2015-2016 State of Health Partners

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To the Residents of Houston/Harris County,

The Houston/Harris County State of Health Committee is proud to present this 2015-2016 State of Health Executive Summary. It is designed to highlight key community health indicators and issues from the comprehensive 2015-2016 State of Health in Houston/Harris County Report, located at www.houstonstateofhealth.org.

For this Summary, the State of Health Committee selected 15 leading health topics that reflect the greatest challenges to our community as well as the greatest opportunities for improvement. Awareness of these issues may also inspire collaborative, evidence-informed solutions in the wake of changes in the overall public health and healthcare landscapes. These indicators fall into the following categories (in order): Leading Causes of Death, Social and Economic Conditions, Access to Care, Injury, Mental Health, Chronic Diseases, Obesity, Maternal/Child Health, Sexually Transmitted Diseases (STDs) including HIV/AIDS, and Air and Water Quality.

Many exciting initiatives are taking place to address these pressing concerns, some of which were prompted by the previous State of Health Reports. Individuals, as well as public and private organizations large and small, are not only rallying around important health issues such as obesity, environmental justice, maternal and infant mortality, and behavioral health, but also contributing valuable resources toward real health impact. Some of these initiatives are included as resources on the State of Health website.

The 15 topics highlighted here can serve as “mile-markers” for demonstrating both our progress and the work that remains to be done. We are confident that our community is up to the challenge. As individuals and organizations continue to work together, Houston/Harris County is certain to become the healthy community we all envision.
Harris County is the third most populous county in the United States, with an estimated 4.3 million residents in 2013, and a land area of 1,703 square miles. Approximately 2.2 million residents of the county (or 51%) live in the City of Houston, the fourth largest city in the nation. Harris County is also one of the fastest growing counties. Much of Harris County’s population growth can be traced to an expanding immigrant population.

Harris County is also diverse, more so than Texas or the U.S. Over time, Houston has transformed from a primarily biracial city to the most racially/ethnically diverse large metropolitan area (which includes surrounding counties) in the nation.

Diversity trends are striking across age groups; for example, whites are a majority (56.1%) in Harris County in persons age 65 and older, while Hispanics are the majority among children under age 18 (51.6%). Harris County residents are also relatively young; only 9.0% of residents are 65 and older, compared to 14.1% in the U.S.
Leading Causes of Death

Monitoring the leading causes of death in a community provides important insights on its greatest health needs and challenges over time. In Harris County, there were 23,409 deaths in 2012. The leading cause of death was cancer, accounting for 23%, or over one in five deaths. Heart disease followed closely with 22% of all deaths.

### Key Measures

- Cancer mortality rates are highest among the black population (217.7) compared to whites (169.9) and Hispanics (107.8).
- Death rates from accidents are higher among whites (46.5) than blacks (34.3) or Hispanics (27.3).
- Diabetes mortality rates are higher among blacks (38.6) compared to Hispanics (26.1) and whites (16.0).
- Suicide is the 10th leading cause of death in Harris County; rates among whites (19.0) are more than three times higher than blacks (6.1) or Hispanics (5.3).

### Leading Causes of Mortality in Harris County, 2012

<table>
<thead>
<tr>
<th>Cause of Death</th>
<th>Total Deaths</th>
<th>Mortality Rate*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer</td>
<td>5,284</td>
<td>124.5</td>
</tr>
<tr>
<td>Heart Disease</td>
<td>5,147</td>
<td>121.2</td>
</tr>
<tr>
<td>Accidents</td>
<td>1,342</td>
<td>31.6</td>
</tr>
<tr>
<td>Cerebrovascular Diseases/Stroke</td>
<td>1,222</td>
<td>28.8</td>
</tr>
<tr>
<td>Chronic Lower Respiratory Disease</td>
<td>957</td>
<td>22.5</td>
</tr>
<tr>
<td>Diabetes</td>
<td>720</td>
<td>17.0</td>
</tr>
</tbody>
</table>

* Mortality rate is deaths per 100,000 population

Chronic diseases now cause seven out of every ten deaths across the country. The two leading causes of death in Houston/Harris County are cancer and heart disease, accounting for 45% of all deaths. At the same time, life expectancy is increasing in our local area, at 76.2 years for males and 80.7 for females in 2010. In the 20-year period from 1989 to 2009, life expectancy in Harris County increased from 71.1 to 76.6 years for white males; 78.6 to 81.2 years (white females); 64.5 to 71.5 years (black males) and 73.5 to 77.4 years (black females).
Social & Economic Conditions

Our social and economic circumstances, such as where we live, learn, work, play, and worship strongly influence our health. When a population experiences poor socioeconomic circumstances, health consequences can be seen in every stage of life. In general, people in lower socioeconomic levels have at least twice the risk of serious illness and premature death than those in higher socioeconomic levels.

50% of health outcomes are related to social, economic, and environmental factors

Education
High school dropout rates are a key indicator of social and economic challenges including limited earning potential, increased unemployment, and greater likelihood of criminality; and are linked to shorter lifespans. Fewer Houston (75.4%) and Harris County (78.6%) residents aged 25 and older graduated from high school compared to Texas (81.2%) or the U.S. (86.0%).

Social & Economic Conditions

**Economics**

Economic status is also strongly linked to health outcomes. National studies find that those with lower incomes have higher rates of poor health behaviors and higher rates of many diseases. In 2013, 18.5% of Harris County residents and 22.4% of Houston residents lived in poverty. In Harris County, poverty contributes to overall neighborhood-level disadvantage associated with poor health, as shown in the map below.

![Map of relative levels of disadvantage and health status by quartiles](image)

*Note: Weighted percentages of respondents with one to seven indicators present for each geographic area were standardized as z-scores, and the totals were ranked in quartiles from high to low levels of disadvantage.*

Disadvantage measures include: poverty, unemployment, lack of high school education, immigrant status, Hispanic or African American race/ethnicity, and inability to speak English well. Health of Houston Survey 2010, UTSPH. www.hhs2010.net.

**Environment**

The physical conditions of a person’s environment, such as air and water quality, and the human-made surroundings and structures, or the Built Environment, can influence health. Houston and Harris County lag behind in this area; Harris County only has 14 acres of parks/green space per 100 residents, below the national standard of 20 acres. The greater Houston area lacks 185 supermarkets compared to the national per capita rate.
Insurance Access

While access to insurance coverage and access to health care services are not synonymous, they are highly correlated. Those without insurance are far more likely than the insured to report problems getting medical care and, as a result, to have more preventable hospitalizations and delayed diagnoses. Among all ages, Texas has the highest percentage of uninsured persons in the nation, a position the state has held for years. The percentage of uninsured in Harris County is higher than in Texas.

Key Trends

- Though still higher than Texas, the percent uninsured in Harris County has declined over the last three years: from 27.9% in 2010 to 25.4% in 2013.

- Differences in insurance status occur between racial and ethnic groups; Hispanics and Vietnamese residents are less insured than other groups (2010).

- The most commonly-reported reasons for being uninsured in 2010 were an inability to afford insurance, ineligibility because of working status (such as job loss), or ineligibility due to citizenship/immigrant status.

- 14% of the Harris County population is enrolled in Texas Medicaid; Harris County also has the highest total CHIP enrollment in the state.

| 2013 American Community Survey, 1-Year Estimates: Uninsured |
|-----------------|----------------|--------------|--------------|--------------|
| Geography       | All Ages       | Under 18     | 18 to 64     | 65 & older   |
| United States   | 14.5%          | 7.1%         | 20.3%        | 1.0%         |
| Texas           | 22.1%          | 12.6%        | 29.9%        | 2.0%         |
| Harris County   | 25.4%          | 14.0%        | 33.4%        | 3.9%         |
| City of Houston | 28.4%          | 14.3%        | 37.3%        | 4.1%         |

Public Health Actions

- Support efforts to expand insurance access for all individuals.
- Provide enrollment assistance for those eligible for the Children’s Health Insurance Program (CHIP), Medicaid, the Affordable Care Act, and other health resources.
- Support efforts to expand public safety net services.
- Provide sound utilization data to insurance carriers, providers, and other decision-makers.
Access to comprehensive, quality health care services is critical to increasing quality and length of life. Access to care means the timely use of personal health services using three distinct steps:
1. Gaining entry into the health care system.
2. Accessing a health care location where needed services are provided.
3. Finding a health care provider with whom the patient can communicate and trust.

Public Health Actions
- Inform the public about concerns regarding the growing need for primary care providers.
- Mobilize community partnerships to study the impact and scope of primary care physician shortages and recommend strategies for improvement.
- Develop policies and plans to support access to a medical home for all.
- Serve as a health care safety net when other sources of care are unavailable.

Key Trends
- In 2013, there were 81 primary care doctors for every 100,000 people in Harris County, higher than the Texas rate of 71. However, doctors are not equally available across Harris County.
- Demand for primary care doctors is expected to grow almost two times more rapidly than supply.
- 1/3 of Harris County residents rely on safety net clinics.
- Local safety net clinics reported over one million patient visits in 2010.
Preventable Hospitalizations

Preventable hospitalizations are hospitalizations that could have potentially been avoided if the individual had been treated in appropriate outpatient care. Chronic conditions such as congestive heart failure and diabetes are particularly likely to lead to preventable hospitalizations if not cared for adequately in an outpatient setting. Increasing outpatient primary care can be a cost-effective method to reduce preventable hospitalizations.

**Top Causes of Preventable Hospitalizations in Harris County:**

- **Congestive Heart Failure**
- **Bacterial Pneumonia**
- **COPD (Pulmonary Disease)**
- **Urinary Tract Infection**
- **Diabetes**
- **Dehydration**

**Key Trends**

- Harris County hospitals recorded 192,134 potentially preventable adult hospitalizations in a single six-year period.
- These same preventable hospitalizations cost about $7.1 billion in hospital charges.
- Some emergency department (ED) visits are also preventable. In Harris County, four in ten ED visits were primary care-related ED visits in 2011.

**Public Health Actions**

- Develop policies and plans built on information such as indications that providing health insurance or increasing the local safety net capacity for primary care may improve access to care and reduce preventable hospitalization.
- Monitor health status to identify and solve this community health problem through efforts such as tracking local Prevention Quality Indicators (PQI) set by the Agency for Healthcare Research and Quality.
- Mobilize community partnerships and action through support of new federally qualified health centers (FQHCs) and Community Health Clinics (CHCs), which can help to reduce preventable hospitalizations by providing affordable primary care for low-income persons.
- Support efforts to expand insurance access to all persons.
Emergency Department Visits

The Emergency Medical Treatment and Active Labor Act of 1986 ensures access to emergency departments (ED) regardless of ability to pay. Many patients visit the ED for minor emergencies or non-emergencies as well as for chronic health conditions better suited to an outpatient or primary care setting. People with mental health concerns or substance abuse problems may also seek treatment in the ED instead of an outpatient setting.

**Key Trends**

- *Preventable* ED visits, or those best suited for primary care, are 39.7% of all ED visits in Harris County.

- Patients treated in a Harris County ED with a diagnosis of cardiovascular disease or diabetes are two times more likely to be hospitalized compared to patients with other primary diagnoses.

- ED patients treated with a diagnosis of a mental health condition are three times more likely to be hospitalized.

**Public Health Actions**

- Support expanded access to affordable, convenient outpatient care sites as alternatives to hospital emergency departments.

- Educate people about health issues, the importance of a medical home, and resources such as 24-hour nurse advice lines to assist in determining the need for emergency department care.

- Establish working relationships between hospitals and medical homes for referring patients for follow-up care and preventive services.
Injuries

Injuries are among the top ten leading causes of death in the U.S. The categories of injury include many types of incidents, both accidental and inflicted, such as motor vehicle accidents, homicide, suicide, poisoning, and drowning. More people ages 1-44 die from preventable injuries than from any disease. Many factors affect injury risk, such as failure to use safety belts or impaired driving.

**Key Trends**

- In 2012, motor vehicle accidents (MVA) were the leading cause of all accidental deaths in Harris County.

- The Harris County homicide rate declined between 1997 and 2012; Harris County had 356 deaths from homicides in 2012.

- Suicide rates were higher than both homicide and MVAs in 2012. Middle-aged adults accounted for 56% of suicides, and males were 76% of this group.

- 70% of homicides and 54% of suicides in Harris County were the result of the discharge of a firearm.

- There were 35,168 family violence incidents, which includes dating violence, recorded in Harris County in 2012.

**Public Health Actions**

- Monitor injury trends by tracking data sources such as emergency room visits.

- Develop policies that prevent accidental injuries, such as those related to motor vehicle and bicycle safety, access to firearms, and pool safety measures.

- Inform the community about injury risk behaviors by educating professionals and the public about suicide warning signs, the importance of using seatbelts/child restraints, how to prevent falls, using Water Watcher programs for pools, locking up firearms, and other safety and public health prevention measures.
Mental Health

Mental health refers to positive emotional and psychological well-being. Mental illnesses are health conditions characterized by changes in thinking, mood, or behavior associated with distress and/or impairment. Mental and physical health conditions are risk factors for each other and the presence of one can complicate treatment for the other. In the U.S., 68% of adults with mental illnesses also have other medical conditions.

Key Trends

- In 2013, 14.6% of adults in the Houston area reported five or more poor mental health days in the past month. For blacks, the percent was 16.3%.
- In 2010, nearly 500,000 Harris County adults had a mental illness, 137,000 of which were severe; of those with severe illness, over half could not access treatment.
- In the same year, nearly 150,000 youth had a mental illness, 89,000 of which were severe; of those with severe illness, 74% could not access treatment.
- In 2010, 8% of Harris County adults had seen a mental health professional in the past year; an additional 9% needed assistance, but were unable to obtain it, primarily due to cost.
- 28% of adults with a severe mental illness also report substance abuse.

Public Health Actions

- Monitor mental health trends by tracking treatment facility admissions and co-occurring conditions such as chronic diseases, substance abuse and criminal justice involvement.
- Provide health care where otherwise unavailable by diagnosing and treating low-income persons with severe mental illness.
- Mobilize community partnerships and action to identify and solve mental health problems through support of organizations such as the Mental Health Association.
Chronic Diseases

Chronic diseases such as heart disease, cancer, and diabetes are responsible for seven out of every ten deaths in the U.S. annually. Costs associated with these three chronic diseases alone account for 75% of the nation’s health spending. This section highlights trends in these three chronic diseases in Harris County.

Heart Disease and Cerebrovascular Disease/Stroke

- Heart disease has persisted as the first or second leading cause of death in Harris County for years; cerebrovascular disease, a category that includes stroke, is the fourth leading cause of death. One in three adults in the U.S. has some form of cardiovascular disease.

- Mortality from heart disease has decreased over time among all racial and ethnic groups. More deaths from heart disease occur among whites in Harris County, largely because whites are the majority among those over 65; however, blacks continue to have the highest rate when age is factored in (age-adjusted rate).

- Hypertension, or high blood pressure, and high blood cholesterol are often precursors to both heart disease and stroke. In 2013 in the Houston area, 32.8% of adults had high blood pressure, and 38.0% of adults had high cholesterol.

Heart Disease Mortality Rates in Harris County by Race/Ethnicity, 2007-2012
Rate per 100,000 Population (Age Adjusted)
**Chronic Diseases/Tobacco**

**Cancer**
- In 2014 in Harris County, there were an estimated 16,534 new cancer cases, diagnosed more frequently among blacks, and 6,373 cancer-related deaths.
- Since 2007, death rates for the three leading cancers in Harris County (lung, colorectal, and breast) have decreased.

**Tobacco**
- Tobacco use is a major contributor to cancer and heart disease/stroke, and is the leading cause of preventable disease and death in the U.S. Use of tobacco has declined in recent years. In 2012, 13.9% of Houston area adults were smokers, compared to 22.4% in 2002.

**Diabetes**
- In 2013, 10.8% of adults in the Houston area reported a diabetes diagnosis, an increase from 6.8% in 2004.
- Mortality from diabetes in Harris County has decreased in recent years, from 25.0 deaths per 100,000 in 2008 to 21.9 in 2012.
- In 2013, more blacks in the Houston area reported a diabetes diagnosis (14.8%) than whites (12.1%) or Hispanics (9.3%).
- Complications from diabetes are numerous. For example, a person with diabetes has a 1.7 times greater risk for heart disease and a 1.5 times greater risk of stroke.

**Public Health Actions**
- Inform, educate, and empower people to seek screenings for chronic diseases based on age and risk.
- Link people to personal health services for screening, diagnosis, and management of chronic diseases, precursors, and risk factors such as tobacco use and obesity.
- Promote lifestyle changes and chronic disease self-management where indicated.
- Work to change policies so they support healthy behaviors that help prevent chronic diseases. For example, promote access to healthy foods and to opportunities for physical activity, and support Clean Air ordinances and other policies that prevent tobacco use and exposure.
Overweight/Obesity in Adults

The U.S. has been experiencing an epidemic of unhealthy weight. Since the 1980s, the proportion of overweight people has dramatically increased. Today, more than one-third of American adults are obese. Individuals are considered overweight if their Body Mass Index (BMI), a correlate of body fat, is within 25.0-29.9 range and considered obese if their BMI is 30.0 or above. Being overweight or obese increases the risk of numerous health conditions and can also negatively impact quality of life.

Key Trends

- 64.6% of adults in the Houston area are overweight or obese.
- Males are more likely to be overweight than females; however, females are more likely to be obese than males.
- Hispanics and blacks are more likely than whites to be overweight or obese.
- In 2013, 29.5% of adults in the Houston area reported no leisure time physical activities per week.
- Only 14.5% of adults in the greater Houston area eat the recommended five or more servings of fruits and vegetables each day.

Public Health Actions

- Educate the community about the health impacts of unhealthy weight and needed behavior changes, such as meeting physical activity and nutrition guidelines.
- Develop policies and plans that promote environments with access to healthy foods and opportunities for physical activity in local communities, such as eliminating Foods Deserts and increasing the number of walking/biking trails.
- Partner with other sectors, such as urban planning, transportation, agriculture, and food retailers to identify collaborative opportunities to reduce obesity.
In recent decades, the percent of children at an unhealthy weight has tripled in the U.S, and the percent of adolescents has quadrupled. Today, 19% of youth ages 6-19 are obese. There are immediate and long-term health effects from childhood obesity, such as high blood pressure, diabetes, bone and joint problems, and asthma. Overweight/obese children are also more likely to become obese adults. Studies show that overweight adolescents grow up to have less educational attainment, lower wages, and higher unemployment, resulting in cumulative disadvantages.

**Key Trends**

- In Houston, 34.2% of high school students were overweight or obese in 2013, compared to 28.6% in 2001; of those, 17.9% were obese.

- In 2013, 21.5% of Houston high school students did not participate in at least 60 minutes of physical activity on at least one day in the past week at the time of the survey.

- Houston high school students report eating fewer fruits and vegetables than the national average.

**Public Health Actions**

- Educate children, families, and the community about the health impacts of unhealthy weight and needed behavior change.

- Work to change policies, systems, and environments so they support access to healthy foods and physical activity for children.

- Partner with schools and School Health Advisory Councils (SHAC) to identify collaborative opportunities for reducing childhood obesity.
The health of mothers, infants, and children is of critical importance, both as a reflection of the health status of a large segment of the U.S. population and as an indicator of community health overall. Prenatal care, adolescent pregnancy, maternal mortality, infant mortality, and child maltreatment can all have life-long impacts on the health of the next generation. This section highlights trends in these five areas in Harris County.

**Prenatal Care**
- Early and regular prenatal care contributes to healthy pregnancy outcomes, particularly for women with chronic diseases as risk factors. Care *prior to* and *between* pregnancies (or preconception and interconception care, respectively) can also identify and address concerns.
- In 2012, 58.5% of births in Harris County were to mothers who received prenatal care within the first trimester as recommended, an increase from 53.5% in 2009.
- Racial and ethnic differences also exist among women who receive prenatal care in the first trimester: 69.2% of white women, 54.5% of Hispanic women, and 52.6% of black women.

**Adolescent Pregnancy**
- Teen births in Harris County and in Texas are among the highest in the nation; the birth rate per 1,000 females ages 15-17 is 23.0 in Harris County, compared to 23.2 in Texas and 14.1 in the U.S.
- Adolescent mothers are less likely to receive adequate prenatal care than older mothers and are at greater risk of premature delivery.
- Children born to teen mothers are more likely to repeat a grade in school and more likely to suffer abuse or neglect.

**Maternal Mortality**
- Maternal death is rare in Harris County (27 occurred in 2008), but is rising. There were 23.2 maternal deaths per 100,000 live births for 2009-2011 compared to 12.0 for 2003-2005; 43% of maternal deaths were among black women.
Maternal & Child Health

Infant Mortality
- Infant mortality refers to deaths of infants who were born alive but died in the first year of life.
- The infant mortality rate is a measure of community health; the U.S. rate is among the highest of industrialized nations.
- The infant mortality rate in Harris County is 6.0 deaths per 1,000 live births; the U.S. rate is 6.1.
- Deaths among black infants are more than twice as high compared to other racial/ethnic groups in Harris County.

The birth rate for adolescent girls ages 15-17 in Harris County is nearly twice the U.S. rate.

Public Health Actions
- Advocate for expanded access to family planning, pregnancy health education, positive child rearing and development training, and other prevention services.
- Assure health care when otherwise unavailable through case management services for pregnant teens such as home visits, prenatal education, breastfeeding promotion, referral assistance and parenting skills.
- Monitor maternal and child health outcomes through systematic review panels.
- Educate the public about improving pregnancy outcomes by managing risk factors such as obesity, hypertension, tobacco use, and delayed prenatal care; and preventing infant mortality by methods such as breastfeeding and sleep positioning.
- Monitor the impact of Adverse Childhood Experiences, such as child abuse/neglect, on health outcomes.
Sexually Transmitted Diseases

Sexually transmitted disease (STD) rates are an indicator of overall sexual health for a community. Having a STD increases the risk for HIV infection by up to five times. If left untreated, STDs can cause infertility, adverse pregnancy outcomes, pelvic inflammatory disease, and cancer. This section highlights three STDs: chlamydia, gonorrhea, and syphilis.

**Key Trends: Chlamydia and Gonorrhea**
- Chlamydia cases in Houston/Harris County more than doubled from 2003 to 2013, and the rate increased to 538.2 cases per 100,000.
- In 2013, new cases of gonorrhea totaled 6,522 in Houston/Harris County. Gonorrhea is diagnosed most often in the black population.

**Key Trends: Syphilis**
- Syphilis rates spike repeatedly in Houston/Harris County. In 2012, a peak of 11.6 cases per 100,000 people was recorded.
- In 2013, 302 infectious syphilis cases were diagnosed in Harris County, for a rate of 7.0 cases per 100,000 population compared to 5.6 in Texas.

**Public Health Actions**
- Monitor STD trends through routine surveillance and partner services including outbreak identification and response.
- Inform the public about individual actions that prevent STD infection and the importance of treatment to avoid adverse outcomes.
- Support STD testing, diagnosis, and treatment programs for low-income groups.
- Support initiatives such as the National Plan to Eliminate Syphilis and policies such as Patient-Delivered Partner Therapy that can improve prevention efficacy.
Human Immunodeficiency Virus (HIV) is a virus that reduces the immune system's ability to fight infection and causes Acquired Immunodeficiency Syndrome (AIDS). In the U.S., over one million people are living with an HIV infection. Treatment advances have significantly slowed the progression of the disease; the Harris County HIV/AIDS mortality rate has dropped from 7.3 deaths per 100,000 in 2008 to 4.7 deaths in 2012. Being in HIV care and adhering to treatment can also help prevent transmission.

Key Trends

- Since 2010, new HIV diagnoses have decreased in Houston/Harris County from 1,334 new cases in 2010 to 1,242 in 2013.
- Using national estimates, close to 4,000 more people in Harris County may be HIV positive and unaware of their status.
- In 2011, the rate of new AIDS cases was 18.6 per 100,000 population in Harris County, compared to 10.2 in Texas and 10.3 in the U.S.
- HIV disproportionately impacts men who have sex with men; 42% of all HIV cases in Houston/Harris County are in this group.

Public Health Actions

- Monitor HIV/AIDS trends through routine surveillance and partner services.
- Support policies that enable knowledge of HIV status such as routine HIV testing.
- Support programs that provide linkage to care for the newly diagnosed.
- Inform people living with HIV about ways to decrease HIV transmission through viral load suppression and prophylaxis, including during pregnancy and delivery.
- Support programs that provide HIV care and treatment services to low-income persons living with HIV/AIDS.
Air Quality

The Clean Air Act of 1970 (rev. 1977, 1990) required the Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) for pollutants, including ozone ($O_3$) and Fine Particulate Matter ($PM_{2.5}$), the greatest concerns for Harris County. Exposure to $O_3$ or $PM_{2.5}$ (airborne particles of chemicals, metals, dust, and allergens) can aggravate respiratory and heart conditions, and cause permanent damage.

- In the Houston-Galveston-Brazoria (HGB) area, $O_3$ and $PM_{2.5}$ levels have been declining. In 2012-2014, all five $PM_{2.5}$ monitors met the national standards (NAAQS). $O_3$ NAAQS are shown as red dotted lines on the chart below.

- There are proposed revisions to reduce the NAAQS for safe $O_3$ levels from 0.075 parts per million (ppm) to a range of 0.065 to 0.070 ppm. If adopted, the 21 $O_3$ monitors in the greater Houston area may not meet the new standard.

Public Health Actions

- Research innovative solutions to fight identified pollutant risks.
- Monitor particulate pollution to identify health risks and assess reduction methods.
- Organize partnerships for actions such as settlement agreements between local government and industry to reduce emissions.
- Enforce laws and compliance with regulations, and monitor air contaminants.
Surface Water Quality

Surface waters, such as rivers, streams, and shorelines, are sources for food, recreation, and relaxation. The combined Houston-Galveston area is home to over 16,000 miles of waterways and shorelines. Monitored by a regional program, water quality focuses on bacteria levels, dissolved oxygen levels, toxic contaminants, and water nutrients, all of which affect the safety of contact recreational activities and seafood consumption.

Key Trends
- Over 80% of surface waters in the Houston-Galveston area fall below state water quality standards for one or more parameters.
- A seven-year local assessment shows some water quality improvements: 21% of stream miles have improved bacteria levels; 5% have improved oxygen levels; and 11% have improved nutrient levels.
- Seafood consumption advisories are in place for the Houston Ship Channel (and its contiguous waterways) and several areas of Galveston Bay.

Over 80% of the 16,000 miles of waterways and shorelines in the Houston-Galveston area fall below state standards for one or more water quality indicators. However, local research shows that conditions may be improving.

Public Health Actions
- Enforce laws and regulations to protect health and ensure safety by testing and monitoring the quality of surface water, hazardous waste sites, landfills, illegal dumpsites, and wastewater treatment plants.
- Mobilize community partnerships to address poor water quality problems through activities such as stakeholder meetings and voluntary waterway clean-ups.
- Educate the public on the importance of proper waste disposal, prevention of sanitary sewer overflows, and everyday habits that can negatively affect water quality.
- Inform the public of seafood consumption advisories to prevent illness.
The health indicators highlighted in this Executive Summary can serve as mile markers for demonstrating both our progress and the work that remains to be done in Houston/Harris County.

We are confident that our community is up to the challenge. As individuals and organizations continue to work together, Houston/Harris County is certain to become the healthy community we all envision.

~ 2015-2016 State of Health Partners

Harris County Healthcare Alliance is a member-based, 501(c)(3) nonprofit that brings together 50 healthcare-focused organizations with the goal of creating a comprehensive, collaborative system to meet the health needs of all Houston and Harris County residents. Working together, we are able to achieve results not possible through individual health organizations.