and dampness.

The prevailing literature points towards ventilation and heating systems in housing as the primary culprit for dampness and mold related respiratory issues. In fact, “[d]amp, cold, and moldy housing is associated with asthma and other chronic respiratory symptoms, even after potentially confounding factors such as income, social class, smoking, crowding, and unemployment are controlled for”.

Mold remediation generally produces improvements in respiratory health. However, remediation cannot necessarily remove all exposure factors, and remediation is more effective at preventing the development of disease rather than curing it.

According to Matsui et al., damp environments exacerbate and contribute to pest infestations and dust mites, which in turn cause and exacerbate asthma. Dust mites can cause the onset of asthma in mite-sensitized individuals, and due to the size of dust mites and the particles they produce, air filtration is not

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40 Salam, Li, Langholz, Gilliland. "Early-life environmental risk factors for asthma: findings from the Children's Health Study." Environmental Health Perspectives (2004).
43 World Health Organization, Europe. 2009.
49 Braubach, Jacobs, Ormandy. 2011.
an effective solution. Cleanliness – regular washing of linens and fabrics, dusting, etc. – is the most effective means of combating dust mite allergens.

**Housing & Heat**

Humans are adapted to living in conditions ranging from 63 to 87 degrees (Fahrenheit), with that range narrowing with age or illness. The threshold for dangerously high temperatures is strongly related to local summer temperatures – i.e. people who live in areas with high summer temperatures can safely withstand higher temperatures than people from colder climates. A number of health conditions can affect susceptibility to heat stroke, including obesity, diabetes, cardiovascular conditions, and depression. Low-income populations, with their increased incidence of these contributing conditions, are especially vulnerable to dangerously high temperatures.

Brick buildings, upper-floor living quarters, and areas without adequate ventilation are most dangerous during times of high temperatures. Additionally, buildings in urban areas are more dangerous than those in non-urban locales because building density lessens nighttime cooling. Air conditioning is always the most effective method of reducing risk during period of high temperatures, subject only to the availability of electricity.

**Mosquito-Borne Illness**

Zika virus is spread by the Aedes genus of mosquitos. Zika is the only known mosquito-borne disease that can be sexually transmitted, with the virus residing in seminal fluid for up to 6 months after infection. The large majority of Zika cases are asymptomatic. When there are symptoms, they generally last for 3 to 12 days and are flu-like, or can also present similarly to dengue. There is no treatment for the Zika virus itself, only its symptoms. There is also no bedside test available, so diagnosis requires complex lab work of a patient’s blood sample.

Zika is the only known mosquito-borne virus able to cross the placenta; therefore, the true danger of Zika is to pregnant women and babies, as there is a very high association with microcephaly in children born to Zika-infected mothers. Pregnant women suspected of being infected with Zika should immediately be referred to a specialist. When pregnant women become infected with the Zika virus the infection can cause the fetus to suffer from microcephaly, central nervous system malformation, and may cause excess fluid in the brain cavities and surrounding the brain, absent or poorly formed brain structures, abnormal eye development, or other problems resulting from damage sometimes leading to death.

References:

64 Sikka, Chattu, Popli, Galwankar, Kelkar, Sawicki, Stawicki & Papadimos. (2016).
is no cure for microcephaly and many children born with this condition, if they survive, will require long-term care as a result of the disabilities caused by the infection. The lifetime cost for surviving infants with Zika virus-associated microcephaly “was estimated at $3.8 million per infant, taking into account infant and child mortality and discounting of costs in future years at a 3% rate per year; the sum of undiscounted costs for children who survive to adulthood might reach $10 million.”

Among non-pregnant persons, Zika virus may also cause Guillain-Barre syndrome and other central nervous system problems as well as blood disorders.

The vast majority of reported Zika infections in Florida have been travel-related. Statistical modeling suggests “the effective transmission potential of Zika is substantially low in the state of Florida even in an area with a history of sustained transmission of dengue and chikungunya during the summer months.” Dihn and colleagues used statistical modeling to predict that infection rates are expected to decline at the end of 2016, though their assessment has some limitations, including that the statistical model did not account for seasonality of local transmission and looks at a relatively short time period (May-September 2016).

Florida maintains a robust surveillance system for mosquito-borne illnesses. Sentinel flocks of birds are frequently tested around the state, hydrological conditions are factored in, and mosquitoes are tested for their maturation in an effort to identify potentially infectious populations. However, Florida’s system is primarily built to combat diseases spread by the Culex genus of mosquito, not the Zika-carrying Aedes genus. High-level efforts to combat the spread of Zika are generally focused on genetically modified mosquitos that will alter mosquito populations to either cull their numbers or reduce their infectiousness.

As of January 12, 2017, the Florida Department of Health (FDOH) reported 257 locally acquired cases of Zika and 1,026 travel-related infections of Zika. FDOH has reported 210 pregnant women with lab evidence of Zika in Florida. A locally transmitted case of Zika has been confirmed in Florida’s Miami-Dade County as recently as January 2017. While there are no longer any areas in Florida with active Zika virus transmission, there will continue to be isolated cases of local transmission so those living in or traveling to Miami-Dade County should be vigilant about protecting themselves against mosquitoes. Jacksonville is susceptible to Zika as the city is home to one of Zika’s primary vectors, the Aedes species of mosquito.

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78 Leal. (2016).
Efforts on the individual level to prevent Zika infection are similar to those for preventing any form of mosquito-borne disease. Standing water should be drained, windows and open doors should have screens over them, and in extreme cases bed nets should be employed.85

Door screens on rental units are not currently required by Florida law, and many residents of project-based Section 8 housing complexes in Jacksonville (including Eureka Gardens and Washington Heights) live without central air conditioning or ceiling fans and leave their doors open for ventilation in the summer months. This puts these low-income residents at increased risk of mosquito bites.

Provision of screen doors to Jacksonville renters who do not have access to central air conditioning may reduce the incidence of mosquito bites, as these tenants, who leave their doors open for ventilation, would have a means of achieving ventilation without leaving their homes open to mosquito invasion.

Zika has the potential to have a significant financial impact on Jacksonville. Such costs include not only the cost of spraying for mosquitoes in an attempt to limit the likelihood of a Zika outbreak (much of the direct outlay nationwide)86 but also, in the event of locally transmitted Zika cases, as a result of the medical care required to treat children born with microcephaly as the result of the infection. The CDC estimates the lifetime cost of treating a child with microcephaly to be more than $3.8 million,87 with other estimates bringing that total to nearly $10 million per infant.88 Costs to Jacksonville may also result from loss of tourism and lost worker productivity.89

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89 Zagorsky, Jay. (2016).
Background on the Community

The socioeconomic characteristics of a community – including age, gender, racial and ethnic background, education, and economic characteristics – influence the community’s health status and needs. This section provides an overview of the demographics and socioeconomic characteristics of Duval County, Florida. The data in this section are analyzed at the county, health zone, or zip code level depending on data availability.

Population Demographics

The total population of Duval County, Florida is 880,750 people, which is about 4.5% of Florida’s total population of 19,361,792. The population of Duval County is 51.5% female and 48.5% male. The median age in Duval County is 35.9 compared to a median age of 41.2 in Florida. Figure 3 shows the age makeup of Duval County and the state of Florida. See Appendix A for more detailed data on population age by Health Zone in Duval County.

**Figure 3. Age Makeup of Population in Duval County & Florida, 2010-2014**

![Age Makeup Chart](chart.png)

Data Source: American Community Survey 5-Year Estimates, Table DP05, 2010-2014

Figure 4 shows population by race in Duval County and Florida from 2010-2014. Duval County’s population is 62% white, 29% black, 4% Asian, and 3% two or more races. The population of Duval County is 8% Hispanic/Latino and 92% not Hispanic/Latino.
Socioeconomic Indicators

According to the Florida Department of Health-Duval County Community Health Improvement Plan:

Duval County is divided into six health zones, each made up of several zip codes. The zones were created to increase statistical reliability of zip code data, allow more focused program planning, facilitate more practical surveillance of health indicators, and ensure confidentiality of data. These zones were based on Duval County Public Schools, Jacksonville Sheriff’s Office, and Community Planning Action Council’s existing geographic boundaries. In addition, zones were also based on geographical locations/barriers (river, ocean) and demographic similarities (i.e. rural, urban).90

Figure 5 shows the county’s six health zones. The following zip codes make up each Health Zone:

- Health Zone 1: 32202, 32204, 32206, 32208, 32209, 32254
- Health Zone 2: 32207, 32211, 32216, 32224, 32225, 32246, 32277
- Health Zone 3: 32217, 32223, 32256, 32257, 32258
- Health Zone 4: 32205, 32210, 32212, 32214, 32215, 32221, 32222, 32244
- Health Zone 5: 32218, 32219, 32220, 32226, 32234
- Health Zone 6: 32227, 32228, 32233, 32250, 32266

Health Zone 1 has a high concentration of residents living in subsidized housing units – 47.6% of subsidized housing (also known as “Federally assisted subsidized housing” or project-based Section 8 housing) in Duval County is located in Health Zone 1 – as well as the highest percentage of minorities living in poverty. Poverty and poor housing conditions can both contribute to the existence of health disparities.

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Figure 6 shows the unemployment rate, population below poverty level, and population using public assistance (e.g., food stamps and cash assistance) in Duval County and each of the county’s six Health Zones. Duval County had an unemployment rate of 7.2% in 2014. Health Zone 1 (HZ1) had the highest unemployment rate (9.1%), while HZ6 had the lowest unemployment rate (3.7%).

Approximately 25% of children ages 0-17 in Duval County live below poverty, and approximately 17% of the total county population lives below poverty. HZ1 has the greatest portion of its population living below poverty level. In HZ1, more than half of children live below poverty level, and approximately 38% of all people in HZ1 live below poverty. Health Zone 3 has the smallest portion of its population living below poverty level.

In Duval County, 15.5% of people receive food stamps/SNAP benefits and 2.9% receive cash public assistance. HZ1 has the highest portion of its population receiving food stamps/SNAP benefits (33.2%) and cash public assistance (6.2%), while HZ6 has the lowest portion of its population using food stamps/SNAP (7%) and cash assistance (1.5%).
Figure 6. Economic Characteristics of Health Zones and Duval County, 2014

<table>
<thead>
<tr>
<th></th>
<th>HZ1</th>
<th>HZ2</th>
<th>HZ3</th>
<th>HZ4</th>
<th>HZ5</th>
<th>HZ6</th>
<th>Duval</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Unemployed</td>
<td>9.1%</td>
<td>6.5%</td>
<td>5.7%</td>
<td>7.4%</td>
<td>8.2%</td>
<td>3.7%</td>
<td>7.2%</td>
</tr>
<tr>
<td>% Below Poverty Level</td>
<td>37.6%</td>
<td>15.2%</td>
<td>9.4%</td>
<td>20.7%</td>
<td>14.0%</td>
<td>12.3%</td>
<td>17.4%</td>
</tr>
<tr>
<td>% Below Poverty Level 0-17</td>
<td>50.6%</td>
<td>23.2%</td>
<td>11.3%</td>
<td>27.0%</td>
<td>18.0%</td>
<td>15.7%</td>
<td>25.4%</td>
</tr>
<tr>
<td>% with Food stamps/SNAP benefits</td>
<td>33.2%</td>
<td>12.8%</td>
<td>7.6%</td>
<td>14.5%</td>
<td>14.1%</td>
<td>7.0%</td>
<td>15.5%</td>
</tr>
<tr>
<td>% cash public assistance</td>
<td>6.2%</td>
<td>2.7%</td>
<td>1.7%</td>
<td>2.3%</td>
<td>1.8%</td>
<td>1.5%</td>
<td>2.9%</td>
</tr>
</tbody>
</table>

Data Source: Florida Department of Health – Duval County

Figure 7 shows the average household income, median household income, and per capita income for Duval County and each of the county’s six Health Zones in 2014. Health Zone 3 has the highest average household income and median household income, as well as the second highest per capita income. Health Zone 1, the urban core, has the lowest average household income, median household income, and per capita income.

Figure 7. Income Levels in Duval County by Health Zone, 2014

Figure 8 shows the highest level of education attained by residents of Duval County and each of the county’s six Health Zones. Health Zone 1 has the greatest portion of residents with less than a high school diploma (22%), while Health Zone 3 has the greatest portion of resident’s with an associate’s degree or greater (50%).

Data Source: Florida Department of Health – Duval County
Figure 8. Educational Attainment by Health Zone in Duval County, 2014

Data Source: Florida Department of Health–Duval County
Demographics of Project-Based Section 8 Housing in Duval County

Figure 9 shows the location of project-based Section 8 housing (also known as Federally Subsidized or HUD housing) in Duval County, Florida.

**Figure 9. Section 8 Housing Locations, Jacksonville, Florida, 2017**
Figures 10 and 11 zoom in to provide additional detail on the location of project-based Section 8 housing in Duval County.

**Figure 10. Section 8 Housing Locations, North and Westside Jacksonville, FL, 2017**

Map by: CW Baynard, Ph.D
Center for Economic and GIS Research
Coggin College of Business
University of North Florida
(Jan. 2017)

Source: K Hanson, Jacksonville Area Legal Aid (Jan 2017)
ESRI: 2017

42 Project Locations
Figure 11. Section 8 Housing Locations, Southside Jacksonville, FL, 2017
There are 6,831 project-based (PB) Section 8 Units in Duval County with a total number of 13,083 residents and an occupancy rate of 96%. Eureka Gardens No. 1, one of these PB Section 8 Units, comprises 298 units and is home to 866 residents with an occupancy rate of 98%. The Department of Housing and Urban Development (HUD) subsidizes approximately $600 per month in rent costs for residents in all PB Section 8 Public Housing Units in Duval County. Tenants in Eureka Gardens No. 1 pay $107 per month in comparison to $218 paid by residents living in other PB Section 8 Public Housing Units.91

**Race and Ethnicity**

As shown in Figure 12, 94% of residents living in Eureka Gardens No. 1 are minority, of which 87% are Black.

**Figure 12. Race and Ethnicity of Project-Based Section 8 Public Housing Residents, 2015**


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Household Income

The household income of residents living in Eureka Gardens No. 1 is lower than residents living in other PB Section 8 Housing Units throughout Duval County. The total household income of Eureka Gardens No. 1 residents is $4,997 in comparison to $9,823 of residents in all other PB Section 8 Housing Units.

Figure 13 shows the distribution of income for those living in PB Section 8 housing in Duval County by income category. Approximately 65% of residents living in Eureka Gardens No. 1 are in households with incomes less than $5,000 compared to 26% of residents living in all other PB Section 8 Housing units in the county.

**FIGURE 13. HOUSEHOLD INCOME OF PROJECT-BASED SECTION 8 PUBLIC HOUSING RESIDENTS, 2015**

Health Assessment

How Does Duval County Stack Up?

County Health Rankings

County Health Rankings & Roadmaps, produced by the University of Wisconsin and Robert Wood Johnson Foundation, are a collection of reports that illustrate the overall health of counties in every state across the country and provide a comparison of counties within the same state. Two major categories exist for County Health Rankings: health outcomes and health factors. Health outcomes are measures that describe the current health status of a county. These health outcomes are influenced by a set of health factors. Health factors and their subsequent outcomes may be affected by community-based programs and policies designed to alter their distribution in the community. Counties can improve health outcomes by addressing all health factors with effective, evidence-based programs and policies.

The report ranks Florida counties according to their summary measures of health outcomes and health factors, as well as the components used to create each summary measure. Outcomes rankings are based on an equal weighting of mortality and morbidity measures. The summary health factors rankings are based on weighted scores of four types of factors: behavioral, clinical, social and economic, and environmental.

In 2017, Duval County ranked 55th out of the 67 Florida counties in health outcomes, which look at length of life and quality of life, and 32nd out of 67 counties in health factors. There were significant differences, however, when examining the individual rankings for each of the four topics considered for the health factors score. Health factors include health behaviors (ranked 36th), clinical care (ranked 10th), social and economic factors (ranked 35th), and physical environment (ranked 58th out of 67 counties). Figure 14 below lists the four topics, along with the types of indicators included within each, and the corresponding rank for Duval County.

**Figure 14. Duval County Health Factors Rankings, 2016**

<table>
<thead>
<tr>
<th>Health Behaviors</th>
<th>Clinical Care</th>
<th>Socioeconomic</th>
<th>Physical Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco</td>
<td>Access to Care</td>
<td>Education</td>
<td>Air Quality</td>
</tr>
<tr>
<td>Diet &amp; Exercise</td>
<td>Quality of Care</td>
<td>Employment</td>
<td>Built Environment</td>
</tr>
<tr>
<td>Alcohol Use</td>
<td></td>
<td>Income</td>
<td>Access to Healthy Food</td>
</tr>
<tr>
<td>High-Risk Sex</td>
<td></td>
<td>Family/Social Support</td>
<td>Liquor Stores</td>
</tr>
</tbody>
</table>

Duval Rank: 36th | Duval Rank: 10th | Duval Rank: 35th | Duval Rank: 58th
Health Status

This section examines the health status of Duval County by analyzing data at the county, health zone, or zip code level. Figure 15 shows Duval County’s six Health Zones, as established by the Florida Department of Health-Duval County. Health Zone 1 has a large proportion of Duval County’s subsidized housing units – 47.6% of subsidized housing (also known as “Federally assisted subsidized housing” or project-based Section 8 housing) in Duval County is located in Health Zone 1 – as well as the highest percentage of minorities living in poverty. Poverty and poor housing conditions can both contribute to the existence of health disparities.

FIGURE 15. HEALTH ZONES IN DUVAL COUNTY, FLORIDA

Map Source: Florida Department of Health-Duval County, Community Health Improvement Plan, 2012
Figure 16 shows the top 5 causes of death in Duval County and each of the county’s six Health Zones. Cancer and heart disease are the top two causes of death in each Health Zone and Duval County.

**Figure 16. Leading Causes of Death in Health Zones & Duval County, 2014**

Data Source: Florida Department of Health – Duval County

Figure 17 shows the Influenza/Pneumonia death rate in Duval County and each of the county’s six Health Zones. Health Zone 1 has an Influenza/Pneumonia death rate of 33.5 deaths per 100,000 population, significantly greater than any other Health Zone or the county as a whole.

**Figure 17. Influenza/Pneumonia Death Rate in Health Zones & Duval County, 2014**

Data Source: Florida Department of Health – Duval County
The 500 Cities Project produced a series of maps that reflect the expected prevalence of selected health outcomes and behaviors. The 500 Cities Project data are statistical estimates and more information on the methodology can be found in Appendix A. The following map, produced by the 500 Cities Project, shows the percent of adults aged 18 and older who had poor physical health on 14 or more days by census tract in Jacksonville in 2014. Darker brown indicates a higher percentage of adults experiencing poor physical health for 14 or more days, and Figure 18 shows a concentration of adults experiencing poor physical health in the core of the city.

**Figure 18. Physical Health Not Good for 14 or More Days Among Adults Aged 18 and Older by Census Tract, Jacksonville, 2014**

Map created by CDC/NCCDPHP/DPH/ESB-GIS, 3/29/2016
The following map, produced by the 500 Cities Project, shows the percent of adults aged 18 and older who had poor mental health on 14 or more days by census tract in Jacksonville in 2014 (Figure 19). See appendix for more information on the 500 Cities Project data and methodology.

**FIGURE 19. MENTAL HEALTH NOT GOOD FOR 14 OR MORE DAYS AMONG ADULTS AGED 18 AND OLDER BY CENSUS TRACT IN JACKSONVILLE, 2014**

Map created by CDC/NCCDPHP/DPH/ESB-GIS, 3/25/2016
The following map, produced by the 500 Cities Project, shows the current lack of health insurance among adults aged 18-64 years by census tract in Jacksonville in 2014. Yellow indicates a smaller percent of the adult population (ages 18-64) lacks health insurance and blue indicates a greater percent of the population lacks insurance (Figure 20). See appendix for more information on the 500 Cities Project data and methodology.

**Figure 20. Current Lack of Health Insurance Among Adults Aged 18-64 Years by Census Tract in Jacksonville, 2014**

Map created by CDC/NCCDPHP/DPH/ESB-GIS, 3/15/2016
Maternal & Child Health

Figure 21 shows the infant mortality rate in Duval County and each Health Zone within the county in 2014. Duval County has an infant mortality rate of 8.8 deaths per 1,000 births. HZ5 has the highest infant mortality rate (12.7 deaths per 1,000 births) in the county, while HZ6 has the lowest infant mortality rate (2.9 deaths per 1,000 births).

**Figure 21. Infant Mortality Rate by Health Zone in Duval County, 2014**

![Bar chart showing infant mortality rate by Health Zone in Duval County, 2014.]

Data Source: Florida Department of Health – Duval County

Figure 22 shows the percent of births with low birth weight in Duval County and each Health Zone within the county in 2014. Almost 10% of births in Duval County are low birth weight births. HZ1 has the greatest portion of births with low birth weight (12.8%) in the county, while HZ6 has the lowest portion of births with low birth weight (6.2%).

**Figure 22. Percent of Births with Low Birth Weight by Health Zone in Duval County, 2014**

![Bar chart showing percent of births with low birth weight by Health Zone in Duval County, 2014.]

Data Source: Florida Department of Health – Duval County
Respiratory Illness & Healthcare Utilization

Asthma Prevalence in Jacksonville’s Adult Population

The following map, produced by the 500 Cities Project, shows asthma prevalence among adults aged 18 years and older in Jacksonville by census tract in 2014 (Figure 23). The 500 Cities Project data are model-based estimates that reflect the statistically expected prevalence of selected health outcomes and behaviors. See Appendix A for more information on the 500 Cities Project data and methodology.

**Figure 23. Current Asthma Prevalence among Adults Aged 18 and Older by Census Tract, Jacksonville, 2014**

Map created by CDC/NCCDPHP/DPH/ESB-GIS, 10/14/2016
Asthma-Related Healthcare Utilization

Figure 24 shows the rate of asthma-related ER visits in Duval County by age and Health Zone. Health Zone 1 has the greatest rate of asthma-related ER visits in the total population with 7,452 visits per 100,000 population. HZ1 also has the greatest rate of asthma-related hospitalizations among the population ages 0-17 with 11,353 visits per 100,000 population, significantly greater than the county rate or the rates of other Health Zones.

**Figure 24. Rate of Asthma-Related ER Visits by Health Zone in Duval County, 2014**

Data Source: Florida Department of Health – Duval County

Figure 25 shows the rate of asthma-related hospitalizations in Duval County by age and Health Zone. Health Zone 1 has the greatest rate of asthma-related ER visits in the total population with 1,769 visits per 100,000 population. HZ1 also has the greatest rate of asthma-related hospitalizations among the population ages 0-17 with 734 visits per 100,000 population, significantly greater than the county rate or the rates of other Health Zones.

**Figure 25. Rate of Asthma-Related Hospitalizations by Health Zone in Duval County, 2014**

Data Source: Florida Department of Health – Duval County
Figure 26 shows details of bronchitis- and asthma-related hospital visits by patients residing in Duval County by the number of discharges in 2015. Bronchitis and asthma visits refer to International Classification of Disease, Tenth Edition (ICD-10) code 202 (Bronchitis & asthma with either a complication or comorbidity [CC] or a major complication or comorbidity [MCC]) and code 203 (Bronchitis & asthma without CC/MCC). Figure 26 also shows the number of patient days, the average length of stay (LOS), the total charges, and the average charge per visit for bronchitis- and asthma-related visits.

Children ages 0-17 years had the greatest number of bronchitis and asthma-related hospital visits in 2015, with 949 discharges. Children also had the greatest total charges ($10,358,926) in 2015, though the 45-64 year age group had the highest average charge in 2015 (Figure 26).

**Figure 26. Discharges for Bronchitis & Asthma in Duval County by Age, 2015**

<table>
<thead>
<tr>
<th>Ages</th>
<th># of Discharges</th>
<th># of Patient Days</th>
<th>Avg. Length of Stay</th>
<th>Total Charges</th>
<th>Average Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ages 0-17</td>
<td>949</td>
<td>1,578</td>
<td>1.7</td>
<td>$10,358,926</td>
<td>$10,916</td>
</tr>
<tr>
<td>Ages 18-44</td>
<td>279</td>
<td>736</td>
<td>2.6</td>
<td>$6,857,996</td>
<td>$24,581</td>
</tr>
<tr>
<td>Ages 45-64</td>
<td>327</td>
<td>1,058</td>
<td>3.2</td>
<td>$9,223,158</td>
<td>$28,205</td>
</tr>
<tr>
<td>Ages 65 &amp; over</td>
<td>222</td>
<td>722</td>
<td>3.3</td>
<td>$5,443,093</td>
<td>$24,518</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,777</strong></td>
<td><strong>4,094</strong></td>
<td><strong>2.3</strong></td>
<td><strong>$31,883,173</strong></td>
<td><strong>$17,942</strong></td>
</tr>
</tbody>
</table>

Data Source: AHCA Hospital Inpatient Data Files, January 1, 2015 – December 31, 2015

Figure 27 shows bronchitis- and asthma-related hospital discharges in 2015 by patient zip code for patients residing in Duval County. Bronchitis and asthma visits refer to ICD-10 codes 202 (Bronchitis & asthma with CC/MCC) and 203 (Bronchitis & asthma without CC/MCC). Figure 27 also shows the number of patient days, average LOS, total charges, and average charge per visit for bronchitis- and asthma-related visits. Zip codes are grouped into Health Zones (as established by Florida Department of Health-Duval), though there are several zip codes that do not fall within a Health Zone. The zip codes that do not fall within a Health Zone represent P.O. boxes.

In 2015, residents in Health Zone 4 visited the hospital for bronchitis- and asthma-related illness more frequently than residents in any other Duval County health zone. Health Zone 4 had the greatest number of discharges (442 discharges) as well as the greatest total charges ($8,337,045) among Duval’s six health zones. Health Zone 2 had the highest average charge among Duval County’s six health zones at a total of $18,586 per visit. Residents in the 32210 zip code (Health Zone 4) visited the hospital for bronchitis- and asthma-related illness more frequently than residents in any other Duval zip code and had the greatest total charges ($3,052,404).

**Figure 27. Discharges for Bronchitis & Asthma in Duval County by Patient Zip Code, 2015**

<table>
<thead>
<tr>
<th>Health Zone</th>
<th>Zip</th>
<th>Discharges</th>
<th>Patient Days</th>
<th>Avg. LOS</th>
<th>Total Charges</th>
<th>Average Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>HZ 1</td>
<td>32202</td>
<td>13</td>
<td>39</td>
<td>3</td>
<td>$305,755</td>
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<td>48</td>
<td>2</td>
<td>$301,114</td>
<td>$12,546</td>
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<td>Income</td>
<td>Health Zone Total</td>
<td>Total</td>
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<td>32223</td>
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<td>$597,812</td>
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<td>32258</td>
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<td>2.3</td>
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<tr>
<td>Health Zone Total</td>
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<td>400</td>
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<td>$3,052,404</td>
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<tr>
<td>32212</td>
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<td>2</td>
<td>$9,909</td>
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<tr>
<td>Health Zone Total</td>
<td>442</td>
<td>1024</td>
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<td>$8,337,045</td>
<td>$17,506</td>
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<td>$2,546,588</td>
<td>$16,865</td>
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<td>2.8</td>
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<td>$18,927</td>
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<tr>
<td>32220</td>
<td>47</td>
<td>1.9</td>
<td>$401,665</td>
<td>$16,667</td>
<td></td>
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<td>32226</td>
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<td>$413,122</td>
<td>$15,301</td>
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<td>2.4</td>
<td>$352,364</td>
<td>$22,023</td>
<td></td>
<td></td>
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<tr>
<td>Health Zone Total</td>
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<td>$17,837</td>
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<tr>
<td>32228</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32233</td>
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<td>2.7</td>
<td>$592,178</td>
<td>$20,420</td>
<td></td>
<td></td>
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<tr>
<td>32250</td>
<td>35</td>
<td>1.7</td>
<td>$241,055</td>
<td>$11,479</td>
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<td></td>
</tr>
<tr>
<td>32266</td>
<td>6</td>
<td>1.5</td>
<td>$40,1055</td>
<td>$10,106</td>
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<td></td>
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<tr>
<td>Health Zone Total</td>
<td>54</td>
<td>118</td>
<td>2</td>
<td>$873,655</td>
<td>$14,002</td>
<td></td>
</tr>
<tr>
<td>Zip Codes Not Associated with a Health Zone</td>
<td>4</td>
<td>116</td>
<td>2</td>
<td>$404,620</td>
<td>$24,635</td>
<td></td>
</tr>
<tr>
<td>Health Zone Total</td>
<td>17</td>
<td>56</td>
<td>3.3</td>
<td>$404,620</td>
<td>$24,635</td>
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<tr>
<td>Grand Total</td>
<td>1,777</td>
<td>4,094</td>
<td>2.3</td>
<td>$31,883,173</td>
<td>$17,942</td>
<td></td>
</tr>
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</table>
Heat-Related Healthcare Utilization

Figure 28 shows the rate of heat-related ER visits by Health Zone in Duval County in 2014. Health Zone 1 has the highest rate of heat-related ER visits of the six Duval County health zones, with 46.2 visits per 100,000 population, higher than the county average of 28.1 heat-related ER visits per 100,000 population.

**Figure 28. Rate of Heat-Related ER Visits in Duval County by Health Zone, 2014**

Data Source: Florida Department of Health – Duval County
Eureka Gardens Tenant Surveys

Jacksonville Area Legal Aid (JALA) conducted a survey of tenants living in the Eureka Gardens Apartments in 2015. JALA collected a total of 71 surveys from Eureka tenants. The survey asked tenants whether their apartments had any of the conditions shown below. See Appendix B for a copy of the survey distributed to tenants. Figure 29 shows a summary of the problems experienced by Eureka tenants by number and by percent of units responding.

**Figure 29. Eureka Gardens Survey Responses, 2015**

<table>
<thead>
<tr>
<th>Survey Question</th>
<th># of Respondents Answering Yes</th>
<th>% of Surveys Reflecting Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peeling paint?</td>
<td>42</td>
<td>59.2%</td>
</tr>
<tr>
<td>Damaged stairs?</td>
<td>39</td>
<td>54.9%</td>
</tr>
<tr>
<td>Pipes clogging?</td>
<td>37</td>
<td>52.1%</td>
</tr>
<tr>
<td>Rusting appliances?</td>
<td>33</td>
<td>46.5%</td>
</tr>
<tr>
<td>Molding of shower walls?</td>
<td>32</td>
<td>45.1%</td>
</tr>
<tr>
<td>Infestation of cockroaches?</td>
<td>32</td>
<td>45.1%</td>
</tr>
<tr>
<td>Water stains on ceiling?</td>
<td>31</td>
<td>43.7%</td>
</tr>
<tr>
<td>Holes in inside walls?</td>
<td>30</td>
<td>42.3%</td>
</tr>
<tr>
<td>Repairs made using duct tape?</td>
<td>29</td>
<td>40.8%</td>
</tr>
<tr>
<td>Gaps between door and door frame?</td>
<td>26</td>
<td>36.6%</td>
</tr>
<tr>
<td>Water stains on walls?</td>
<td>26</td>
<td>36.6%</td>
</tr>
<tr>
<td>Raw sewage backing up in drains?</td>
<td>26</td>
<td>36.6%</td>
</tr>
<tr>
<td>Damaged or missing doors?</td>
<td>25</td>
<td>35.2%</td>
</tr>
<tr>
<td>Broken windows?</td>
<td>25</td>
<td>35.2%</td>
</tr>
<tr>
<td>Improper wall repairs</td>
<td>25</td>
<td>35.2%</td>
</tr>
<tr>
<td>Damaged tubs?</td>
<td>24</td>
<td>33.8%</td>
</tr>
<tr>
<td>Leaking pipes?</td>
<td>23</td>
<td>32.4%</td>
</tr>
<tr>
<td>Rusted pipes?</td>
<td>22</td>
<td>31.0%</td>
</tr>
<tr>
<td>Broken fixtures in kitchen/bathroom?</td>
<td>21</td>
<td>29.6%</td>
</tr>
<tr>
<td>Improper repair to tiles?</td>
<td>21</td>
<td>29.6%</td>
</tr>
<tr>
<td>Leaking from appliances?</td>
<td>18</td>
<td>25.4%</td>
</tr>
<tr>
<td>Windows that don't open?</td>
<td>17</td>
<td>23.9%</td>
</tr>
<tr>
<td>Appliances not reaching proper temperature?</td>
<td>16</td>
<td>22.5%</td>
</tr>
<tr>
<td>Infestation of rodents?</td>
<td>16</td>
<td>22.5%</td>
</tr>
<tr>
<td>Cracked tiles?</td>
<td>15</td>
<td>21.1%</td>
</tr>
<tr>
<td>Broken or leaking hardware?</td>
<td>15</td>
<td>21.1%</td>
</tr>
<tr>
<td>Damaged or missing door hardware?</td>
<td>14</td>
<td>19.7%</td>
</tr>
<tr>
<td>Infestation of bedbugs?</td>
<td>14</td>
<td>19.7%</td>
</tr>
<tr>
<td>Falling tiles?</td>
<td>13</td>
<td>18.3%</td>
</tr>
<tr>
<td>Condition</td>
<td>Count</td>
<td>Percentage</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>Backing up of sewage?</td>
<td>13</td>
<td>18.3%</td>
</tr>
<tr>
<td>Rippling or peeling paint around electrical boxes or switches?</td>
<td>12</td>
<td>16.9%</td>
</tr>
<tr>
<td>Toilet tank broken?</td>
<td>11</td>
<td>15.5%</td>
</tr>
<tr>
<td>Broken nobs on appliances?</td>
<td>11</td>
<td>15.5%</td>
</tr>
<tr>
<td>Backsplash separating from wall?</td>
<td>10</td>
<td>14.1%</td>
</tr>
<tr>
<td>Damaged tiles?</td>
<td>9</td>
<td>12.7%</td>
</tr>
<tr>
<td>Sewage backing up in toilet?</td>
<td>9</td>
<td>12.7%</td>
</tr>
<tr>
<td>Leaking from bottom of toilet?</td>
<td>9</td>
<td>12.7%</td>
</tr>
<tr>
<td>No hot water?</td>
<td>8</td>
<td>11.3%</td>
</tr>
<tr>
<td>Exposed insulation?</td>
<td>7</td>
<td>9.9%</td>
</tr>
<tr>
<td>Broken or missing smoke detectors?</td>
<td>7</td>
<td>9.9%</td>
</tr>
<tr>
<td>Broken gas lines on appliances?</td>
<td>7</td>
<td>9.9%</td>
</tr>
<tr>
<td>Holes in walls that go all the way to outside?</td>
<td>5</td>
<td>7.0%</td>
</tr>
<tr>
<td>Missing or broken cover plates?</td>
<td>5</td>
<td>7.0%</td>
</tr>
<tr>
<td>Missing window screens?</td>
<td>4</td>
<td>5.6%</td>
</tr>
<tr>
<td>Moldy carpet?</td>
<td>4</td>
<td>5.6%</td>
</tr>
<tr>
<td>Cabinet separating from wall?</td>
<td>4</td>
<td>5.6%</td>
</tr>
<tr>
<td>Broken fans on appliances?</td>
<td>4</td>
<td>5.6%</td>
</tr>
<tr>
<td>Damaged carpet?</td>
<td>3</td>
<td>4.2%</td>
</tr>
<tr>
<td>Exposed or broken wires?</td>
<td>3</td>
<td>4.2%</td>
</tr>
<tr>
<td>Missing knobs in shower?</td>
<td>3</td>
<td>4.2%</td>
</tr>
<tr>
<td>Wires that seem to be wrapped in cloth material?</td>
<td>2</td>
<td>2.8%</td>
</tr>
<tr>
<td>Bulging or swelling of drywall around electrical boxes or switches?</td>
<td>2</td>
<td>2.8%</td>
</tr>
<tr>
<td>Damaged linoleum?</td>
<td>1</td>
<td>1.4%</td>
</tr>
<tr>
<td>Staining around electrical boxes or switches?</td>
<td>1</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

**Eureka Gardens Tenant Testimony**

The Eureka Gardens apartment complex in Jacksonville, Florida made headlines over the past year due to substandard living conditions of the apartments and the concerns of tenants and community members. Several tenants stepped forward to share details about the substandard living conditions in the Eureka Gardens complex and the effect of these inadequate living conditions on their health as well as physical, emotional, and mental well-being.

A Eureka Gardens tenant, who wishes to remain anonymous, shares their testimony:

“I am a 63 year old African-American woman and I have lived at Eureka Gardens for 11 years. My sister and I moved to Jacksonville from New Orleans in September of 2005 after Hurricane Katrina. I have struggled to get Eureka Gardens to make repairs in my apartment but the repairs have been slow to come and have been poorly done or not done at all. Over the years, I have had numerous problems with my apartment including the management’s failure to provide air conditioning or screen doors for my apartment. I have also had leaking ceilings in my bedroom and living room that took over a year to repair. Currently the main problems in my apartment are:
Missing screen doors,
Lack of air conditioning,
Electrical issues, and
Corroded and rusted faucets in my bathroom and kitchen that continue to leak.

These issues, especially the missing screen doors, and no air conditioning have aggravated my allergies which give me headaches, fevers and keep my energy levels low. Because of the heat especially in the summer, I have to keep myself hydrated at all times. I also have to open my doors, despite the lack of screens, to circulate the air in my apartment. The hot weather gives me rashes and welts, but since the doors have no screens, I have mosquitoes and gnats come in through the doors. I have mosquito bites on my fingers, cheeks, legs, and back. The bites usually get irritated and swollen which causes me discomfort for many days. Another major concern I have is the electricity in my kitchen works sporadically. I have had appliances burned because of electrical surges and currently only one socket in my kitchen works. All of these problems make my daily life and routine harder to complete. I have had to buy fans for my apartment but even those do not provide much relief as they just circulate the hot air around the apartment. I would like for Eureka Garden’s management to make repairs to my apartment as they have been promising to do for many years but have yet to get around to it.”

A Eureka Gardens tenant, who wishes to remain anonymous, shares their story:

“I am a tenant at Eureka Gardens Apartments and have suffered the negatives impacts of Global Ministries policy of failing and refusing to provide for routine and other maintenance and from the health conditions that result from these failures.

I am a 27 year old African American woman and I share my apartment with my three minor children. I have lived at Eureka Gardens for 3 years. I have struggled to get Eureka Gardens to make repairs in my apartment but the repairs have been slow to come and have been poorly done or not done at all.

1. Missing screen doors, and
2. Lack of air conditioning.

These issues have taken an emotional toll on me because I cannot perform simple tasks such as cooking for my children. The kitchen becomes unbearably hot especially when I am cooking because there is no ventilation in my home. If I open the front door to circulate the air, it is dangerous for my young children since they could wander outside and get hurt.

My apartment had water damage on the walls in the bedroom and there was mold in the walls as well. The paint on the walls was peeling and cracking off and I had to move my children from their bedrooms and live primarily in the living room because it was an unsafe environment for my children. When management finally addressed the problem, my apartment looked like a construction site for weeks, but my children and I had to reside in them anyway because we had nowhere else to go.

All of these problems take an emotional toll on me because simple everyday tasks become difficult to perform. I am frustrated and aggravated because I feel trapped and there is nowhere else for me to go because I cannot afford any other housing. My children have to live in an apartment where they are sweating and hot constantly, and that is no way to live. Once when I went to the office to complain about not being allowed to put an air conditioning unit in our bedrooms, I was told it was a fire hazard and that is why it was not
allowed. The management’s office was air-conditioned and when I asked them why an air conditioner is allowed in the office but not in our bedrooms, they responded: “air is a necessity.” Is air not a necessity for my family and me?”

Takisha Gibson-Baker, a tenant of Eureka Gardens, shares her story:

“I am a 41-year-old African American woman and I have lived at Eureka Gardens since June 13, 2013. Since December 2002 I have shared my apartment with my minor son. I moved to Eureka Gardens from The Villas of Cedar Creek because of the living conditions and the high cost of living at that apartment. I have asked Eureka Gardens Management to make numerous repairs over the years but management moves slowly to fix things and many of the repairs are not well done. During the years I have lived at Eureka Gardens the worst problems with my apartment have been: Mold and the damaged linoleum, and carpet. At this time the most significant problems with my apartment are:

- Doors, door hardware, and windows are damaged and are improperly installed
- Water damage on ceiling
- Wall finish peeling
- Leaking pipes
- Floor (carpet, linoleum, tiles and etc.) is damaged
- Fixtures are broken and/or separating from the wall
- Rusting appliances
- Lavatory walls are covered in mold
- No screen doors

These problems have hurt the health of my child. My son has Asthma and with the doors and windows not having proper weather stripping it gets cold or it gets extremely hot in the apartment (which extreme weather change is the triggers to his asthma) also, the mold in the apartment doesn’t help him either because he’s always sneezing, coughing, or has a runny nose.

We have to leave the doors or windows open for air flow which causes problems with lizards, flies, and the big water bugs coming into our apartment.

I would like for my apartment to be fixed correctly so I don’t have to continuously call the office for the same problems and to get two screen doors because it gets very hot the [sic] my apartment especially when I am cooking. Also, we need better or around the clock security because I don’t feel safe.”
**Substandard Housing Conditions in Jacksonville**

In October 2015, Municipal Code Compliance completed a code sweep of 167 units in the Eureka Gardens Apartments in Jacksonville, Florida. Jacksonville Area Legal Aid reviewed and sorted all violations reported in the October 2015 code sweep. Figure 30 below shows a summary of reported code violations by type for 167 units in the Eureka Gardens Apartments.

**Figure 30. Code Violations Reported October 2–3, 2015 at Eureka Gardens Apartments in Jacksonville, FL**

<table>
<thead>
<tr>
<th>Code Violation Type</th>
<th># of Units Surveyed with Violation</th>
<th>% of Units Surveyed with Violation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faucet is not in working condition or is deteriorated or damaged, obstructed drain, leaking pipes</td>
<td>68</td>
<td>40.7%</td>
</tr>
<tr>
<td>Ceiling unsanitary or unsafe, sagging, has holes or cracks or is otherwise unsound, ceiling finish debonding</td>
<td>66</td>
<td>39.5%</td>
</tr>
<tr>
<td>Cabinets or countertops are unsanitary or unsafe, deteriorated, or damaged</td>
<td>34</td>
<td>20.4%</td>
</tr>
<tr>
<td>Problems with windows (hardware incapable of securing window in place, not easily opened, putty deteriorated or missing, frame not weathertight, glass broken or missing, insufficient for natural ventilation)</td>
<td>31</td>
<td>18.6%</td>
</tr>
<tr>
<td>Exterior door hardware in poor working condition, improper type or missing or exterior door does not fit properly within frame</td>
<td>25</td>
<td>15.0%</td>
</tr>
<tr>
<td>Interior ceiling damaged due to roof/plumbing leaks</td>
<td>14</td>
<td>8.4%</td>
</tr>
<tr>
<td>Window insect screens not provided where required or vent opening to outdoors not properly screened</td>
<td>10</td>
<td>6.0%</td>
</tr>
<tr>
<td>Insect infestation (ants, roaches, spiders, fleas)</td>
<td>5</td>
<td>3.0%</td>
</tr>
</tbody>
</table>
Recommendations

Based on literature review and qualitative and quantitative data analysis, HIA participants developed several recommendations aimed at improving the health of subsidized housing residents and giving increased consideration to health in Jacksonville and Florida housing policy. It should be noted that these recommendations align with broader goals and programs created by Jacksonville city leadership, such as Mayor Lenny Curry’s Journey to One initiative, which seeks to make Duval County the healthiest county in the state of Florida. In 2016, Duval County ranked 48th out of 67 Florida counties in health outcomes and 58th out of 67 counties in the physical environment category. The physical environment in which people live, work, and play is integral to health outcomes, and good health depends on having homes that are safe and free from physical hazards. The HIA recommendations are as follows:

- City of Jacksonville (COJ) should update the Ordinance Code and Florida legislators should update Florida statutes to include the following modifications and to further improve enforcement and compliance with these standards. Proposed changes to housing policy are intended to maximize positive health outcomes and mitigate negative health outcomes for vulnerable populations living in subsidized housing. Door screens on rental units are not currently required by Florida law, and many residents of project-based Section 8 housing complexes in Jacksonville (including Eureka Gardens and Washington Heights) live without central air conditioning or ceiling fans and leave their doors open for ventilation in the summer months. This puts these low-income residents at increased risk of mosquito bites. Providing screen doors to tenants who do not have central air conditioning will allow these residents to ventilate their apartments by leaving their doors open without exposure to mosquitoes or other pests. Below are the proposed addition to the Jacksonville Ordinance Code and the current Florida Statutes with proposed amendments indicated by underlining:

**Proposed Amendments to Jacksonville Ordinance Code**

§ 518.419(f)(9)

(iii) Every door opening of an apartment, apartment house, multiple dwelling, dwelling unit within a multiple dwelling, rooming house, or rooming unit, which opens directly to the exterior shall be supplied with a self-closing screen door with screens of not less than 16 mesh an inch as a protection against mosquitoes, flies and other insects. Screens on said exterior doors shall be stretched and fitted and maintained without open rips or tears. Dwelling units within the above described buildings containing central air conditioning which is capable of adequately cooling and ventilating the dwelling unit are not required to have self-closing screen doors on the door openings to the exterior.

**Proposed Amendments to the Florida Statutes**

§ 83.51 Fla. Stat.

(b) Where there are no applicable building, housing, or health codes, maintain the roofs, windows, doors, floors, steps, porches, exterior walls, foundations, and all other structural components in good repair and capable of resisting normal forces and loads and the plumbing in reasonable working condition. The landlord must install screens on all exterior openable windows and doors.
The landlord, at commencement of the tenancy, must ensure that all screens are installed in a reasonable condition. Thereafter, the landlord must promptly repair damage to screens when necessary, and at least once annually, until termination of the rental agreement. Buildings containing central air conditioning equipment which is capable of adequately cooling and ventilating the building are not required to have screens on windows or other openings used for ventilation.

- COJ should reassess the code inspection tracking process and periodically report on inspection results.
  - Establish ongoing training to increase the quality of code enforcement inspections and to raise awareness of housing-related health issues among inspectors.
  - COJ leadership should consider modifying the inspection schedule based on property and tenant characteristics. Modifying the schedule to account for property age and property size may minimize health risks, as these housing characteristics are often associated with a greater number of health-related housing quality issues. Though affordable housing tenants may all be considered to be vulnerable populations based on their income, subgroups within this population may be at an increased risk. The frequency of inspections should vary depending on:
    - Housing characteristics: The age of property, number of units, unfavorable inspection history
    - Composition of Tenancy: Older adults, families with children, individuals with disabilities, minorities, and other vulnerable populations

- Coordinate between the Florida Department of Health in Duval County, Health Planning Council of Northeast Florida, healthcare providers, and U.S. HUD to monitor and address chronic health conditions of subsidized housing residents.

- Implement a single standard across entities, which is most likely to find health-related quality and safety problems in order to optimize health. A standardized physical inspection tool will increase consistency in reporting and non-compliance remediation, which will improve health.

- Incorporate the “Health in All Policies” approach in COJ decision-making processes. Health in All Policies (HiAP) recognizes that health is a result of many factors, including factors that are traditionally outside the scope of public health. These factors, also called the social determinants of health, include education, housing, transportation options, and neighborhood safety. HiAP is an approach that seeks to improve health through collaboration across sectors and the consideration of health in decision-making processes of all agencies, not just those agencies directly responsible for health. Several national health organizations promote the use of HiAP, including the Centers for Disease Control and Prevention, the American Public Health Association, and the National Association of County and City Health Officials.

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Reporting

Reporting is the communication of the findings and recommendations of an HIA to decision-makers, the public, and other stakeholders. It includes the production and dissemination of written materials that document the HIA process, methods, findings, and recommendations and also includes the dissemination of results through other channels, such as meetings with the public, decision-makers, and other stakeholders (National Research Council, 2011). Because decision-makers must eventually translate health-based recommendations into actionable measures, such as making policy change, effective communication between HIA participants and key stakeholders is essential for success.

This HIA will be distributed to a large and varied audience made up of governmental agencies, attorneys, medical professionals, and other interested parties. Attorneys and staff at JALA will receive a copy, as will appropriate volunteer attorneys. Further, it is expected that members of the Jacksonville City Council and other local governmental agencies such as the Mayor's office, Florida Department of Health- Duval County, and Jacksonville Housing Authority may receive the HIA. The HIA will be distributed to the federal Department of Housing and Urban Development. It is anticipated that the HIA may eventually be distributed to various Florida state governmental agencies, including possibly the State Department of Health, the Governor's office, and both the Florida Senate and House. This list is inherently incomplete as the distribution list will shift and grow as needed to achieve its goals, but the focus will remain on health and housing providers, advocates, and decision makers.

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Monitoring and Evaluation

Monitoring

Monitoring and evaluation are often described as the final stage of HIA. Monitoring can consist of tracking the adoption and implementation of HIA recommendations or tracking changes in health indicators (health outcomes or health determinants) as new policy, program, plan, or project is implemented.  

Figure 31 summarizes the proposed plan to monitor the recommendations made in this rapid HIA. The monitoring plan will help HIA participants determine the following:

- What policies and programs have changed or been enacted?
- What changes to the housing inspection process have been made?
- How has collaboration among partners/agencies improved?
- How will health outcomes be measured?

**Figure 31. Indicators to Be Monitored**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Recommended Entity Responsible for Monitoring</th>
<th>Anticipated Time of Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy and Program Changes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of Jacksonville modifies Jacksonville Ordinance Code § 518.419(f)(9) for improvements in subsidized housing conditions</td>
<td>JALA</td>
<td>1-2 years</td>
</tr>
<tr>
<td>Florida Legislature modifies Florida Statute § 83.51 Fla. Stat. for improvements in subsidized housing conditions</td>
<td>JALA</td>
<td>3-5 years</td>
</tr>
<tr>
<td>City of Jacksonville implements Health in All Policies (HiAP) approach in decision-making processes</td>
<td>HPC</td>
<td>1-2 years</td>
</tr>
<tr>
<td><strong>Housing Inspection Process Changes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase quality of code enforcement inspections</td>
<td>COJ and JALA</td>
<td>1-2 years</td>
</tr>
<tr>
<td>Increase awareness of housing-related health issues among inspectors</td>
<td>COJ and JALA</td>
<td>3-5 years</td>
</tr>
<tr>
<td>Modify frequency of inspection schedule based on housing characteristics and composition of tenants at increased risk</td>
<td>COJ and JALA</td>
<td>1-2 years</td>
</tr>
<tr>
<td>Implement a standardized physical inspection tool</td>
<td>COJ and JALA</td>
<td>1-2 years</td>
</tr>
<tr>
<td><strong>Collaborative Changes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improve coordination between agencies working with subsidized housing residents</td>
<td>JALA</td>
<td>3-5 years</td>
</tr>
<tr>
<td><strong>Changes in Health Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duval County improves its position in County Health Rankings (physical environment category)</td>
<td>HPC, DOH, COJ</td>
<td>Long term (over 5 years)</td>
</tr>
<tr>
<td>Other health indicators (disease rates, etc.)</td>
<td>HPC, DOH, COJ</td>
<td>Long term (over 5 years)</td>
</tr>
</tbody>
</table>

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Evaluation

Evaluation is an important element of public health practice. There are three types of evaluation in HIAs:

- **Process evaluation**: gauges the HIA’s quality according to established standards and the original plan for the HIA
- **Impact evaluation**: assesses the HIA’s impact on decision-making and its success according to the objectives established during scoping
- **Outcome evaluation**: assesses changes in health status and health determinants as the decision is implemented.  

**Process Evaluation**

Process evaluation assesses the design and execution of the HIA and as well as observes and documents the entire HIA process. HIA participants identified subsidized housing policy change as a need in Jacksonville. They reviewed literature as well analyzed demographic and health data that documented the adverse health impacts of poverty and poor housing conditions. HIA participants also engaged subsidized housing residents in the process by using surveys and testimony of tenants. The community feedback obtained will be essential in helping decision-makers better understand the perspectives of subsidized housing residents. As a result of this HIA process, priority areas were identified and key recommendations were made to improve the quality of life for subsidized housing residents in Duval County.

**Impact Evaluation**

Impact evaluation attempts to judge whether the HIA influenced the decision-making process, and to what degree the recommendations were adopted and implemented. It can also assess whether the HIA had other important effects, such as building new collaborations among agencies, ensuring that stakeholder perspectives were considered, and increasing awareness of previously unrecognized health considerations.

As a result of this HIA, amendments to the Jacksonville Ordinance Code and Florida Statutes were proposed. The expected impact is policy changes at the local and state levels in subsidized housing. Modifications to these amendments will be monitored by JALA as they are passed through local and state legislation.

Another desired impact is the implementation of the HiAP approach in the City of Jacksonville’s decision-making processes. HiAP recognizes that health is a result of many factors, including factors that are traditionally outside of the scope of public health. HPC will monitor and facilitate this recommendation going forward.

HIA participants recognize that policy and program changes can take a long time to be approved and implemented. It is understood that it may take several years to achieve the desired outcomes of these changes.

It is anticipated that this HIA initiative will also lead to improved communication and strengthened relationships among local stakeholders and policy-makers. HIA participants agree that Duval County currently has strong leadership buy-in to improve the quality of life for subsidized housing residents. Plans are underway to meet with local elected officials and share the recommendations and key findings of this HIA. Improved collaboration between agencies working with subsidized housing residents, including the

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Florida Department of Health- Duval County, Health Planning Council of Northeast Florida, healthcare providers, and U.S. HUD, is also expected as a result of this HIA.

**Outcome Evaluation**

Outcome evaluation assesses whether the implementation of a decision has actual effects on health or health determinants. It is difficult to estimate the potential impacts of future policy changes to positive health outcomes. HIA participants expect that it may be a long time between when policy changes are made and health impacts could be felt. Funding is essential to effectively evaluate these long-term effects of policy change on the health outcomes of residents living in subsidized housing communities. Because of funding limitations, this HIA will focus on monitoring the HIA process rather than monitoring long-term health outcomes. Health indicators that could be monitored in the future include Duval County’s health ranking in the state of Florida in addition to influenza and pneumonia deaths, asthma-related hospitalizations and emergency room visits, and rates of heat-related emergency room visits. In order to formally evaluate these long-term health outcomes, HIA participants will need to collaborate with stakeholders to seek additional funding sources in order to have adequate resources allocated to monitor these measures.

**Limitations of this HIA**

The policy changes proposed in this HIA focus on requiring door screens but do not propose requirements for central air conditioning and fans in all subsidized housing units. The requirement of door screens could positively impact mosquito-related health issues but would likely not impact other health issues that may be attributed to poor air circulation and moisture issues, such as asthma-related hospitalizations and emergency room visits and heat-related hospitalizations. While the approval of the policy modifications proposed in this HIA are an important step towards positive change in subsidized housing, ongoing efforts are needed to promote additional public policy change, such as a requirement for air conditioning.

Implementation of the proposed recommendations to improve the quality of the housing inspection process would likely have a positive impact on specific health status indicators for subsidized housing residents over time, including improvements in influenza and pneumonia death rates and asthma-related healthcare utilization. It is recognized that even with key stakeholder support, achieving the proposed changes to the housing inspection process is a complex process and would require collaboration with U.S. HUD and the local housing authority. Efforts to collaborate with these agencies in the future is critical to the success of the recommendations outlined in this HIA.
Conclusion

The availability of affordable, quality housing is an important determinant of health. Poverty and poor housing conditions both contribute to the existence of health disparities. HIAs are a valuable tool for helping decision-makers improve quality of life for residents living in subsidized housing communities.

Key findings from this HIA include that residents living in Health Zone 1 (HZ1) experience health disparities in many indicators when compared to residents living in other parts of Duval County. HZ1 residents experienced higher percentages of births with low birth weights, higher rates of influenza and pneumonia deaths, higher asthma-related hospitalizations and emergency room visits (for both children and adults), and higher rates of heat-related emergency room visits. According to code violation reports and tenant testimony, subsidized housing residents in Duval County face poor housing conditions such as mold, fungi, dust mites, and other issues associated with improper air circulation and excess moisture. These conditions increase the likelihood that residents will experience asthma and other respiratory issues. Subsidized housing residents may also be at risk of exposure to mosquito-borne illness, such as the Zika virus, due to inadequate door and window screens and lack of air conditioning in their housing units.

As a result of these findings, HIA participants generated several recommendations aimed at improving community health, increasing collaboration among partners, and promoting health as a priority area in community decision-making processes.

Subsidized housing programs should provide residents with homes free from hazard or harm to health. Community leaders implementing the recommendations made in this HIA will give subsidized housing residents in Duval County the opportunity for a better quality of life and improved health outcomes. Ongoing collaboration of HIA participants with key stakeholders and decision-makers is essential for implementing these recommendations and adopting a process to assess and monitor the health impacts of these changes.
References and Appendices
References


National Housing Law Project. HUD Housing Programs: Tenants’ Rights. 4th. 2012.


Salam, Li, Langholz, Gilliland. "Early-life environmental risk factors for asthma: findings from the Children's Health Study." Environmental Health Perspectives (2004).


Additional Demographic Data

**FIGURE 32. POPULATION AGE BY HEALTH ZONE IN DUVAL COUNTY, FL, 2014**

Data Source: Florida Department of Health – Duval County
500 Cities Project Data & Methodology
The following is from https://www.cdc.gov/500cities/methodology.htm

- The method of generating small area estimation (SAE) of the measures is a multi-level statistical modeling framework.
- Specifically, CDC will use an innovative peer-reviewed multi-level regression and poststratification (MRP) approach that links geocoded health surveys and high spatial resolution population demographic and socioeconomic data.
- The approach also accounts for the associations between individual health outcomes, individual characteristics, and spatial contexts and factors at multiple levels (e.g., state, county); predicts individual disease risk and health behaviors in a multi-level modeling framework, and estimates the geographic distributions of population disease burden and health behaviors.
- The MRP approach is flexible and will help CDC provide modeled estimates of the prevalence for each indicator at the census tract and city levels.
- Small area estimates using this MRP approach have been published using data from CDC’s Behavioral Risk Factor Surveillance System (BRFSS) and the National Survey of Children’s Health.
- CDC’s internal and external validation studies confirm the strong consistency between MRP model-based SAEs and direct BRFSS survey estimates at both state and county levels.
- The primary data sources for this project are the CDC Behavioral Risk Factor Surveillance System, the Census 2010 population, and the American Community Survey estimates.

Further information on the small area estimation methodology can be obtained from:
- Validation of Multilevel Regression and Poststratification Methodology for Small Area Estimation of Health Indicators From the Behavioral Risk Factor Surveillance System.

Calculation of Project-Based Section 8 Housing in Health Zone 1
To calculate the percent of project-based Section 8 complexes in Health Zone 1 (HZ1): First, determine the total number of project-based Section 8 complexes in Duval County using Shimberg's Florida Housing Data Clearinghouse: http://flhousingdata.shimberg.ufl.edu/. Project-based Section 8 complexes are those that receive HUD funding. There are 63 project-based complexes in Duval County. Then search the list of project-based Section 8 complexes for complexes in Health Zone 1 zip codes. According to the Florida Department of Health-Duval County, Health Zone 1 contains the following zip codes: 32202, 32204, 32206, 32208, 32209, 32254.

PB Complexes in 32202 = 9
PB Complexes in 32204 = 4
PB Complexes in 32206 = 3
PB Complexes in 32208 = 3
PB Complexes in 32209 = 9
PB Complexes in 32254 = 2
TOTAL PB Complexes in HZ1 = 30

Divide the number of project-based complexes in HZ1 (30) by the total PB complexes in Duval County.

30 complexes in Health Zone 1/63 total complexes = 47.6%

47.6% of Duval County’s project-based complexes are found in Health Zone 1.
Appendix B. Eureka Gardens Tenant Survey

Please complete this form to the best of your ability. If you would like help completing this form please call Legal Aid at 904-356-8371 ext. 370

APARTMENT PROBLEMS QUESTIONNAIRE

EUREKA GARDENS APARTMENTS

NAME: ____________________________  UNIT #: ___________

PHONE #: ______________  DATE: ____________

SAFE EMAIL ADDRESS: ____________________________________________

<table>
<thead>
<tr>
<th>Does Your Apartment Have?</th>
<th>Circle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Damaged or missing doors?</td>
<td>Yes</td>
</tr>
<tr>
<td>Damaged or missing door hardware?</td>
<td>Yes</td>
</tr>
<tr>
<td>Gaps between door and door frame?</td>
<td>Yes</td>
</tr>
<tr>
<td>Missing window screens?</td>
<td>Yes</td>
</tr>
<tr>
<td>Broken or cracked windows?</td>
<td>Yes</td>
</tr>
<tr>
<td>Windows that don't open?</td>
<td>Yes</td>
</tr>
<tr>
<td>Holes in walls that go all the way to outside?</td>
<td>Yes</td>
</tr>
<tr>
<td>Other holes in inside walls?</td>
<td>Yes</td>
</tr>
<tr>
<td>Shoddy wall repair (repairs done with duct tape etc.)?</td>
<td>Yes</td>
</tr>
<tr>
<td>Water stains on ceiling?</td>
<td>Yes</td>
</tr>
<tr>
<td>Water stains on walls?</td>
<td>Yes</td>
</tr>
<tr>
<td>Peeling paint?</td>
<td>Yes</td>
</tr>
<tr>
<td>Exposed insulation?</td>
<td>Yes</td>
</tr>
<tr>
<td>Damaged carpet?</td>
<td>Yes</td>
</tr>
<tr>
<td>Moldy carpet?</td>
<td>Yes</td>
</tr>
<tr>
<td>Damaged linoleum?</td>
<td>Yes</td>
</tr>
<tr>
<td>Damaged tiles?</td>
<td>Yes</td>
</tr>
<tr>
<td>Cracked tiles?</td>
<td>Yes</td>
</tr>
<tr>
<td>Leaking pipes?</td>
<td>Yes</td>
</tr>
<tr>
<td>Rusted pipes?</td>
<td>Yes</td>
</tr>
<tr>
<td>Pipes clogging?</td>
<td>Yes</td>
</tr>
<tr>
<td>Raw sewage backing up in drains?</td>
<td>Yes</td>
</tr>
<tr>
<td>Missing or broken cover plates?</td>
<td>Yes</td>
</tr>
<tr>
<td>Exposed or broken wires?</td>
<td>Yes</td>
</tr>
<tr>
<td>Wires that seem to be wrapped in cloth material?</td>
<td>Yes</td>
</tr>
<tr>
<td>Question</td>
<td>Yes</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>-----</td>
</tr>
<tr>
<td>Rippling or peeling paint around electrical boxes or switches?</td>
<td></td>
</tr>
<tr>
<td>Staining around electrical boxes or switches?</td>
<td></td>
</tr>
<tr>
<td>Bulging or swelling of drywall around electrical boxes or switches?</td>
<td></td>
</tr>
<tr>
<td>Broken or missing smoke detectors?</td>
<td></td>
</tr>
<tr>
<td>Broken fixtures in kitchen?</td>
<td></td>
</tr>
<tr>
<td>Broken fixtures in bathroom?</td>
<td></td>
</tr>
<tr>
<td>Countertops or backsplash separate from wall?</td>
<td></td>
</tr>
<tr>
<td>Disintegrating cabinets?</td>
<td></td>
</tr>
<tr>
<td>Falling tiles?</td>
<td></td>
</tr>
<tr>
<td>Mold in bathroom?</td>
<td></td>
</tr>
<tr>
<td>Mold in kitchen?</td>
<td></td>
</tr>
<tr>
<td>Other mold (please describe on survey form)?</td>
<td></td>
</tr>
<tr>
<td>No hot water?</td>
<td></td>
</tr>
<tr>
<td>Broken toilet?</td>
<td></td>
</tr>
<tr>
<td>Leaking toilet?</td>
<td></td>
</tr>
<tr>
<td>Sewage backing up in toilet?</td>
<td></td>
</tr>
<tr>
<td>Rusting appliances?</td>
<td></td>
</tr>
<tr>
<td>Broken gas lines to appliances?</td>
<td></td>
</tr>
<tr>
<td>Broken fan on refrigerator?</td>
<td></td>
</tr>
<tr>
<td>Refrigerator doesn’t get cold?</td>
<td></td>
</tr>
<tr>
<td>Infestation of rodents?</td>
<td></td>
</tr>
<tr>
<td>Infestation of bedbugs?</td>
<td></td>
</tr>
<tr>
<td>Infestation of cockroaches?</td>
<td></td>
</tr>
<tr>
<td>Damaged stairs?</td>
<td></td>
</tr>
<tr>
<td>Water falling from ceiling?</td>
<td></td>
</tr>
<tr>
<td>Do you have an Air Conditioning (A/C) unit?</td>
<td></td>
</tr>
<tr>
<td>Did you pay to have the A/C unit installed?</td>
<td></td>
</tr>
<tr>
<td>Do you pay a monthly fee for A/C?</td>
<td></td>
</tr>
<tr>
<td>Who installed the A/C unit?</td>
<td></td>
</tr>
<tr>
<td>Do you feel your landlord treats you differently because of your race, color, religion, national origin, disability, sex or disability?</td>
<td>Yes</td>
</tr>
</tbody>
</table>

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