

2017 Community Health Needs Assessment



Mount Sinai

MEDICAL CENTER

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Executive Summary

Mission To provide high quality health care to our diverse community enhanced through teaching, research, charity care and financial responsibility.

Methodology

The methodology of this report follows the recommendations of the American College of Surgeons' Commission on Cancer Standards¹, Association of American Medical Colleges (AAMC)² and the National Committee on Vital and Health Statistics.³

The report includes statistical data and scholarly opinions from federal, state, and local government health agencies, private organizations and community stakeholders about the community health needs in the Miami Beach community. Additional input was sought from local health experts and people representing the broad interests of the community.

Mount Sinai is one of Florida's original statutory teaching hospitals providing the next generation of health care providers. Each year, Mount Sinai invests more than \$28 million in its teaching programs to train approximately 160+ residents and fellows to be doctors in 16 medical specialties. Our nursing program trained 230 nursing students and our undergraduate medical education program rotated more than 477 medical students. The allied health program trained 153 students for health care professions.

Defining the Primary Service Area

Mount Sinai is the only hospital and emergency service provider on the barrier islands of Miami-Dade County. These are 32 manmade islands, which total 10.5 square land miles. The city of Miami Beach is the largest Census Designated Place (CDP) on the Northeastern Barrier islands and is the primary service area.

Northeastern Barrier Island Municipalities

Miami Beach
North Bay Village
Surfside

Bay Harbor Islands
Sunny Isles Beach
Indian Creek

Golden Beach
Bal Harbor
Miami (island)

According to Mount Sinai discharge statistics, only 26.6% of inpatient discharges were residents of Miami Beach. 29.0% were residents from other island communities and other “mainland” zip codes. 28.7% of inpatient discharges were distributed throughout the remainder of Miami-Dade County. Additionally, 15.7% of discharges were from out-of-county, out-of-state or international zip codes.

Demographic Summary

Population

The barrier islands are estimated to have 138,936 year round residents.⁴ Of this total, 92,307 are within the primary service area of Miami Beach. Miami-Dade County’s population is 2,751,796.⁵

Gender

The primary service area is comprised of 52% males and 48% females.⁶ This is similar to the Miami-Dade County composition of males (49%) and females (51%).⁷

Age

The primary service area is an older population. The median age is 41.5 years old.⁸ This is slightly older than the County and national median age. The significance of this is that disease related death increases with age.

Race & Ethnicity

The primary service area’s residents are 54% Hispanic or Latino and 46% non-Hispanic or Latino. Of the non-Hispanic residents, 39% are white, 3% are black, and 4% are all other races.⁹ In Miami-Dade County, 66% of the residents are Hispanic or Latino and 34% are non-Hispanic or Latino, with non-Hispanic being 15% white, 17% black, and 2% all other.¹⁰

Income

The median household income for the primary service area is \$47,216. This is higher than the county, but lower than the state, and national median.¹¹ However, Miami Beach has pockets of extreme wealth with 10.5% of the population earning more than \$200,000 and extreme poverty with 16.7% living below the federal poverty line.¹²

Educational Attainment

The primary service area has a high rate of adults over 25 with Bachelor degrees or higher—45.1%. In contrast, the county’s rate is 27.3%.¹³

Health Insurance Status

26.7 percent of Miami Beach residents do not have health insurance. This compares to 19.4% of Miami-Dade residents, 15.3% of Florida residents, and 10.1% nationally.¹⁴

Health Disparity Assessment

Wide differences in income and education, new US residency and lesser English skills are factors that point to a niche of residents for which there may be a health care disparity and a need of safety net health care services.

Community Health Needs

The community health priorities presented are based on an analysis of demographic, environmental, statistical, and behavioral public health data.

We prioritize the conditions as below:

Leading Causes of Disease-Related Death

- Heart Disease
- Cancer
- Stroke
- Chronic Obstructive Pulmonary Disease
- Alzheimer’s Disease

Access to Care Priorities

- Addressing Barriers to Care
- Addressing the Physician Shortage
- Safety Net Services – Uninsured
- Maternity & Prenatal Medicine
- Emergency Medical Services

Environmental Health Priorities

- Sun Protection/UV Radiation
- Mosquito-borne Diseases
- Beach Water Quality

Behavioral Health & Other Priorities

- Mental Illness
- Adult Autism

Community Healthcare Resources within Three Mile Radius

Within three miles of Mount Sinai, there are no other acute care hospitals. There are four public health centers, including three Federally Qualified Health Centers: the Miami Beach Community Health Center (two locations), Care Resource Community Health Center, and the Borinquen Health Care Center. For substance and mental health issues, there are two residential treatment centers. For geriatric residential services, there are five nursing homes and five assisted living facilities.

Other Community Health Needs

Mount Sinai has a team of doctors that provide specialized AIDS/HIV services. In addition to Mount Sinai’s specialized care, AIDS/HIV services are also provided within the service area by the Miami Beach Community Health Centers, the Borinquen Health Care Center, Jackson Memorial Health Center, and the Miami-Dade County Health Department’s Office of HIV/AIDS.

General and Expert Community Input & Community Health Needs Survey

Mount Sinai is committed to receiving input to better assess community health needs. As part of a three-year strategy, Mount Sinai has conducted multiple meetings with community representatives and leaders as well as members of low-income, medically underserved, and minority populations within the service area. Surveys were conducted in order to gain direct input from those living in Miami Beach.

City of Miami Beach Health Advisory Committee

Mount Sinai maintains a seat and lead role on the Health Advisory Committee of the City of Miami Beach. Other members of the committee include representatives from the Miami Beach Community Health Center and the Health Council of South Florida. The committee is a body of local representatives that meet to address the demographic and health issues illustrated in this report in a publicly advertised meeting forum.

Public Access and Community Comment on this Health Needs Assessment

This report will be widely available on www.msmc.com. Public comment can be addressed to the Mount Sinai Medical Center, 4300 Alton Road, Miami Beach, Florida 33140.

I. Methodology

The purpose of this report is to comply with 501(r) of the Internal Revenue Code by providing a Community Health Needs Assessment for Mount Sinai Medical Center of Florida, Inc. This report follows the recommendations of the Association of American Medical Colleges (AAMC)¹ and the National Committee on Vital and Health Statistics.²

The report includes:

- A description of the mission of Mount Sinai Medical Center;
- A description of the community served by Mount Sinai Medical Center; and
- A description of community health needs identified through an assessment of input from public health experts and generally available public health data that represents the broad interests of the community served by Mount Sinai Medical Center.

Statistical data and scholarly opinions referenced in this report include, but are not limited to, the following sources:

U.S. Agency for Healthcare Research & Quality
Centers for Disease Control & Prevention
National Center for Health Statistics
U.S. Census Bureau
Trust for America's Health
National Institutes of Health

Agency for Health Care Administration
Florida Department of Health
Health Council of South Florida
Miami-Dade County Health Department
Florida Hospital Association
Miami Beach Health Advisory Committee

Additional broad community input was sought via meetings and interviews with local health leaders, focus groups conducted in conjunction with the Miami-Dade County Health Department, and through surveys conducted with members of the Miami Beach community.

II. Mission

Mission To provide high quality health care to our diverse community enhanced through teaching, research, charity care and financial responsibility.

Mount Sinai Medical Center is South Florida's largest independent, not-for-profit teaching hospital with 672 licensed beds and over 4,000 employees. In addition to providing acute and emergency care, Mount Sinai has the following service lines:

- Cardiology
- Cardiac Surgery
- Urology
- Cancer Care
- General Surgery
- Orthopedics
- Obstetrics & Gynecology
- Neuroscience
- Rehabilitation
- Behavioral Health

Incorporated in 1946 and opened in 1949, Mount Sinai was founded by a group of philanthropists and early civil right leaders to provide medical assistance and training to all people regardless of race, creed, or nationality. It has grown from a small 55-bed community hospital to a comprehensive not-for-profit academic medical center with locations in five municipalities.

The first Mount Sinai Hospital was briefly located in South Beach before moving to the site of the iconic Jazz Age Nautilus Hotel built by Miami Beach developer Carl Fisher. The Nautilus had been seized by the US Army Air Corp during World War II for use as a hospital and was "government surplus" property. It was quitclaim deeded to Mount Sinai by the City of Miami Beach in 1949. On December 4, 1949, Mount Sinai Hospital of Greater Miami opened.

Harry S. Truman 1949 Message

"It is a fortunate thing for the entire community that you are able to open today a new hospital dedicated to . . . the relief of human suffering regardless of religion, allegiance or persuasion."



Location & Facility

Mount Sinai's main campus, offering inpatient, outpatient, and emergency medical services, is located at 4300 Alton Road, at the intersection of Ed Sullivan Drive and Alton Road, near the terminus of the Julia Tuttle Causeway-Interstate 195. The Main Campus consists of 18 buildings with floor space that measures 1,400,000 gross square feet.

Mount Sinai's 11 satellite locations include freestanding emergency rooms (FSED) in Aventura and Hialeah. There are outpatient services and physician offices in Coral Gables, Hialeah, Key Biscayne, Miami Lakes, Miami Shores, Skylake, and Sunny Isles Beach. The Mount Sinai Heart Institute has facilities in Hialeah, Key West, and Marathon. The Mount Sinai location in Coral Gables includes a cardiac catheterization facility and a sleep laboratory.

Mount Sinai Satellite Locations:

Aventura	Emergency Room, Cancer Care & Diagnostic Center, Primary & Specialty Care
Coral Gables	Diagnostic Cardiac Cath Lab & Sleep Center, Primary & Specialty Care
Hialeah	Primary & Specialty Care
Hialeah II	Emergency Room, Primary & Specialty Care
Hialeah-Miami Lakes	Primary & Specialty Care
Key Biscayne	Primary & Specialty Care
Key West	Cardiology
Marathon	Cardiology
Miami Shores	Primary & Specialty Care
Skylake	Primary & Specialty Care
Sunny Isles Beach	Primary & Specialty Care

Vital Community Employment

Mount Sinai is the 9th largest private employer in Miami-Dade County¹ and is the largest employer in the City of Miami Beach. Mount Sinai invested in Miami-Dade County's work force through wages and capital investments.

Mount Sinai Family:

Total Employees	4,071
Physicians	700
Residents and Fellows	162
Undergraduate Medical	477
Allied Health Professionals	688
Volunteers	380

III. Primary & Neighboring Service Areas

The city of Miami Beach is the largest community on the northeastern barrier islands. This is a collection of manmade communities totaling 10.5 square miles, which creates a geographic enclave. Over 30 smaller islands are proximate to one main barrier island, which is separated from the Miami mainland on the west by up to three miles of Biscayne Bay. It is bordered on the east by the Atlantic Ocean; on the south by Government Cut Canal; and on the north by the Miami-Dade County line.

Primary and Neighboring Service Areas

Primary Service Area

According to the 2017 Mount Sinai discharge or “use” statistics, 26.61% of inpatient discharges were primarily residents from the city of Miami Beach. An additional 18.5% were residents from the neighboring service area including the upper barrier islands, North Miami Beach, and four other neighboring mainland zip codes. Mount Sinai’s primary service area is comprised of the three zip codes making up the city of Miami Beach.

Miami Beach Primary Service Area Zip Codes:

33139 33140 33141

Neighboring Mainland Area

Unlike the clear geographic boundaries of the main barrier island, the neighboring mainland service area cuts across several municipalities without wholly containing most of them. The area is defined by use statistics and with the upper barrier islands represents 18.5% of the inpatient discharges for 2017.

The mainland neighboring area is a residential area that is not a tourist destination like the upper barrier islands. It is an economically diverse selection of neighborhoods called the Upper Eastside. The common element is an eastern water boundary of Biscayne Bay with North Miami and N.E. 2nd Avenue as the western boundary until N.E. 150th Street where the western boundary is Biscayne Boulevard.

Communities: Neighboring Mainland Area:

North Miami Beach	Miami Shores	Baypoint
Little Haiti	Biscayne Park	El Portal
Design District	Wynwood	Morningside

Service to Greater Miami-Dade County

While the city of Miami Beach is defined as the primary service area, 34.3% of 2017 inpatient discharges were evenly distributed among all other Miami-Dade County zip codes. This reinforces Mount Sinai’s historical role as serving greater Miami-Dade with its core specialties. Additionally, 13.3% of inpatient discharges are out-of-county, out-of-state and international zip codes.

Countywide Impact - Target Service Areas

In 2017, Mount Sinai ranked third of 34 hospitals in Miami-Dade for overall resident discharges.¹ Mount Sinai maintains satellite locations throughout Miami-Dade County and two locations in Monroe County. Based on countywide health statistics for the most fatal diseases, Mount Sinai has developed target health areas within the county. The target health areas are high need and are defined by zip codes 33160, 33180, 33010, 33012, and 33013.

Facility Access: Causeways

Five east-to-west vehicular causeways and bridges connect the islands to the city of Miami. Two of these causeways, the Broad Causeway and the Venetian Causeway, have tolls. The Julia Tuttle Causeway has an average daily two-way traffic count of 116,500. It is a multi-lane interstate that connects residents, visitors, and employees between Miami and Miami Beach. Mount Sinai's Main Campus is located at the terminus of the Julia Tuttle Causeway and Interstate 195.

Bridges to Primary Service Area:²

<u>Causeway</u>	<u>US/FDOT Name</u>	<u>Average Daily 2 Way Traffic</u>
Broad -Toll	SR 922	29,000
79th Street	SR 934	39,500
Julia Tuttle	I-195/SR 112	116,500
Venetian -Toll	CR 956	13,300
MacArthur	US 41/836	101,000

Emergency Services and Disaster Response

The island geography and causeway vehicle access coupled with the area's international popularity emphasizes the responsibility for Mount Sinai's role in the first response and emergency management networks for the island communities. In conjunction with the City of Miami Beach and the State of Florida, Mount Sinai has embarked on a project to bring emergency services and upgraded disaster response health services to the beach. Mount Sinai's new tower, opening in early 2019, will house a new 40,000 square foot emergency center with more than 50 treatment rooms along with a City of Miami Beach command center and critical operations hub for activation during times of emergency. The command center will provide joint emergency operations for city staff, police, fire, and medical staff during a community crisis.

The new tower will also include new state-of-the-art operating rooms on the second floor while the mechanical operations are located on the third floor. This will relocate critical services above the flood plain in a special hazard flood zone. The raised height will help to provide emergency services for the state's second largest tourism area, which is also a high velocity hurricane zone. Additionally, work was completed on 12 new dual-fuel generators in the Energy Center which will supply critical power to the Medical Center.

Mount Sinai acts as a medical management disaster shelter for oxygen and electric dependent residents, including those in intensive care that cannot evacuate. The facility remains accessible during times when bridges are in lock down by providing safe helipad service and access by boat. Mount Sinai also serves as a national stockpile drop location for counter-terrorism measures.

IV. DATA ASSESSMENT

Leading Causes of Disease-Related Death

The Florida Department of Health's Bureau of Vital Statistics has compiled and ranked the 30 leading causes of death among all Florida residents. In 2017, the top five disease-related causes in Miami-Dade County are: heart disease, cancer, stroke, chronic lower respiratory disease (CLRD), and Alzheimer's disease.¹

Utilizing the Florida Department of Health's data by zip code, we have determined the total number of deaths within our primary service areas for each of these leading causes and compared it to Miami-Dade County as a whole. Data by zip code allows the comparison of crude rates of death by cause in Mount Sinai's primary and neighboring service areas to assess community health needs.

Cause of Death	Number of Deaths ²				% to County Total
	Miami Beach	Aventura & Isles	Hialeah	Total	
Heart Disease	943	1,004	2,513	4,460	21.68%
Cancer	709	796	1,712	3,217	15.64%
Stroke	174	206	452	832	4.04%
CLRD	165	164	468	897	4.36%
Alzheimer's Disease	111	107	328	546	2.65%
Total	2,102	2,277	5,573	9,952	48.37%

All Deaths in Miami-Dade County³	20,575	100%
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Heart Disease

Heart disease is the leading cause of death in Mount Sinai's service area. Heart disease is a collection of conditions that affects the heart and its blood vessels. The most common type, coronary artery disease (CAD), is caused by the buildup of plaque in the wall of arteries that supply blood to the heart. Plaque is comprised of fat, cholesterol, calcium, and other substances. Over time, the narrowing of arteries caused by plaque buildup can partially or totally block the blood flow and is a major reason for heart attacks. In 2017, 21.68% of total deaths in Mount Sinai's primary service areas were due to heart disease.

Heart Disease as Cause of Death:⁴

Age-adjusted Death Rate per 100,000 Adults

Miami-Dade County	Miami Beach		Aventura & Isles		Hialeah	
206.6	33139	174.1	33160	181.8	33010	254.3
	33140	152.0	33180	153.4	33012	220.5
	33141	207.6			33013	235.1

Access to Heart Hospitals & Emergency Care

The state of Florida has one of the highest rates of hospitalization for Medicare beneficiaries with heart disease according to the Centers for Disease Control and Prevention's Interactive Atlas of Heart Disease and Stroke.⁵ In addition to the key risk factors for heart disease – high blood pressure, high LDL cholesterol and smoking – the CDC also notes a poor diet, physical inactivity, and excessive alcohol use contribute to a higher risk for heart disease.

In the September 2013 issue of *CDC Vital Signs*, it is reported that “at least 200,000 deaths from heart and stroke each year are preventable.”⁶ Preventive measures to help reduce this rate include:

- Changes in health habits: smoking cessation; increase physical activity; reduce sodium in diet; emphasis on management of high cholesterol, diabetes, and high blood pressure.⁷
- Community changes to promote healthier living: smoke-free areas, safe places to exercise, better access to healthy foods, improved access to heart-oriented hospitals and well-equipped emergency care.⁸

Mount Sinai is striving to meet the cardiovascular health needs within its primary service areas through the Columbia University affiliated Mount Sinai Heart Institute, research trials aimed at bringing cutting-edge treatments to patients, a new freestanding emergency room in Hialeah, and a new state-of-the-art emergency room on the main campus opening in early 2019. We offer free lectures and health screenings throughout Miami-Dade County to help people identify their risk factors, make informed medical decisions, and learn how to better manage their health habits. Mount Sinai has also partnered with South Florida Seniors in Action in the Farm Share program aimed at distributing fresh, healthy foods to needy families throughout its primary service areas.

Cancer (Malignant Neoplasm)

Cancer is comprised of a group of several diseases that begin in the cells of the body. Abnormal cells divide without control and “invade” other cells and tissues. Cancer cells spread, or metastasize, to other parts of the body through the blood or lymph systems. With over 100 types of cancer,⁹ just eight types make up about 66% of new cancer cases in Florida. These include cancers of the breast, colon/rectum, lung/bronchus, prostate, bladder, skin (melanoma), and blood (leukemia and non-Hodgkin's lymphoma).¹⁰ Though cancer can occur at any age, over 50% of new cancer cases occur in those aged 65 and up; therefore, aging is an important cancer risk factor.¹¹

Lung cancer is the most common cause of cancer death and is one of the most preventable. The American Lung Association estimates that smoking contributes to 80% of lung cancer deaths in women and 90% of those in men.¹²

Skin cancer is the most common form of cancer – more cases are diagnosed annually in the United States than for all other cancers combined. In 2012, more than 5 million cases of nonmelanoma skin cancer were treated in over 3 million people.¹³ Melanoma is the deadliest form of skin cancer, with 8,188 deaths occurring in 2016¹⁴ and accounting for nearly 70% of all

skin cancer deaths.¹⁵ The vast majority of skin cancers are caused by ultraviolet (UV) radiation. Research shows that about 90% of nonmelanoma skin cancers and about 65% of melanomas can be attributed to UV radiation.¹⁶

Cancer and Women

After skin cancer, breast cancer is the most common form of cancer in women. About 237,000 women are diagnosed with breast cancer annually in the United States.¹⁷ It is the second most common cause of cancer death in white, black, and Asian women, and it is the leading cause of cancer deaths in Hispanic women.¹⁸ This suggests that a community with a heavily Hispanic population would be well served by targeted cancer screening programs.

Breast Cancer as Cause of Death:¹⁹

Age-adjusted Death Rate per 100,000 Females

Miami-Dade County	Miami Beach		Aventura & Isles		Hialeah	
18.5	33139	9.1	33160	12.7	33010	14.5
	33140	19.4	33180	17.6	33012	17.2
	33141	21.3			33013	21.8

In order to meet the needs of patients with breast cancer, and other cancers, Mount Sinai's Comprehensive Cancer Center (CCC) on the main campus and the Cancer Care and Diagnostic Center in Aventura use a collaborative, multi-disciplined approach to the diagnosis and treatment of cancer. Additionally, we offer free or discounted screening mammograms to the public during May and October and to Miami-Dade Public School teachers and staff in November at the CCC and Aventura Breast Centers. Free lectures are also given throughout the primary service areas.

Cancer and Men

Prostate cancer is the most common non-skin cancer in men in the United States, and it is the second leading cause of cancer death in men, behind lung cancer.²⁰ In 2015, there were over 183,000 new cases of prostate cancer reported in the U.S.²¹ Though the survival rate for prostate cancer is high, approximately 1 in 41 will die of the disease this year.²² Age is the most common risk factor; however, African American men and those with a family history of prostate cancer are at a greater risk for getting or dying from the disease.²³

Mount Sinai is committed to providing regular PSA screenings for early detection of prostate cancer. Prostate-specific antigen (PSA) is a substance produced by the prostate gland. The PSA level in a man's blood is an important marker of many prostate diseases including prostate cancer. The goal of early detection is to reduce death from prostate cancer in men. Early stage prostate cancer offers many options for treatment and cure.

Mount Sinai is at the forefront among cancer research institutions in the United States. We have more than 100 active clinical cancer trials that offer new treatment options before they're available to the public, and many of our protocols have resulted in cutting-edge treatments.

Stroke (Cerebrovascular Diseases)

Stroke affects the arteries leading to and within the brain. The American Stroke Association explains that a “stroke occurs when a blood vessel that carries oxygen and nutrients to the brain is either blocked by a clot or bursts.” The result is part of the brain becomes blood and oxygen starved, so it and the brain cells die.²⁴ Stroke is a leading cause of long-term disability and is the fifth leading cause of death in the United States.²⁵ In Miami-Dade County, stroke is the third leading cause of death and contributed to a death rate of 7.7% of all deaths²⁶ in the county and 4% in Mount Sinai’s primary service areas.²⁷ More women than men have strokes each year, and African Americans are more impacted by stroke than all other racial groups.²⁸

Stroke as Cause of Death:²⁹

Age-adjusted Death Rate per 100,000 Adults

Miami-Dade County	Miami Beach		Aventura & Isles		Hialeah	
41.2	33139	17.3	33160	28.1	33010	32.3
	33140	21.7	33180	23.8	33012	29.9
	33141	27.3			33013	30.5

Mount Sinai’s Comprehensive Stroke Center offers round-the-clock care to quickly and accurately diagnose and treat stroke patients. With access to the latest diagnostic and therapeutic treatment advances, the Comprehensive Stroke Center has the widest range of options to stop a stroke in progress and to minimize potential damage. The emergency departments at both Miami Beach and Aventura have state-of-the-art CT scanners allowing physicians to diagnose a stroke quickly. Mount Sinai also offers health screenings and lectures throughout Miami-Dade County to assist the public in recognizing the signs of stroke and identify their risk factors in order to make informed decisions about their health.

Chronic Lower Respiratory Disease (CLRD)

Chronic lower respiratory diseases affect the airways and the lungs. The most common are chronic obstructive pulmonary disease (COPD), asthma, pulmonary hypertension, and occupational lung diseases.³⁰ COPD is a group of diseases that cause a blockage of airflow and breathing-related problems. This group includes emphysema and chronic bronchitis.³¹ The American Lung Association estimates that between 85% and 90% of all COPD cases are due to smoking and are thereby preventable.³²

CLRD is the third leading cause of death in the primary service areas of Miami Beach, Aventura, and Hialeah contributing to a 4.4% death rate.³³ In Miami-Dade County, CLRD is the fourth leading cause of death contributing to a 5.2% death rate.³⁴

COPD as Cause of Death:³⁵

Age-adjusted Death Rate per 100,000 Adults

Miami-Dade County	Miami Beach		Aventura & Isles		Hialeah	
27.8	33139	29.3	33160	21.4	33010	47.0
	33140	16.1	33180	20.3	33012	40.3
	33141	25.9			33013	36.7

The pulmonary specialists at Mount Sinai’s Lung Center provide a wide array of cutting edge care options to patients with pulmonary disorders such as COPD, asthma, and pulmonary hypertension. Services include a fully accredited sleep lab for evaluating and treating sleep apnea and other sleep disorders, a pulmonary function laboratory offering multiple diagnostic testing options for evaluating adults and children with unexplained shortness of breath, and a weekly pulmonary hypertension clinic with South Florida’s only multidisciplinary team specialized in treating pulmonary hypertension.

Alzheimer’s Disease

According to the National Institute on Aging, Alzheimer’s disease is “an irreversible, progressive brain disorder that slowly destroys memory and thinking skills, and eventually the ability to carry out the simplest tasks.”³⁶ Alzheimer’s is the most common cause of dementia, accounting for 60% to 80% of dementia cases.³⁷ This disease is the sixth leading cause of death in the United States³⁸ and in Miami-Dade County³⁹; however, there is some research indicating Alzheimer’s may instead rank third due to underreporting.⁴⁰ The CDC found there was a significant increase in number of deaths attributed to Alzheimer’s disease from 2015 to 2016.⁴¹

As the majority of people with Alzheimer’s disease are over 65, the greatest risk factor is advancing age.⁴² However, it can afflict men and women even as early as their 30s. It is estimated that approximately 200,000 Americans have early-onset Alzheimer’s. Researchers believe family history of the disease is a contributing factor in early-onset cases.⁴³

Alzheimer’s Disease as Cause of Death:⁴⁴

2017 Number of Deaths

Miami-Dade County ⁴⁵	Miami Beach		Aventura & Isles		Hialeah	
908	33139	44	33160	51	33010	90
	33140	31	33180	56	33012	90
	33141	36			33013	148

Through the Wein Center for Alzheimer’s Disease and Memory Disorders, Mount Sinai is able to offer patients and caregivers a multidisciplinary approach to diagnosis and treatment of Alzheimer’s as well as education and support for those facing the unique challenges of caring for an individual with Alzheimer’s disease. The Wein Center is a leading participant in national and international clinical trials for treatment and prevention of Alzheimer’s disease earning Mount Sinai prestigious grant funding from the National Institutes of Health and recognition from U.S. News & World Report as one of America’s Best Hospitals.

To further aid the community, the Wein Center offers free memory screenings for individuals aged 50 and up who may be exhibiting signs of a memory disorder. Mount Sinai offers free lectures given by our physicians on a variety of topics related to Alzheimer’s disease—identifying Alzheimer’s risk factors, diagnosis and treatment of the disease, and advancements in research.

Environmental Health Priorities

Ultraviolet Radiation and Sun Exposure

UV radiation causes the vast majority of skin cancer, including malignant melanoma. While rates for many common cancers are declining, the incidence of nonmelanoma skin cancers increased 77% between 2004 and 2014; and the number of new melanoma diagnoses has increased 53% over the past ten years.¹

Skin cancer is not the only concern in regards to overexposure to UV radiation. According to the World Health Organization, prolonged exposure “may result in acute and chronic health effects on the skin, eye, and immune system.”² UV exposure can “alter the activity and distribution of some of the cells responsible for triggering immune responses in humans;” thus, enhancing the risk of infection, contributing to the recurrence of Herpes simplex infections (cold sores), and a decreased effectiveness of vaccinations.³

2017 Miami Daily UV Index:⁴

Extreme	144	40%
Very High	90	25%
High	59	16%
Moderate	70	19%
Low	0	0%
Forecasted Days	363	

Research has found that regular daily use of SPF 15 or higher sunscreen reduces the risk of developing skin cancer by 40% to 50%.⁵ To encourage safer sun exposure, Mount Sinai has provided the City of Miami Beach with sunscreen dispensers for all who visit Miami Beach to use for free. These dispensers contain a broad spectrum, water resistant SPF 30 lotion and are placed at public pools, parks and beach access points near lifeguard stands.⁶

Mosquito-borne Diseases

Mosquito-borne diseases are those that can be spread through the bite of an infected mosquito. Several mosquito species found in Florida are capable of transmitting diseases to humans and animals.⁷ Though there are a number of these types of diseases, two have been more prevalent than others in recent years in South Florida – West Nile Virus and Zika.

[West Nile virus \(WNV\)](#)

Most cases of West Nile virus result in only mild symptoms characterized by headache, fever, pain, and fatigue. However, less than 1% of infections develop into the most severe form of the disease, neuroinvasive WNV, which can cause irreversible neurological damage, paralysis, coma, or death. Individuals over age 60 and those with a weakened immune system are at an increased risk for the more severe form of WNV.⁸ Since its introduction in Florida, WNV activity has been found in all 67 counties. Peak transmission in the state is July through September.⁹

Though transmission is typically through the bite of an infected mosquito, WNV can also be transmitted to humans through contaminated blood transfusions and, rarely, through intrauterine transmission.¹⁰ Symptoms typically present between two and 14 days after being bitten by an infected mosquito. Most mild infections are overcome with little to no medical intervention within weeks of infection. There is no specific treatment for WNV.¹¹

To prevent WNV infection there are three main measures: (1) Drain standing water around your home or business to prevent mosquito breeding. (2) Cover doors and windows with screens to keep mosquitoes out of your home. (3) Cover skin with mosquito repellent or clothing to prevent bites.¹²

Zika Virus

Zika is caused by a mosquito-borne virus similar to those that cause West Nile virus and dengue fever.¹³ Symptoms are generally mild and last for several days to a week and include fever, rash, joint and muscle pain, and headache.¹⁴ Only about 1 in 5 of those infected with Zika present symptoms, but it is still possible to pass the virus on to others if no symptoms are exhibited.¹⁵ Primarily transmitted through the bite of an infected mosquito, Zika can also be transmitted from a pregnant mother to her baby during pregnancy and through sexual activity.¹⁶

A Zika infection in pregnant mothers can be especially dangerous due to the potential for transmission to their babies which can result in Congenital Zika Syndrome. Congenital Zika Syndrome is characterized by five features: severe microcephaly, decreased brain tissue, damage to the back of the eye, limited range of motion in joints, and/or muscle tone restricting body movement after birth. Some infants may not appear to have developmental delays at birth, but deficits may become evident as they age.¹⁷

In current CDC research, there is an indication of a strong association between Zika and Guillain-Barré syndrome (GBS) as countries reporting Zika outbreaks have also reported an increase in GBS cases. GBS is a nervous system disorder in which a person's own immune system damages nerve cells, causing muscle weakness or even paralysis. Only a small proportion of those with a recent Zika infection get GBS, so the CDC is continuing its investigation into the link between Zika and GBS.¹⁸

The primary measures to prevent Zika infection are the same as those for West Nile virus – mosquito control by draining standing water and mosquito bite prevention by covering skin with clothing or mosquito repellent. However, the CDC recommends additional measures to prevent sexual transmission of Zika:¹⁹

- If you are pregnant with a sex partner who lives in or has traveled to an area with an active Zika transmission, the use of condoms or abstinence from sex is recommended for the duration of the pregnancy.
- If a man has been diagnosed with Zika or has had symptoms, the use of condoms or abstinence from sex is recommended for at least six months after symptoms begin.
- If a man has traveled to an area with Zika but did not develop symptoms, the use of condoms or abstinence from sex is recommended for at least eight weeks after returning home.

- The CDC recommends the use of condoms or abstinence from sex for couples with one partner who has a confirmed or suspected Zika infection or who has traveled to an area with Zika but does not have symptoms.

Although there are no current warnings for Zika, South Florida is likely to always be at risk for the virus as mosquitos are endemic to the area and Miami is a major port of entry for immigrants and other travelers to and from the United States.

Beach Water Quality

The State of Florida Beach Water Monitoring Program is responsible for biweekly sampling for enterococci bacteria.²⁰ Five of the 15 sampling points for Miami-Dade County are located in Mount Sinai's service area.²¹

Beach Water Sample Points:²²

Location	2017 % Pass
Surfside Beach – 93 rd St	89%
North Shore Ocean Terrace	82%
53 rd St – Miami Beach	84%
Collins Park – 21 st St	88%
South Beach Park	96%

Current ratings for each sample point are available on the Florida Health website. Beach water problems are also reported to the public via press release.

Other concerns with regard to beach water quality are red tide and blue-green algae. Although the presence of red tide has been found at some Miami-Dade County beaches, it is not currently at levels to require closures.

Access to Care Priorities

Barriers to Care

Income Level and Insurance Coverage

In its 2013-2018 Mobilizing for Action through Planning and Partnerships (MAPP) Assessments, the Miami-Dade County Health Department has identified the number one community health priority is increasing access to care.¹ According to the U.S. Census Bureau American Community Survey 5-year estimates, 22.7% of the people in Miami Beach, 28.9% in Hialeah, and 10.8% in Aventura had no health insurance, as compared to 23.1% of people in Miami-Dade County and 11.7% nationwide.² The results of surveys conducted to assess the health needs in the Mount Sinai community also found a large percentage, over 50%, of respondents report they have no health insurance. Many also responded that they were unable to afford health care due to the high cost of services and medications.

In an interview with Dr. Mark Rabinowitz, CEO and Chief Medical Officer for the Miami Beach Community Health Center and Chair of the Miami Beach Health Advisory Committee, it was

noted that inadequate access to care for low-income populations is a major concern in the community. Even if patients qualify for Medicaid, accessibility of affordable primary health care is severely limited; and virtually no specialists accept Medicaid patients. Although a majority of respondents in the Mount Sinai community survey said they received the health care services they needed, many also specifically identified needs for both primary care and specialist care including gynecology, cardiology, and endocrinology for diabetes.

A large body of research attests that a lack of insurance coverage largely impacts low-income and minority communities which, in turn, leads to significant health disparities including lower rates of health care utilization; increased prevalence of chronic conditions such as high blood pressure and diabetes; higher mortality rates from cancer, stroke, and heart attacks; mental health problems; and higher rates of low birth rate babies.

Transportation

Survey respondents also commented that insufficient access to providers due to time for appointments and distance to providers prevented them from being healthier. Likely causes to this barrier to health care access are traffic congestion, inadequate public transportation options, and/or no access to a vehicle. Lack of transportation is also noted as a challenge affecting health care access in Miami-Dade County.³

Miami is the fifth most traffic-congested city in North America,⁴ and the federal government has ranked Miami-Dade Transit as the worst in the nation for getting people around by bus.⁵ Per U.S. Census Bureau estimates, 85.8% of county workers commute by car, van, or truck and 5.5% by public transportation; 4.5% of workers have no vehicle available.⁶

Mount Sinai is directly accessible by Miami-Dade Transit Bus Routes 103C, 113M, 115, and the Mid-Beach Trolley. These routes connect to a variety of other routes as well as to the Metrorail.⁷ Mount Sinai will also assist patients in coordinating transportation to and from appointments through their insurance providers, local chapters of the American Cancer Society, and local paratransit services (STS in Miami-Dade County and TOPS! in Broward County). There are also taxis and the ride-share services Uber & Lyft.

Cultural/Ethnic Factors

Miami-Dade County has a “minority-majority” population with 66.4% identifying as Hispanic (of any race) and 19.1% identifying as Black or African American.⁸ The Hispanic population originates from many countries throughout Latin America and the Caribbean. There is also a significant population of Haitian immigrants in the county.

The cultural diversity among residents within Mount Sinai’s service area manifests in differing health beliefs than those shared by most Americans. Recent immigrants to the United States may also be unfamiliar with the American insurance and health care systems. Survey responses support this idea as more than half (58%) said they did not understand the American health care system, and a majority of respondents (65%) would prefer a physician who understands their culture.

More than 50% of Miami-Dade County's population is foreign-born,⁹ so it is not surprising that 73% speak a language other than English. Of those that speak a language other than English, 47.5% speak English less than "very well,"¹⁰ resulting in linguistic isolation. While the percentage in linguistic isolation in Miami Beach (22.9%) is below the county (25.4%), that number is much higher in Hialeah (53.5%).¹¹ Linguistic and cultural differences are identified by The Florida Department of Health in Miami-Dade County as barriers to effectively addressing chronic diseases.¹²

Coordination between Healthcare Providers

The Florida Department of Health in Miami-Dade County has found that a lack of coordination between healthcare providers is a key factor impacting health and wellness in the county. Some of the challenges they have identified are:¹³

- Different electronic health record systems,
- Silo health system which can result in both gaps and duplication in services,
- HIPAA laws that prevent better information sharing.

In an interview conducted with Mount Sinai's Chair of Obstetrics and Gynecology, Dr. Wilbur Hitt Jr also described difficulties in information sharing as a challenge to providing quality healthcare services and can be a hindrance to accessing care. Dr. Hitt believes a single, universal electronic health record system would improve information sharing among providers.

Mount Sinai is striving to improve access to health care services throughout its primary service areas in many ways. The EPIC electronic health records system is now fully operational throughout the MSMC system allowing better coordination of care for its patients from admission for inpatient care to outpatient and physician services provided on campus or at its satellite centers. Mount Sinai also believes a multidisciplinary, team-centered approach to treating diseases such as cancer and Alzheimer's offers patients the best treatment plans possible.

Mount Sinai has also widened access to specialty care by its expansion of satellite centers now open in many areas of Miami-Dade County. In 2017, Mount Sinai provided 175,000 primary and specialty care visits. Further expansion of services will occur in 2018 and 2019 with the opening of the Hialeah freestanding emergency room in November 2018, and a new patient tower and state-of-the-art emergency department on the main campus in Miami Beach opening in early 2019. Also in 2019, an additional satellite center is planned for Miami's Midtown neighborhood.

Safety Net Services – Uninsured

As defined by the Institute of Medicine, safety net providers deliver a "significant level of health care to the uninsured, Medicaid, and other vulnerable patients."¹⁴ Care is rendered to patients regardless of their ability to pay. As noted previously, the rate of uninsured in Miami-Dade County (23.1%) is nearly double that of the United States (11.7%), with both Miami Beach and Hialeah having significantly high rates of uninsured at 22.7% and 28.9%, respectively. Also, the poverty rate in Miami-Dade County of 19.9% exceeds the national rate by nearly five points.¹⁵

In 2017, Mount Sinai provided nearly \$139 million in charity and uncompensated care. Additionally, Mount Sinai is the functional public health system in its primary service area, although it does not receive the tax revenue meant to provide these services. In its service area, Mount Sinai provides as much as 75% of the charity care, indigent care, and Medicaid hospital services.

Physician Shortage

A major challenge to providing quality healthcare services and to addressing community health needs is the significant physician shortage the state is facing. Physician shortages affect patient care in many ways, such as increasing difficulty in getting appointments and added distance to see specialists. The National Center for Health Workforce Analysis predicts a deficit in the supply of primary care physicians of over 3,000 by the year 2025.¹⁶ In a 2015 report commissioned by the Teaching Hospital Council of Florida and the Safety Net Hospital Alliance of Florida, the projected shortage of physicians is closer to 7,000 by 2025.¹⁷ Although Florida hospitals have added more than 1,000 residency slots between 2013 and 2017,¹⁸ the state still faces significant challenges to meet physician workforce demands.

Mount Sinai's efforts to meet physician workforce demands are on-going. During 2017, Mount Sinai taught over 400 medical students. Additionally, Mount Sinai has expanded and added new graduate medical education programs. As of June 2016, the Anesthesiology residency program reached full capacity and now trains 9 residents per year. In 2017, the existing Urology and Surgery residency programs received approval for expansion, and new residency training programs in obstetrics/gynecology and psychiatry began in July 2018 with the goal of training 12 residents per year in each program.

Maternity and Prenatal Medicine

Although there have been major advances in medical care, critical threats to maternal and infant health remain. The most pressing challenges identified by Healthy People 2020 are reducing the rate of preterm births and the rate of infant deaths.¹⁹ The rate of preterm birth rate in the United States has risen for the second straight year: from 9.57% in 2014 to 9.63% in 2015 to 9.85% in 2016.²⁰ The rate of infant deaths is estimated to remain higher than the rate of 55 other countries in 2017.²¹

2016 Maternal Health Indicators:

Indicator	Miami-Dade	Florida
Teenage Pregnancies (live births/1,000 females) ²²	15.1	19.5
% Babies with Low Birth Weight ²³	8.6%	8.7%
Infant Mortality (per 1,000 live births) ²⁴	5.2	6.2

Mount Sinai collaborates with the Miami Beach Community Health Center (MBCHC) to provide preventative and acute care services to MBCHC OB/GYN patients for all incomes, races, and ethnicities regardless of national origin or documentation. MBCHC is a Federally Qualified Health Center that provides a wide-range of outpatient physician services and services

“incident to” physician services²⁵ to the medically-underserved population in Northwest Miami-Dade County. Both Dr. Mark Rabinowitz and Dr. Wilbur Hitt Jr explained that Mount Sinai has a dedicated OB/GYN physician on call each day for any MBCHC patients who may be experiencing pregnancy complications or giving birth or who need more acute care than can be provided at the clinic.

Mount Sinai is committed to addressing maternal and prenatal health needs as well as physician shortages. A new ACGME-accredited residency program for obstetrics and gynecology has been established. Residents begin training in this program in July 2018, with the ultimate goal to train 12 residents per year.

Behavioral Health & Other Priorities

Depression, anxiety and other mental disorders are among the most common causes of disability in the United States. Mental health also plays a role in a person’s ability to maintain their physical health. Depression can affect the ability to participate in health-promoting behaviors; and physical health problems, such as chronic disease, can also impact mental health and decrease the participation in treatment and recovery.

Mental Illness

Mental illness refers to conditions affecting a person’s thinking, mood, and/or behavior. These include depression, anxiety, bipolar disorder, and schizophrenia; and the duration of such conditions may be occasional or chronic. In 2016, over 50 million adults, or 18.3%, had any mental illness (AMI) in the previous year, an increase over 2015 rates; however, less than half received mental health services in the previous year.¹

Anxiety and Depressive Disorders

Anxiety and depression are the two most common types of mental disorders.² In 2016, the percentage of adults in Miami-Dade County with a depressive disorder is 11.7%.³ The percentage of adults who experienced poor mental health on 14 or more days a month is 9.8%,⁴ with Miami Beach and Hialeah reporting slightly higher percentages with 11.8% and 14.8%, respectively.⁵ The depression rate among adults 65 and over in Miami-Dade County is significantly higher than the national rate. Per the Centers of Medicare and Medicaid Services (CMS), the rate in Miami-Dade County is 26.3%, while the national rate is 14.1%.⁶

Serious Mental Illness and Homelessness

Serious Mental Illness (SMI) in adults is defined by the Center for Mental Health Services as “having, at any time during the past year, a diagnosable mental, behavior, or emotional disorder that causes serious functional impairment that substantially interferes with or limits one or more major life activities.”⁷ These disorders include major depression, bipolar disorder, schizophrenia, and other mental disorders causing serious impairment. Approximately 10 million adults had SMI in 2016, a slight increase over 2015.⁸

Compared to persons without mental illness, those with SMI are more likely to be unemployed, arrested, and/or face homelessness.⁹ In fact, an estimated 26% of sheltered homeless adults

live with a serious mental illness.¹⁰ Although the overall count of the homeless in Miami-Dade County has gone down between 2016 and 2017, from 4,235 to 3,847, the number of unsheltered homeless has increased from 982 in 2016 to 1,011 in 2017.¹¹

Mount Sinai offers inpatient and outpatient psychiatric care on its main campus. For patients needing more intensive outpatient therapy but do not require an overnight stay in the hospital, Mount Sinai offers a partial hospitalization program and intensive outpatient program.

Adult Autism

Autism spectrum disorder (ASD) is a developmental disability that can cause significant social, communication, and behavioral challenges. Many with ASD have different ways of learning, paying attention, or reacting to things. They may repeat certain behaviors and may be resistant to change in daily activities. There are many factors contributing to the likelihood of having ASD including environmental, biologic, and genetic factors.¹² Children with a sibling who has ASD¹³ or who have certain genetic or chromosomal conditions such as fragile X syndrome¹⁴ are at a higher risk of having ASD. ASD occurs across all racial, ethnic, and socioeconomic groups, but it is about four times more common in boys than in girls.¹⁵ The Centers for Disease Control estimate that 1 in every 59 children are on the autism spectrum.¹⁶

Due to a “surge of children” diagnosed with ASD in the 1990s,¹⁷ it is estimated that 50,000 Americans with ASD will turn 18 each year.¹⁸ Adults with autism have significantly more medical and psychiatric problems than other adults. They have higher rates of depression and anxiety, sleep disorders, hypertension, diabetes, gastrointestinal disorders, epilepsy, and obesity.¹⁹ Many medical experts in ASD only treat children and teenagers, so there is a critical need for physicians and other medical experts with knowledge in treating adults with ASD.

Mount Sinai is striving to meet the needs of adults in the community with autism with the Mount Sinai Adult Autism Clinic. The staff has been trained by the Center for Autism and Related Disabilities (CARD) to meet the special medical needs of adults with ASD and can help adults transition from pediatric autism specialists to other forms of health care. The Adult Autism Clinic offers primary and specialty medical care, diagnostic services, and care management and support for patients and their families/caretakers.

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