



KERNAN ORTHOPAEDICS AND REHABILITATION

UNIVERSITY OF MARYLAND
MEDICAL SYSTEM

Community Needs Assessment FY 2012



6/25/2012

According to the Patient Protection and Affordable Care Act (“ACA”), hospitals must perform a community health needs assessment either fiscal year 2011, 2012, or 2013, adopt an implementation strategy to meet the community health needs identified, and beginning in 2013, perform an assessment at least every three years thereafter. The needs assessment must take into account input from persons who represent the broad interests of the community served by the hospital facility, including those with special knowledge of or expertise in public health, and must be made widely available to the public. For the purposes of this report, a community health needs assessment is a written document developed by a hospital facility (alone or in conjunction with others) that utilizes data to establish community health priorities, and includes the following:(1) A description of the process used to conduct the assessment;(2) With whom the hospital has worked;(3) How the hospital took into account input from community members and public health experts;(4) A description of the community served; and(5) A description of the health needs identified through the assessment process.

**James Lawrence Kernan Hospital
Community Health Needs Assessment**

Accepted by the James Lawrence Kernan Hospital Board of Directors on June 25, 2012.

Contents	Page Number
I. Introduction	2
a. Overview of James Lawrence Kernan Hospital	2
b. The Communities We Serve	4
1. Baltimore City	4
2. Baltimore County	6
3. Howard County	9
4. Anne Arundel County	11
c. Community Partners	13
d. Community Benefits Implementation	13
II. Approach/Methodology	15
a. Community Health Needs Assessment Background	15
b. Healthy Baltimore 2015	15
c. Maryland's State Health Improvement Plan (SHIP Initiatives)	19
d. Community Needs Index	25
e. Other Available Data	30
f. Data Gaps Identified	32
III. Findings	33
a. Baltimore City Health Department City-Wide Needs Assessment	33
b. UMMS Community Survey	35
c. Baltimore City Stakeholders	36
IV. Response to Findings	38
a. Unaddressed Identified Needs	38
b. Community Benefit Implementation Plan	38
1. Chronic Disease: Obesity – Adults	39
2. Chronic Disease: Obesity – Children/Adolescents	40
3. Health Care Access – Support Group Education	41
4. Chronic Disease – Reduce deaths from heart disease	42
5. Health Care Access – Dental care for those in need	43
V. Appendix	45
a. Survey Sample	
b. UMMS CHNA Survey Report	

Introduction

a. Overview of the James Lawrence Kernan Hospital

The James Lawrence Kernan Hospital is the largest inpatient rehabilitation specialty hospital located within the state of Maryland. Known also as Kernan Orthopaedics and Rehabilitation, the hospital is Baltimore's original orthopaedic and rehabilitation hospital and is a committed provider of a full array of rehabilitation programs and specialty surgery--primarily orthopaedics. A member of the University of Maryland Medical System (UMMS) and affiliated with the University of Maryland School of Medicine, the hospital has been serving patients who are residents of the State of Maryland and the surrounding Baltimore metropolitan area for approximately 115 years.

Kernan Hospital at a Glance (July 1, 2011 – June 30, 2011)

Medical Staff – 244

OR Suites – 6

ICU Beds – 5

Acute Medical Service Beds -5

Inpatient Admissions – 3,286

Ambulatory Visits - 74,417

Emergency Department – No Emergency Department

As Maryland's original orthopaedic hospital, Kernan offers total joint surgery, non-operative management of back pain, the latest minimally invasive techniques for shoulder surgery, integrative medicine, and leadership in sports medicine and pediatric orthopaedics. The hospital's expert staff treats a full range of rehabilitative issues resulting from stroke, spinal cord injuries, traumatic brain injuries, neurological disorders and general surgeries deconditioning.

Located on 85 acres on the border of the Forest Park/Gwynns Falls community in southwest Baltimore City and the Gwynn Oak/Woodlawn area in western Baltimore County, Kernan is a specialty hospital providing unique services to its patients. Convenient to Baltimore Beltway Exit 17 and Interstate 70, the hospital is very accessible to patients residing in Baltimore City, Anne Arundel, Baltimore, and Howard counties, and western Maryland.

Approximately 15 percent of Kernan's patients are admitted to the hospital for elective procedures. Patients requiring rehabilitative care comprise the other 85 percent of admissions and are patients who are transferred to Kernan from acute care hospitals that are located throughout the state of Maryland.

Between July 1, 2010 and June 30, 2011, nearly 34 percent of Baltimore City patients requiring rehabilitative care were treated at Kernan Hospital. Statewide, approximately 24 percent --nearly one-quarter --of those needing post-acute rehabilitation were cared for at Kernan.

As part of the continuum of care for patients whose acute care treatment may begin at The University of Maryland Medical Center, R. Adams Cowley Shock Trauma Center, or other acute care hospitals throughout Maryland, Kernan's outreach, community and professional education initiatives, as well as other community involvements are driven by the diagnostic categories that Kernan serves, and the need to invest in the development of future professionals to care for individuals who require the unique blend of services available at Kernan.

Kernan provides specialized rehabilitation services within its four 32-bed units, dedicated to spinal cord injured, traumatic brain injured, stroke and comprehensive medical rehabilitation. Each unit is staffed by a multi-disciplinary team lead by a rehabilitation physician collaborating in quality care delivery with the disciplines of nursing, physical therapy, occupational therapy, speech therapy, therapeutic recreational, case management and dietary, as well as consulting physician services such as internal medicine, ENT

and urology. In addition, orthopaedic services such as total joint replacement-including reverse shoulder replacement and sports medicine procedures-are provided. Kernan is also home to a pain management center and a center for integrative medicine. Over the past 10 years, Kernan has provided inpatient services to nearly 30,000 patients.

The hospital also provides a complete dental practice, including nine treatment areas for general and pediatric dentistry. In addition to the reception and business areas, the suite also includes areas for disinfection, sterilization, X-ray and laboratory, and facilities for comprehensive dental treatment under general anesthesia.

A special mission of the Kernan Dental Service is to serve children and adults who have limited access to oral health care in the community. This population includes mentally and/or physically disabled individuals, as well as many children in the Maryland Medicaid Program.

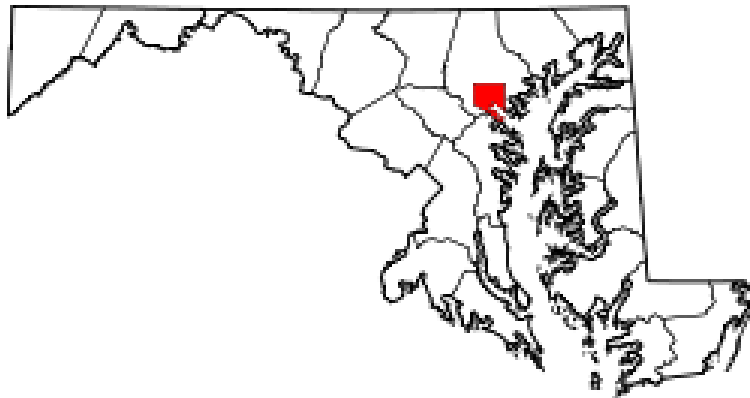
University of Maryland Medical System (UMMS) created the University of Maryland Community Health Outreach and Advocacy team that meets bi-monthly to address the health care needs of the West Baltimore community. The group is comprised of community outreach management and staff, social workers, directors, vice presidents, and physicians from UMMS system hospitals. The group determines what needs are addressed as well as community involvement and activities each year. In addition to the identified UMMS priorities, Kernan senior leaders and community outreach staff meet to determine hospital-specific annual goals and activities. Kernan, in partnership with UMMS hospitals located in West Baltimore, is also a major participant and sponsor of several major outreach efforts annually.

b. The Communities We Serve

The following information details the areas Kernan primarily serves --Baltimore City, as well as Anne Arundel, Baltimore and Howard counties. For purposes of this report, Kernan’s Community Benefit Service Area (CBSA) includes approximately 60 percent of Kernan’s discharges, residing in the following zip codes, by county:

Baltimore City	Anne Arundel County
21201	21144
21202	21061
21217	21122
21216	21060
21207	
21215	
21209	
Baltimore County	Howard County
21208	21043
21117	21044
21244	21045
21228	21075
21229	

Baltimore City, Maryland



The City of Baltimore consists of nine geographical regions: Northern, Northwestern, Northeastern, Western, Central, Eastern, Southern, Southwestern, and Southeastern. The Central district includes Downtown Baltimore, the city's main commercial area. The downtown core has mainly served as a commercial district with limited residential neighborhoods. The Central district proceeds north of the downtown core to the edge of Druid Hill Park. This area is home to many of the city's cultural opportunities.

The Northern district lies directly north of the Central district and is home to some of the area’s colleges and universities such as Loyola University Maryland, The Johns Hopkins University and College of Notre Dame of Maryland.

The Southern district, a mixed industrial and residential area, consists of the area of the city below the Inner Harbor, east of the B&O railroad tracks. It is a mixed socio-economic region consisting of culturally

and ethnically diverse neighborhoods such as Locust Point, historic Federal Hill, and low-income residential areas such as Cherry Hill. The Port of Baltimore also operates two terminals in this district.

East Baltimore consists of the Northeastern, Eastern, and Southeastern districts. The Northeastern district is primarily a residential neighborhood, and is home to Morgan State University. The Eastern district is the heart of what is considered East Baltimore. Ethnically diverse, it is made up of primarily residential neighborhoods.

The Southeastern district borders the Inner Harbor on its western boundary, the city line on its eastern boundaries and the Baltimore Harbor to the south, is a mixed industrial and residential area. The demography of individual neighborhoods varies widely, offering a significant mix of races and cultures.

The West Baltimore community is nearest to Kernan Hospital, and consists of the Northwestern, Western, and Southwestern districts. The Northwestern district, bounded by the Baltimore County line on its northern and western boundaries, Gwynns Falls Parkway on the south and Pimlico Road on the East, is home to Pimlico Race Course, where the Preakness Stakes takes place each May, and is primarily residential.

The Western district, located west of the main commercial district downtown, is the heart of West Baltimore, bounded by Gwynns Falls Parkway, Fremont Avenue, and Baltimore Street. Coppin State University, Mondawmin Mall, and Edmondson Village, located in this district, have been historic cultural and economic centers of the city's African American community

The Southwestern district is bounded by Baltimore County to the west, Baltimore Street to the north, and the downtown area to the east. Economic and demographic characteristics of Southwestern district vary.







Demographics

According to the *2010 U.S. Census*, there were 620,961 people residing in Baltimore, a decrease of -4.6% since 2000. According to the *2010 U.S. Census*, 28.0% of the population was non-Hispanic White, 63.3% non-Hispanic Black or African American, 0.3% non-Hispanic American Indian and Alaska Native, 2.3% non-Hispanic Asian, 0.2% from some other race (non-Hispanic) and 1.7% of two or more races (non-Hispanic). 4.2% of Baltimore's population was of Hispanic, Latino, or Spanish origin. In the 1990s, the US Census reported that Baltimore ranked as one of the largest population losers alongside Detroit and Washington D.C., losing over 84,000 residents between 1990 and 2000.

The same report also estimated these people lived in a total of 294,579 housing units. Age ranges were 22.4% under 18 years old, 11.8% at age 65 or older, and 65.8% from 18 to 64 years old. The city's estimated 2009 population of 637,418 was 53.4% female.

A statistical abstract prepared by the U.S. Census Bureau estimated the median income for a household in the city during 2009 at \$38,458, with 20.9% of the population below the poverty line.

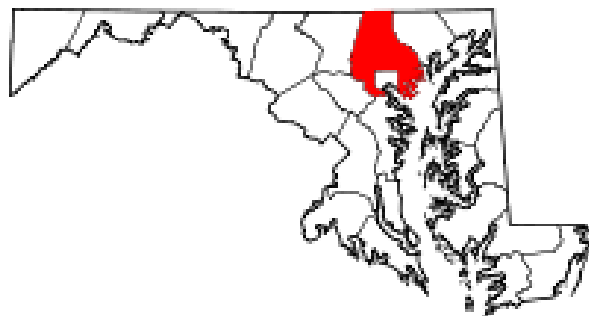
Baltimore City, Maryland

People QuickFacts	Baltimore city	Maryland
 Population, 2010	620,961	5,773,552
 Population, percent change, 2000 to 2010	-4.6%	9.0%
 Population, 2000	651,154	5,296,486
 Persons under 5 years, percent, 2010	6.6%	6.3%
 Persons under 18 years, percent, 2010	21.5%	23.4%
 Persons 65 years and over, percent, 2010	11.7%	12.3%

Female persons, percent, 2010	52.9%	51.6%
White persons, percent, 2010 (a)	29.6%	58.2%
Black persons, percent, 2010 (a)	63.7%	29.4%
American Indian and Alaska Native persons, percent, 2010 (a)	0.4%	0.4%
Asian persons, percent, 2010 (a)	2.3%	5.5%
Native Hawaiian and Other Pacific Islander, percent, 2010 (a)	0.0%	0.1%
Persons reporting two or more races, percent, 2010	2.1%	2.9%
Persons of Hispanic or Latino origin, percent, 2010 (b)	4.2%	8.2%
White persons not Hispanic, percent, 2010	28.0%	54.7%
Living in same house 1 year & over, 2005-2009	82.5%	85.5%
Foreign born persons, percent, 2005-2009	6.2%	12.3%
Language other than English spoken at home, pct age 5+, 2005-2009	8.3%	14.9%
High school graduates, percent of persons age 25+, 2005-2009	76.9%	87.5%
Bachelor's degree or higher, pct of persons age 25+, 2005-2009	24.9%	35.2%
Veterans, 2005-2009	41,914	461,622
Mean travel time to work (minutes), workers age 16+, 2005-2009	28.9	31.1
Housing units, 2010	296,685	2,378,814
Homeownership rate, 2005-2009	51.1%	69.6%
Housing units in multi-unit structures, percent, 2005-2009	33.4%	25.3%
Median value of owner-occupied housing units, 2005-2009	\$152,000	\$326,400
Households, 2005-2009	237,819	2,092,538
Persons per household, 2005-2009	2.60	2.63
Per capita money income in past 12 months (2009 dollars) 2005-2009	\$22,911	\$34,236
Median household income, 2009	\$38,458	\$69,193
Persons below poverty level, percent, 2009	20.9%	9.2%

Source: US Census Bureau Quick Facts 2010

Baltimore County, Maryland



A part of the Baltimore-Washington Metropolitan area, Baltimore County is located in the northern part of the state of Maryland. In 2010, the county's population was 805,029. Comprised of approximately 598 square miles, Baltimore County does not have any incorporated cities or towns and is divided into councilmanic districts. Kernan is located on the southwestern border of district 4 (Randallstown/Woodlawn/Security) of the county and Baltimore City.

Demographics

According to the *2010 Census QuickFacts*, the population and demographics of Baltimore County were as follows:

People QuickFacts	Baltimore County	Maryland
<i>i</i> Population, 2010	805,029	5,773,552
<i>i</i> Population, percent change, 2000 to 2010	6.7%	9.0%
<i>i</i> Population, 2000	754,292	5,296,486
<i>i</i> Persons under 5 years, percent, 2010	6.0%	6.3%
<i>i</i> Persons under 18 years, percent, 2010	22.0%	23.4%
<i>i</i> Persons 65 years and over, percent, 2010	14.6%	12.3%
<i>i</i> Female persons, percent, 2010	52.7%	51.6%
<i>i</i> White persons, percent, 2010 (a)	64.6%	58.2%
<i>i</i> Black persons, percent, 2010 (a)	26.1%	29.4%
<i>i</i> American Indian and Alaska Native persons, percent, 2010 (a)	0.3%	0.4%
<i>i</i> Asian persons, percent, 2010 (a)	5.0%	5.5%
<i>i</i> Native Hawaiian and Other Pacific Islander, percent, 2010 (a)	0.0%	0.1%
<i>i</i> Persons reporting two or more races, percent, 2010	2.4%	2.9%
<i>i</i> Persons of Hispanic or Latino origin, percent, 2010 (b)	4.2%	8.2%
<i>i</i> White persons not Hispanic, percent, 2010	62.7%	54.7%
<i>i</i> Living in same house 1 year & over, 2005-2009	85.9%	85.5%
<i>i</i> Foreign born persons, percent, 2005-2009	9.5%	12.3%
<i>i</i> Language other than English spoken at home, pct. age 5+, 2005-2009	11.4%	14.9%
<i>i</i> High school graduates, percent of persons age 25+, 2005-2009	88.3%	87.5%
<i>i</i> Bachelor's degree or higher, pct. of persons age 25+, 2005-2009	34.3%	35.2%
<i>i</i> Veterans, 2005-2009	65,045	461,622
<i>i</i> Mean travel time to work (minutes), workers age 16+, 2005-2009	27.8	31.1
<i>i</i> Housing units, 2010	335,622	2,378,814
<i>i</i> Homeownership rate, 2005-2009	67.8%	69.6%
<i>i</i> Housing units in multi-unit structures, percent, 2005-2009	27.9%	25.3%
<i>i</i> Median value of owner-occupied housing units, 2005-2009	\$259,400	\$326,400
<i>i</i> Households, 2005-2009	310,459	2,092,538
<i>i</i> Persons per household, 2005-2009	2.47	2.63
<i>i</i> Per capita money income in past 12 months (2009 dollars) 2005-2009	\$33,158	\$34,236
<i>i</i> Median household income, 2009	\$64,629	\$69,193
<i>i</i> Persons below poverty level, percent, 2009	8.3%	9.2%
Business QuickFacts	Baltimore County	Maryland
<i>i</i> Private nonfarm establishments, 2009	20,040	135,633 ¹
<i>i</i> Private nonfarm employment, 2009	322,180	2,122,388 ¹
<i>i</i> Private nonfarm employment, percent change 2000-2009	2.5%	3.1% ¹
<i>i</i> Nonemployer establishments, 2009	56,550	409,957
<i>i</i> Total number of firms, 2007	76,111	528,112
<i>i</i> Black-owned firms, percent, 2007	17.3%	19.3%
<i>i</i> American Indian and Alaska Native owned firms, percent, 2007	0.3%	0.6%
<i>i</i> Asian-owned firms, percent, 2007	6.1%	6.8%

i Native Hawaiian and Other Pacific Islander owned firms, percent, 2007	0.1%	0.1%
i Hispanic-owned firms, percent, 2007	2.2%	4.9%
i Women-owned firms, percent, 2007	30.7%	32.6%
<hr/>		
i Manufacturers shipments, 2007 (\$1000)	9,247,191	41,456,097
i Merchant wholesaler sales, 2007 (\$1000)	5,609,327	51,276,797
i Retail sales, 2007 (\$1000)	12,074,866	75,664,186
i Retail sales per capita, 2007	\$15,341	\$13,429
i Accommodation and food services sales, 2007 (\$1000)	1,414,111	10,758,428
i Building permits, 2010	1,230	11,931
i Federal spending, 2009	8,766,789	96,070,970 ¹
Geography QuickFacts	Baltimore County	Maryland
i Land area in square miles, 2010	598.30	9,707.24
i Persons per square mile, 2010	1,345.5	594.8
i FIPS Code	005	24
i Metropolitan or Micropolitan Statistical Area	Baltimore-Towson, MD Metro Area	

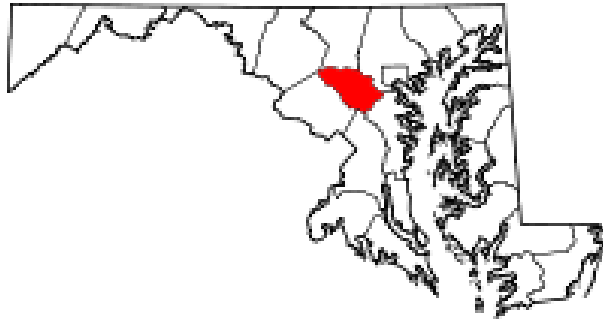
White persons comprised 64.6 percent of the population, with Black persons accounting for 26.1 percent of the county's population. American Indian and Alaska Native persons made up 0.33 percent of the population, Asian population comprised 4.99 percent, with Native Hawaiian and other Pacific Islander at zero percent. Persons reporting two or more races made up 2.4 percent of Baltimore County's population, persons of Hispanic or Latino origin, totaled 4.2 percent. The percent of White persons, not Hispanic was 62.7 percent.

There were 299,877 households out of which 30.20% had children under the age of 18 living with them, 49.40% were married couples living together, 12.80% had a female householder with no husband present, and 33.80% were non-families. 27.30% of all households were made up of individuals and 10.10% had someone living alone who was 65 years of age or older. The average household size was 2.46 and the average family size was 3.00.

In the county the population was spread out with 23.60% under the age of 18, 8.50% from 18 to 24, 29.80% from 25 to 44, 23.40% from 45 to 64, and 14.60% who were 65 years of age or older. The median age was 38 years. For every 100 females there were 90.00 males. For every 100 females age 18 and over, there were 86.00 males.

The median income for a household in the county was \$50,667, and the median income for a family was \$59,998. Males had a median income of \$41,048 versus \$31,426 for females. The per capita income for the county was \$26,167. About 4.50% of families and 6.50% of the population were below the poverty line, including 7.20% of those under age 18 and 6.50% of those aged 65 or over.

Howard County, Maryland



Howard County is located in the central part of the Maryland, between Baltimore and Washington, D.C. It is considered part of the Baltimore-Washington Metropolitan Area.

In 2010, its population was 287,085. Its county seat is Ellicott City. The center of population of Maryland is located on the county line between Howard County and Anne Arundel County, in the unincorporated town of Jessup.

Due to the proximity of Howard County's population centers to Baltimore, the county has traditionally been considered a part of the Baltimore Metropolitan Area. Recent development in the south of the county has led to some realignment towards the Washington, D.C. media and employment markets. The county is also home to Columbia, a major planned community of 100,000 founded by developer James Rouse in 1967.

Howard County is frequently cited for its affluence, quality of life, and excellent schools. For 2011, it was ranked the fifth wealthiest county by median household income in the United States by the U.S. Census Bureau. Many of the most affluent communities in the Baltimore-Washington Metropolitan Area, such as Clarksville, Glenelg, Glenwood and West Friendship, are located along the Route 32 corridor in Howard County. The main population center of Columbia/Ellicott City was named 2nd among *Money* magazine's 2010 survey of "America's Best Places to Live." Howard County's schools frequently rank first in Maryland as measured by standardized test scores and graduation rates.

Demographics

According to the *2010 U.S. Census*, White persons comprised 62.2 percent of the population of Howard County. Black persons made up 17.5 percent. Asian person were 14.4 percent of the population, and American Indian or Alaska Natives were 0.3 percent of the population, persons reporting two or more races comprised 3.6 percent of the county's population, and persons of Hispanic or Latino origin totaled 5.8 percent of the population. There were no reported Native Hawaiian or Pacific Islanders.

Median household income was reported at \$101,417, and the number of people living below the poverty level was 4.5 percent.

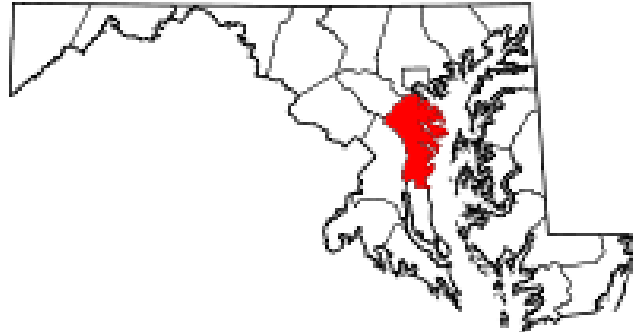
The following information details the demographic data of Howard County, Maryland.

People QuickFacts	Howard County	Maryland
Population, 2010	287,085	5,773,552
Population, percent change, 2000 to 2010	15.8%	9.0%
Population, 2000	247,842	5,296,486
Persons under 5 years, percent, 2010	6.0%	6.3%

i Persons under 18 years, percent, 2010	26.0%	23.4%
i Persons 65 years and over, percent, 2010	10.1%	12.3%
i Female persons, percent, 2010	51.0%	51.6%
<hr/>		
i White persons, percent, 2010 (a)	62.2%	58.2%
i Black persons, percent, 2010 (a)	17.5%	29.4%
i American Indian and Alaska Native persons, percent, 2010 (a)	0.3%	0.4%
i Asian persons, percent, 2010 (a)	14.4%	5.5%
i Native Hawaiian and Other Pacific Islander, percent, 2010 (a)	0.0%	0.1%
i Persons reporting two or more races, percent, 2010	3.6%	2.9%
i Persons of Hispanic or Latino origin, percent, 2010 (b)	5.8%	8.2%
i White persons not Hispanic, percent, 2010	59.2%	54.7%
<hr/>		
i Living in same house 1 year & over, 2005-2009	86.6%	85.5%
i Foreign born persons, percent, 2005-2009	15.5%	12.3%
i Language other than English spoken at home, pct age 5+, 2005-2009	19.2%	14.9%
i High school graduates, percent of persons age 25+, 2005-2009	94.3%	87.5%
i Bachelor's degree or higher, pct of persons age 25+, 2005-2009	57.2%	35.2%
i Veterans, 2005-2009	19,479	461,622
i Mean travel time to work (minutes), workers age 16+, 2005-2009	30.2	31.1
<hr/>		
i Housing units, 2010	109,282	2,378,814
i Homeownership rate, 2005-2009	75.5%	69.6%
i Housing units in multi-unit structures, percent, 2005-2009	24.4%	25.3%
i Median value of owner-occupied housing units, 2005-2009	\$454,800	\$326,400
i Households, 2005-2009	98,994	2,092,538
i Persons per household, 2005-2009	2.73	2.63
i Per capita money income in past 12 months (2009 dollars) 2005-2009	\$44,120	\$34,236
i Median household income, 2009	\$101,417	\$69,193
i Persons below poverty level, percent, 2009	4.5%	9.2%
Business QuickFacts	Howard County	Maryland
i Private nonfarm establishments, 2009	8,520	135,633 ¹
i Private nonfarm employment, 2009	149,381	2,122,388 ¹
i Private nonfarm employment, percent change 2000-2009	10.7%	3.1% ¹
i Nonemployer establishments, 2009	22,461	409,957
<hr/>		
i Total number of firms, 2007	30,899	528,112
i Black-owned firms, percent, 2007	14.9%	19.3%
i American Indian and Alaska Native owned firms, percent, 2007	0.6%	0.6%
i Asian-owned firms, percent, 2007	13.5%	6.8%
i Native Hawaiian and Other Pacific Islander owned firms, percent, 2007	F	0.1%
i Hispanic-owned firms, percent, 2007	2.6%	4.9%
i Women-owned firms, percent, 2007	30.1%	32.6%
<hr/>		
i Manufacturers shipments, 2007 (\$1000)	2,368,343	41,456,097
i Merchant wholesaler sales, 2007 (\$1000)	7,170,808	51,276,797
i Retail sales, 2007 (\$1000)	4,554,990	75,664,186
i Retail sales per capita, 2007	\$16,622	\$13,429
i Accommodation and food services sales, 2007 (\$1000)	565,685	10,758,428
i Building permits, 2010	1,151	11,931

i Federal spending, 2009	2,900,548	96,070,970 ¹
Geography QuickFacts	Howard County	Maryland
i Land area in square miles, 2010	250.74	9,707.24
i Persons per square mile, 2010	1,144.9	594.8
i FIPS Code		

Anne Arundel County, Maryland



Anne Arundel County is located in the U.S. state of Maryland. It is named for Anne Arundell (1615–49), a member of the ancient family of Arundells in Cornwall, England and the wife of Cæcilius Calvert, 2nd Baron Baltimore. Its county seat is Annapolis, which is also the capital of the state. In 2010, its population was 537,656.

Anne Arundel County forms part of the Baltimore-Washington metropolitan area. The center of population of Maryland is located on the county line between Anne Arundel County and Howard County, in the unincorporated town of Jessup. The following information provides demographic data pertaining to Anne Arundel County.

Demographics

White persons comprised 75.4 percent of the county's population, according to the *2010 U.S. Census*. Black persons totaled 15.5 percent. American Indian and Alaska Natives made up 0.3 percent of the county's population, while Asian persons totaled 3.4 percent, native Hawaiian and other Pacific Islanders made up 0.1 percent. Those reporting two or more races totaled 2.89 percent and those reporting Hispanic or Latino origin made up 6.1 percent of the population.

Median household income of Anne Arundel County residents was reported at \$79,843. Persons living below the poverty level were 6.8 percent.

People QuickFacts	Anne Arundel County	Maryland
i Population, 2010	537,656	5,773,552
i Population, percent change, 2000 to 2010	9.8%	9.0%
i Population, 2000	489,656	5,296,486
i Persons under 5 years, percent, 2010	6.4%	6.3%
i Persons under 18 years, percent, 2010	23.3%	23.4%
i Persons 65 years and over, percent, 2010	11.8%	12.3%
i Female persons, percent, 2010	50.6%	51.6%
i White persons, percent, 2010 (a)	75.4%	58.2%

i Black persons, percent, 2010 (a)	15.5%	29.4%
i American Indian and Alaska Native persons, percent, 2010 (a)	0.3%	0.4%
i Asian persons, percent, 2010 (a)	3.4%	5.5%
i Native Hawaiian and Other Pacific Islander, percent, 2010 (a)	0.1%	0.1%
i Persons reporting two or more races, percent, 2010	2.9%	2.9%
i Persons of Hispanic or Latino origin, percent, 2010 (b)	6.1%	8.2%
i White persons not Hispanic, percent, 2010	72.4%	54.7%
<hr/>		
i Living in same house 1 year & over, 2005-2009	85.6%	85.5%
i Foreign born persons, percent, 2005-2009	6.6%	12.3%
i Language other than English spoken at home, pct age 5+, 2005-2009	8.9%	14.9%
i High school graduates, percent of persons age 25+, 2005-2009	89.9%	87.5%
i Bachelor's degree or higher, pct of persons age 25+, 2005-2009	35.3%	35.2%
i Veterans, 2005-2009	56,020	461,622
i Mean travel time to work (minutes), workers age 16+, 2005-2009	28.5	31.1
<hr/>		
i Housing units, 2010	212,562	2,378,814
i Homeownership rate, 2005-2009	76.2%	69.6%
i Housing units in multi-unit structures, percent, 2005-2009	17.2%	25.3%
i Median value of owner-occupied housing units, 2005-2009	\$369,200	\$326,400
i Households, 2005-2009	190,308	2,092,538
i Persons per household, 2005-2009	2.60	2.63
i Per capita money income in past 12 months (2009 dollars) 2005-2009	\$37,823	\$34,236
i Median household income, 2009	\$79,843	\$69,193
i Persons below poverty level, percent, 2009	6.8%	9.2%
<hr/>		
Business QuickFacts	Anne Arundel County	Maryland
i Private nonfarm establishments, 2009	13,729	135,633 ¹
i Private nonfarm employment, 2009	200,856	2,122,388 ¹
i Private nonfarm employment, percent change 2000-2009	8.7%	3.1% ¹
i Nonemployer establishments, 2009	36,008	409,957
<hr/>		
i Total number of firms, 2007	49,600	528,112
i Black-owned firms, percent, 2007	9.0%	19.3%
i American Indian and Alaska Native owned firms, percent, 2007	0.4%	0.6%
i Asian-owned firms, percent, 2007	4.6%	6.8%
i Native Hawaiian and Other Pacific Islander owned firms, percent, 2007	F	0.1%
i Hispanic-owned firms, percent, 2007	3.2%	4.9%
i Women-owned firms, percent, 2007	31.4%	32.6%
<hr/>		
i Manufacturers shipments, 2007 (\$1000)	3,610,107	41,456,097
i Merchant wholesaler sales, 2007 (\$1000)	6,922,158	51,276,797
i Retail sales, 2007 (\$1000)	9,464,955	75,664,186
i Retail sales per capita, 2007	\$18,491	\$13,429
i Accommodation and food services sales, 2007 (\$1000)	1,288,086	10,758,428
i Building permits, 2010	1,711	11,931
i Federal spending, 2009	8,107,406	96,070,970 ¹
<hr/>		
Geography QuickFacts	Anne Arundel County	Maryland
i Land area in square miles, 2010	414.90	9,707.24
i Persons per square mile, 2010	1,295.9	594.8

c. Community Partners

In addition to Kernan's participation in UMMS events, additional community outreach initiatives, involving partnerships with both local education and community groups, as well as organizations with specific ties to the disabled community, and the disabilities treated at Kernan were held. These groups include:

Community Groups

Franklinton Community Association
Greater Catonsville Chamber of Commerce
Security-Woodlawn Business Association
Baltimore County Chamber of Commerce
Rotary Club of Woodlawn-Westview
Gwynns Falls Trail Council
Dickeyville Community Association
Baltimore Metro RedLine
Baltimore County Department of Aging

Schools

Baltimore City Schools
Dickey Hill Elementary and Middle schools
Frederick Douglass High School
Mergenthaler Vocational Technical High School
Carver Vocational Technical High School
Mercy High School
Baltimore County Schools
 Cristo Rey Jesuit High School
 Milford Mill Academy
 Institute of Notre Dame
Howard County Schools
Howard High School
Mt. Hebron High School
Glenelg High School
Centennial High School

Kernan's leadership consults with community leaders on an ongoing basis to determine how best to meet the needs of their constituents through attendance at monthly meetings and actively participating on board and commissions within these organizations, plus sponsoring of community events.

Corporate/Non-Profit Groups

Baltimore Municipal Golf Corporation
Baltimore City Department of Parks & Recreation – Therapeutic Division
Howard County Youth Programs
The Brain Injury Association of Maryland
Arthritis Foundation of Maryland
Towson YMCA
Baltimore Adaptive Recreation and Sports
Multiple Sclerosis Society of Maryland
Boy Scouts of America-Maryland
Maryland Amputee Association
TKF Foundation

d. Community Benefits Implementation

The community outreach initiatives have designated staff members assigned to assist and monitor the community benefits activities. A staff member is assigned to work within the Community Health Outreach and Advocacy team, a part of the University of Maryland Medical System. The community groups and hospital leadership are kept abreast of the initiatives and their progress towards goal achievement.

Kernan provides education, serves as an advocate and supports the disability populations within its continuum of care. During FY 2011, Kernan provided and facilitated monthly support groups for brain injury, stroke, spinal cord injury, amputee, caregivers, total joint, and trauma survivors' programs.

In addition to support groups, physical space was provided within the hospital for:

- the Brain Injury Association of Maryland
- the MS Day Program funded by US Against MS
- Women Embracing Abilities Now, a mentoring program for women with disabilities
- Monthly meeting space for the Franklinton Community Association
- Blood drives for the American Red Cross

Responding to the need for healthcare education and career awareness, opportunities were brought to students within the Kernan community as well. Dental education was provided to Dickey Hill Elementary School students as well as students attending the St. Michael's School health fair. High school students in Howard County at Hammond High School, Mt. Hebron High School, and Folly Quarter Middle School and Baltimore County students from Randallstown, Milford Mill and Hereford high schools, as well as Baltimore City partner school Dickey Hill Elementary/Middle School learned about health care careers through activities of Kernan staff at those schools. Clinical education and mentoring of future health care professionals was provided to numerous high school, college and university students in the fields of occupational therapy, physical therapy, speech language pathology, dental, nursing and medicine. Athletic trainers and medical residents were also provided to area high schools, and provided pre-season sports physicals.

Community integration and adaptive leisure opportunities were provided through collaborative initiatives with Baltimore Municipal Golf Corporation and Baltimore City Parks and Recreation-Therapeutic Recreation Division. Kernan hosted its own Adapted Sports Festival to showcase adapted sports opportunities for both patients and the community.

II. Approach/Methodology

a. Community Health Needs Assessment Background

According to the Patient Protection and Affordable Care Act (“ACA”), hospitals must perform a community health needs assessment either fiscal year 2011, 2012, or 2013, adopt an implementation strategy to meet the community health needs identified, and beginning in 2013, perform an assessment at least every three years thereafter. The needs assessment must take into account input from persons who represent the broad interests of the community served by the hospital facility, including those with special knowledge of or expertise in public health, and must be made widely available to the public. For the purposes of this report, a community health needs assessment is a written document developed by a hospital facility (alone or in conjunction with others) that utilizes data to establish community health priorities, and includes the following:(1) A description of the process used to conduct the assessment;(2) With whom the hospital has worked;(3) How the hospital took into account input from community members and public health experts;(4) A description of the community served; and(5) A description of the health needs identified through the assessment process.

Major identified health needs in Baltimore (as identified in the 2008 Baltimore City Health Status Report and in the 2012 Neighborhood Health Initiative) include the following leading causes of death (in ranked order) heart disease, cancer, cerebrovascular disease, HIV/AIDS, homicide, chronic lower respiratory disease, and diabetes. These needs have also been identified through Healthy Baltimore 2015 and the Maryland State Health Improvement Plan (SHIP). Much of the current Kernan community outreach programming is targeted to obesity, as studies have shown that obesity leads to heart disease and cerebrovascular disease—frequently seen within the stroke rehabilitation unit at Kernan.

Major needs identified that are pertinent to Kernan’s patient population are:

- Chronic Disease: Obesity – Increase the proportion of adults who are at a healthy weight and reduce deaths from heart disease, diabetes, high blood pressure, and other cardiac issues.
- Chronic Disease: Obesity - Reduce the proportion of children and adolescents who are considered obese
- Healthcare Access - Reduce the proportion of individuals who are unable to afford to see a doctor
- Healthcare Access Dental - Increase the proportion of children and adolescents who receive dental care

b. Healthy Baltimore 2015

Healthy Baltimore 2015 is the Baltimore City Health Department’s comprehensive health policy agenda for the City, articulating the priority areas and indicators for action. This plan highlights areas that can have the largest impact on reducing morbidity and mortality and improve the quality of life for city residents. The plan includes data that reflect the groups with the largest disparities by race, gender, education, or income to further highlight opportunities for addressing health inequities that align with City objectives.

PRIORITY AREAS

Healthy Baltimore 2015 has improvement goals for the following priority areas:

1. Promote Access to Quality Health Care for All
2. Be Tobacco Free

3. Redesign Communities to Prevent Obesity
4. Promote Heart Health
5. Stop the Spread of HIV and Other Sexually Transmitted Infections
6. Recognize and Treat Mental Health Needs
7. Reduce Drug Use and Alcohol Abuse
8. Encourage Early Detection of Cancer
9. Promote Healthy Children and Adolescents
10. Create Health Promoting Neighborhoods

Each of these priority areas has measurable objectives for improvement with leading indicators that will be tracked and reported on annually. Goals #3 and #4 are particularly important for Kernan, as they align with the programs that have been designed and implemented to help improve the specialty hospital's patient population. Surveying our communities and speaking to community stakeholders confirmed that those two goals are also important to these constituent groups.

Certain indicators focus on straightforward health outcomes such as reducing premature deaths from cardiovascular disease. Other indicators are more descriptive and focus on social determinants of health, such as density of vacant buildings within communities. The goal that the Baltimore City Health Department has set for the City is #4, Promote Heart Health. This goal aligns more closely with Kernan's goals for fighting obesity, stroke and heart disease. Obesity is important, because it leads to heart disease and stroke.

4. PROMOTE HEART HEALTH

A. Decrease rate of premature deaths from cardiovascular disease (CVD) by 10%

Cardiovascular disease is the leading cause of death in Baltimore City as it is in the rest of the state and nation. The major risk factors for cardiovascular disease are smoking, high cholesterol, high blood pressure, physical inactivity, being obese and overweight, and diabetes. There are other factors such as stress, excessive drinking, and poor outdoor air quality that also contribute to heart disease. The leading indicators within this priority area illustrate premature death from cardiovascular disease and self-reported access to medical care once a major risk factor, high blood pressure, has been identified.

PREMATURE DEATH RATE FROM MAJOR CVD BY RACE AND BY ADULT EDUCATIONAL ATTAINMENT, 2009

<i>Age-Adjusted Rate (per 100,000 population)</i>	
All	325.3
Black	347.9
White	289.7
HS or Less	316.5
Some College/Associate's	131.3
Bachelor's or More	81.9

PERCENT OF ADULTS DIAGNOSED WITH HBP WHO REPORT TO BE CURRENTLY TAKING MEDICINE FOR HIGH BLOOD PRESSURE BY GENDER BALTIMORE CITY, 2009

<i>Hypertensive adults under doctors care within last 12 months (% under control)</i>			
All	Male	Female	
Adults (≥18)	82.5%	77.7%	86.3%

Source: BCHD analysis of Maryland Vital Statistics data, 2009; 2009 Census.

The following are current baseline and 2015 targets for Healthy Baltimore.

INDICATOR	BASELINE	2015 TARGET
1. Promote Access to Quality Health Care for All		
A. Decrease hospitalization rate for ambulatory care sensitive indicators by 15%	Asthma 419.2 per 100,000 population	356.3 per 100,000 population
	Diabetes, Type I 87.1 per 100,000 population	74.3 per 100,000 population
	Diabetes, Type II 213.6 per 100,000 population	181.6 per 100,000 population
	Hypertension 95.5 per 100,000 population	81.2 per 100,000 population
B. Decrease rate of emergency department visits for ambulatory care sensitive indicators by 10%	Asthma 1866.0 per 100,000 population	1679.4 per 100,000 population
	Diabetes, Type I 23.4 per 100,000 population	21.1 per 100,000 population
	Diabetes, Type II 324.5 per 100,000 population	292.1 per 100,000 population
	Hypertension 404.2 per 100,000 population	363.8 per 100,000 population
C. Decrease percent of insured individuals who report having unmet medical needs in the last 12 months by 20%.	15.2 %	12.2 %
2. Be Tobacco Free		
A. Decrease percent of adults who currently smoke by 20%	28.3 %	22.6 %
B. Decrease percent of teens who currently smoke by 20%	11.7 %	9.4 %
C. Decrease rate of births to women who report smoking during pregnancy by 15%	92.1 per 1,000 live births	78.3 per 1,000 live births
3. Redesign Communities to Prevent Obesity		
A. Decrease inequities in supermarket access by 15%	16.0	13.6
B. Increase percent of adults getting recommended levels of physical activity by 20%	53.0%	63.6%
C. Decrease percent of adults who are obese by 15%	33.8%	28.7%
4. Promote Heart Health		
A. Decrease rate of premature deaths from major cardiovascular disease by 10%	325.3 per 100,000 population	292.8 per 100,000 population
B. Increase percent of adults with high blood pressure on medication by 10%		82.5
INDICATOR	BASELINE	2015 TARGET
5. Stop the Spread of HIV and Other Sexually Transmitted Infections		
A. Decrease the number of Syphilis cases by 25%	22.3 per 100,000 population	16.4 per 100,000 population
B. Decrease number of new HIV infections by 25%	932	699

C. Decrease rates of Gonorrhea and Chlamydia in adolescents by 25%	Gonorrhea	1234.3 per 100,000 population	925.7 per 100,000 population
	Chlamydia	4778.9 per 100,000 population	3584.2 per 100,000 population
6. Recognize and Treat Mental Health Needs			
A. Decrease percent of adults with unmet mental health care needs by 25%		23%	17.3%
B. Decrease percent of adolescents expressing feelings of sadness or hopelessness by 20%		27.7%	22.2%
7. Reduce Drug Use and Alcohol Abuse			
A. Decrease rate of alcohol and drug-related hospital admissions by 10%		1141.1 per 100,000 population	1027.0 per 100,000 population
B. Decrease rate of alcohol and drug-related emergency department visits by 15%		1928.0 per 100,000 population	1638.8 per 100,000 population
C. Decrease percent of high school students reporting alcohol and/or drug use in the last 30 days by 20%	Alcohol	10.8%	8.6 %
	Marijuana	21.4 %	17.1%
8. Encourage Early Detection of Cancer			
A. Increase percent of adults 50 and older who have had a colonoscopy in the last 10 years by 15%		62%	71.3%
B. Increase percent of women who receive breast cancer screening based on the most recent guidelines by 10%		81%	89.1%
9. Promote Healthy Children and Adolescents			
A. Decrease teen birth rate by 20%		64.4 per 1,000 teenage girls	51.5 per 1,000 teenage girls
B. Decrease rate of infant mortality by 10%		13.4 per 1,000 live births	12.1 per 1,000 live births
C. Decrease rate of juvenile homicide and non-fatal shooting victims by 30%	Homicide	11.2 per 100,000 population	7.8 per 100,000 population
	Nonfatal shootings	39.2 per 100,000 population	27.4 per 100,000 population
D. Increase rate of school readiness by 15%		67%	77.1%
10. Create Health Promoting Neighborhoods			
A. Decrease density of vacant buildings by 20%		716.5 per 10,000 households	573.2 per 10,000 households
B. Decrease liquor outlet density by 15%		12.5 per 10,000 residents	10.6 per 10,000 residents

Source: American Community Survey, 2005-2009.

c. Maryland's State Health Improvement Plan (SHIP Initiatives)

Maryland's State Health Improvement Plan (SHIP) provides a framework for continual progress toward a healthier Maryland. The SHIP includes 39 measures in six focus areas that represent what it means for Maryland to be healthy. Each measure has a data source and a target, and where possible, can be assessed at the county level. The goals of the State Health Improvement Plan are to provide a framework for accountability, local action and public engagement to make progress in Maryland's health.

Vision Area	SHIP Objectives	SHIP Issue Briefs
Healthy Babies	1. Increase life expectancy	
	2. Reduce infant deaths	
	3. Reduce low birth weight (LBW) & very low birth weight (VLBW)	
	4. Reduce sudden unexpected infant deaths (SUIDs)	
	5. Increase the proportion of pregnancies that are intended	
	6. Increase the proportion of pregnant women starting prenatal care in the first trimester	
Healthy Social Environments	7. Reduce child maltreatment	
	8. Reduce the suicide rate	
	9. Decrease the rate of alcohol-impaired driving fatalities	
	10. Increase the proportion of students who enter kindergarten ready to learn	
	11. Increase the proportion of students who graduate high school	
	12. Reduce domestic violence	
Safe Physical Environments	13. Reduce blood lead levels in children	
	14. Decrease fall-related deaths	
	15. Reduce pedestrian injuries on public roads	
	16. Reduce Salmonella infections transmitted through food	
	17. Reduce hospital emergency department visits from asthma	
	18. Increase access to healthy food	
	19. Reduce the number of days the Air Quality Index (AQI) exceeds 100	
Infectious Disease	20. Reduce new HIV infections among adults and adolescents	
	21. Reduce Chlamydia trachomatis infections among young people	
	22. Increase treatment completion rate among tuberculosis patients	
	23. Increase vaccination coverage for recommended vaccines among young children	
	24. Increase the percentage of people vaccinated annually against seasonal influenza	
Chronic Disease	25. Reduce deaths from heart disease	
	26. Reduce the overall cancer death rate	
	27. Reduce diabetes-related emergency department visits	
	28. Reduce hypertension-related emergency department visits	
	29. Reduce drug-induced deaths	
	30. Increase the proportion of adults who are at a healthy weight	
	31. Reduce the proportion of children and adolescents who are considered obese	
	32. Reduce the proportion of adults who are current smokers	

	33. Reduce the proportion of youths who use any kind of tobacco product	
	34. Reduce the number of emergency department visits related to behavioral health conditions	
	35. Reduce the proportion of hospitalizations related to Alzheimer's disease and other dementias	
Healthcare Access	36. Increase the proportion of persons with health insurance	
	37. Increase the proportion of adolescents who have an annual wellness checkup	
	38. Increase the proportion of children and adolescents who receive dental care	
	39. Reduce the proportion of individuals who are unable to afford to see a doctor	

Kernan's goals are aligned for

Chronic Disease

#25 – Reduce deaths from heart disease

#31 – Reduce the proportion of children and adolescents who are considered obese

Health Care Access

#38 – Increase the proportion of children and adolescents who receive dental care

#39 – Reduce the proportion of individuals who are unable to afford to see a doctor

These goals, as with the Healthy Baltimore 2015, are selected because they meet the needs of the patients Kernan treats, as well as address the concerns of community members who were surveyed, as well as Baltimore City stakeholders who were interviewed. The survey and the results can be found as a separate document. Results are explained in Section III b of this report.

The following are detail on the SHIP initiatives that pertain to Kernan Orthopaedics and Rehabilitation Hospital.

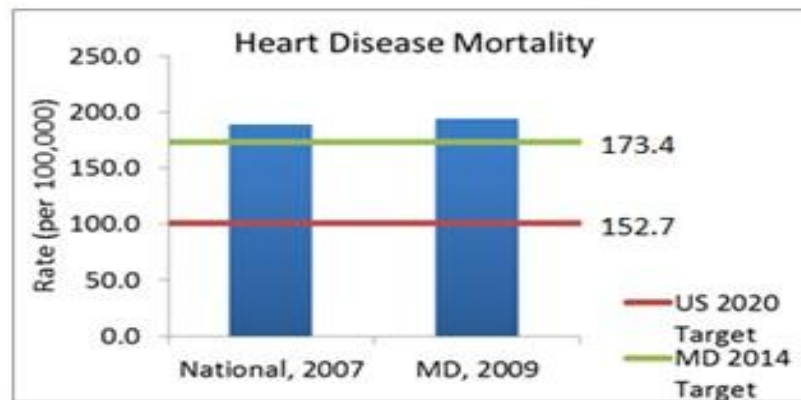
Vision Areas 5: Chronic Disease

Objective 25: Reduce deaths from heart disease

Heart disease is the leading cause of death in Maryland, accounting for 25% of all deaths. In 2009, 11,143 people died of heart disease in Maryland.

Statistics and Goals

Measure: Age-adjusted mortality rate from heart disease (per 100,000 population)



Source: National Vital Statistics System and Maryland Vital Statistics Administration

National Baseline	MD Baseline	Healthy People 2020 Target	MD 2014 Target
190.9	194.0	152.7	173.4

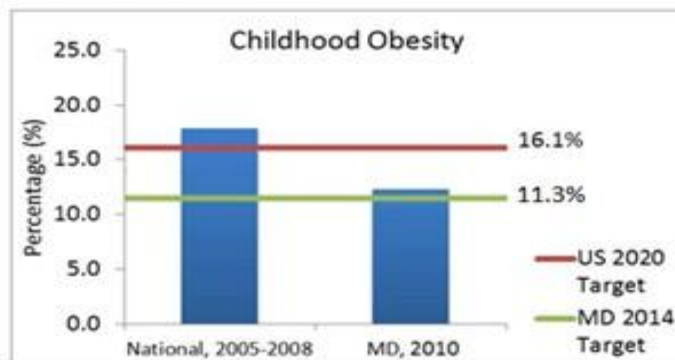
Vision Areas 5: Chronic Disease

Objective 31: Reduce the proportion of children and adolescents who are obese

In 20 years, the percentage of overweight/obese children has more than doubled and, for adolescents, tripled. It is predicted that the current generation of children will be the first in modern history to have a shorter life span than their parents as overweight/obese children are at increased risk of developing other chronic diseases, such as Type 2 diabetes, than those at a healthy weight.

Statistics and Goals

Measure: Percentage of children who are obese

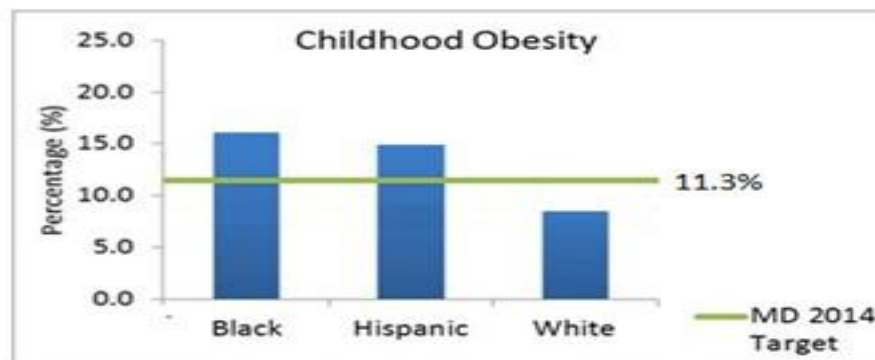


Source: National Health and Nutrition Examination Survey and the Maryland Youth Tobacco Survey

National Baseline	MD Baseline	Healthy People 2020 Target	MD 2014 Target
17.9%	11.9%	16.1%	11.3%

Disparities in Maryland

Percentage of children who are obese by race and ethnicity



Source: Maryland Youth Tobacco Survey, 2010 - Race and Hispanic origin are reported separately. Data for persons of Hispanic origin are included in the data for each race group according to self-reported race.

Black	Hispanic	White	MD 2014 Target
15.8%	15.0%	8.8%	11.3%

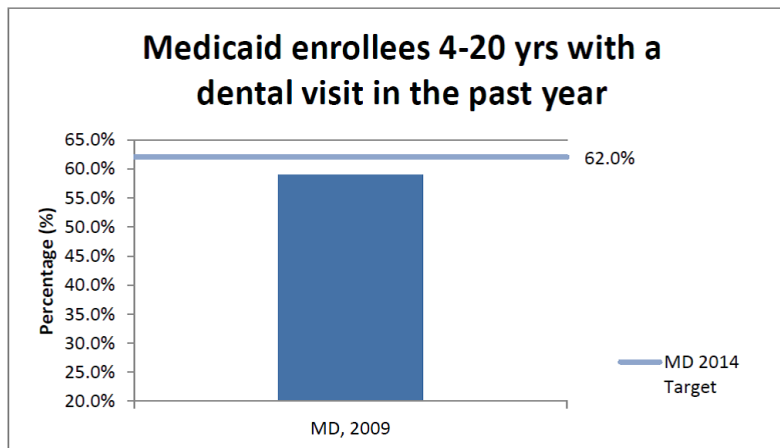
Vision Areas 6: Healthcare Access

Objective 38: Increase the proportion of low-income children and adolescents who receive dental care

Diseases of the teeth and gum tissues can lead to problems with nutrition, growth, school and workplace readiness, and speech. Adoption and use of recommended oral hygiene measures are critical to maintaining overall health.

Statistics and Goals

Measure: Percentage of children and adolescents enrolled in Medicaid who had any dental service in the past year



Source: Maryland Medicaid Program

National Baseline	Maryland Baseline	Healthy People 2020 Target	Maryland 2014 Target
N/A	59%	N/A	62%

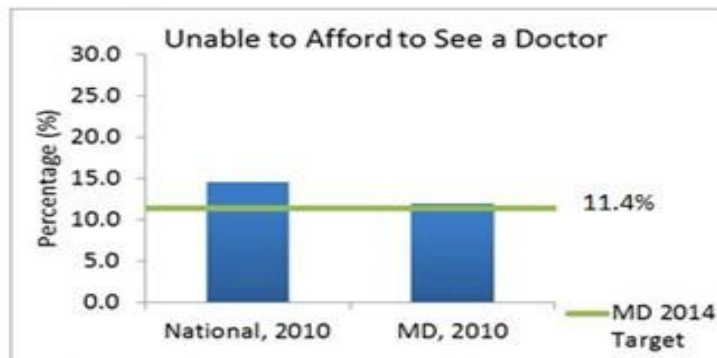
Vision Areas 6: Healthcare Access

Objective 39: Reduce the proportion of individuals who are unable to afford to see a doctor

The cost of health care services has been rising and is a barrier to accessing timely and adequate health services. Delays in seeking care can result in further medical complications, missed diagnoses, unmet health care needs, and increased health care costs.

Statistics and Goals

Measure: Percentage of people who can not afford to see a doctor

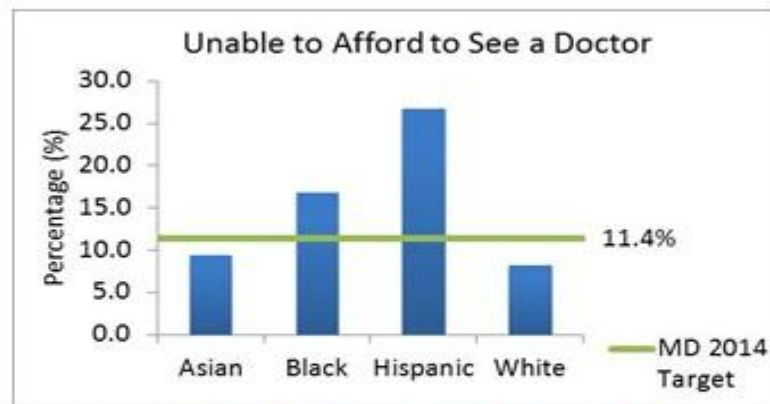


Source: National Behavioral Risk Factor Surveillance System and the Maryland Behavioral Risk Factor Surveillance System

National Baseline	MD Baseline	Health People 2020 Target	MD 2014 Target
14.6%	12.0%		11.4%

Disparities in Maryland

Percentage of people who can not afford to see a doctor by race/ethnicity



Source: Maryland Behavioral Risk Factor Surveillance System, 2010 - Race and Hispanic origin are reported separately. Data for persons of Hispanic origin are included in the data for each race group according to self-reported race.

Asian	Black	Hispanic	White	MD 2014 Target
9.3%	16.8%	26.6%	8.2%	11.4%

d. Community Needs Index

A Community Needs Index is used to identify the severity of health disparity for every zip code in the United States and demonstrates the link between community need, access to care, and preventable hospitalizations. The ability to pinpoint neighborhoods with significant barriers to health care access is an important advancement for public health advocates and care providers.

Assigning CNI Scores

To determine the severity of barriers to health care access in a given community, the CNI gathers data about that community's socio-economy. For example, what percentage of the population is elderly and living in poverty; what percentage of the population is uninsured; what percentage of the population is unemployed, etc. Using this data a score is assigned to each barrier condition (with 1 representing less community need and 5 representing more community need). The scores are then aggregated and averaged for a final CNI score (each barrier receives equal weight in the average). A score of 1.0 indicates a zip code with the lowest socio-economic barriers, while a score of 5.0 represents a zip code with the most socio-economic barriers.

What The Scores Tell Us About A Community's Health

A comparison of CNI scores to hospital utilization shows a strong correlation between high need and high use. When admission rates per 1,000 population (where available) are examined, it is noted that there is a high correlation (95.5%) between hospitalization rates and CNI scores. Admission rates for the most highly needy communities (areas shown in red on the following pages) are over 60% higher than communities with the lowest need (areas shown in blue).

Highest Need Communities in the U.S.

(pop. > 500,000)

Community CNI Score

1. Bronx, NY 4.76
2. Kings, NY 4.67
3. Hidalgo, TX 4.64
- 4. Baltimore City, MD 4.60**
5. Hudson, NJ 4.53
6. Kern, CA 4.34
7. Fresno, CA 4.34
8. El Paso, TX 4.32
9. Philadelphia, PA 4.29
10. San Joaquin, CA 4.24

Out of the ten highest need communities by CNI, Baltimore City rates fourth. The following charts are CNI scores for Kernan's community benefit service areas of Baltimore City, Baltimore, Anne Arundel and Howard counties.

Baltimore City

Mean(zipcode): 4 / Mean(person): 4 CNI Score Median: 4 CNI Score Mode: 4.8,5

Zip Code	CNI Score	Population	City	County	State
21201	5	16657	Baltimore	Baltimore City	Maryland
21202	5	24239	Baltimore	Baltimore City	Maryland
21204	3.2	22513	Baltimore	Baltimore	Maryland
21205	5	17863	Baltimore	Baltimore City	Maryland
21206	4.4	50330	Baltimore	Baltimore City	Maryland
21207	3.8	48376	Baltimore	Baltimore	Maryland
21208	2.8	34492	Baltimore	Baltimore	Maryland
21209	2.8	24996	Baltimore	Baltimore	Maryland
21210	2.8	12153	Baltimore	Baltimore City	Maryland
21211	4.6	16626	Baltimore	Baltimore City	Maryland
21212	3.8	34808	Baltimore	Baltimore City	Maryland
21213	4.8	36852	Baltimore	Baltimore City	Maryland
21214	3.6	21139	Baltimore	Baltimore City	Maryland
21215	4.8	62192	Baltimore	Baltimore City	Maryland
21216	4.8	33785	Baltimore	Baltimore City	Maryland
21217	5	38341	Baltimore	Baltimore City	Maryland
21218	4.6	52495	Baltimore	Baltimore City	Maryland
21219	3.2	9936	Baltimore	Baltimore	Maryland
21220	3.8	37798	Baltimore	Baltimore	Maryland
21221	4.2	42945	Baltimore	Baltimore	Maryland
21222	4	54158	Baltimore	Baltimore	Maryland
21223	5	28398	Baltimore	Baltimore City	Maryland
21224	4.8	47315	Baltimore	Baltimore City	Maryland
21225	5	30470	Baltimore	Baltimore City	Maryland
21226	4	7931	Baltimore	Anne Arundel	Maryland
21227	4	32940	Baltimore	Baltimore	Maryland
21228	2.6	46367	Baltimore	Baltimore	Maryland
21229	4.4	47263	Baltimore	Baltimore City	Maryland
21230	4.6	33341	Baltimore	Baltimore City	Maryland
21231	4.8	15497	Baltimore	Baltimore City	Maryland
21234	3.2	65350	Baltimore	Baltimore	Maryland
21236	3	42043	Baltimore	Baltimore	Maryland
21237	3.2	27949	Baltimore	Baltimore	Maryland
21239	4	30341	Baltimore	Baltimore City	Maryland
21244	3.4	34601	Baltimore	Baltimore	Maryland
21286	2.8	18650	Baltimore	Baltimore	Maryland

Anne Arundel County

Mean(zipcode): 2.1 / Mean(person): 2.4CNI Score Median: 1.8CNI Score Mode: 1.8

Zip Code	CNI Score	Population	City	County	State
20701	1	776	Howard County	Anne Arundel	Maryland
20711	2.6	6407	Anne Arundel County	Anne Arundel	Maryland
20724	2.4	15379	Maryland City	Anne Arundel	Maryland
20733	1.6	2982	Deale	Anne Arundel	Maryland
20751	1.8	2275	Deale	Anne Arundel	Maryland
20755	2.6	9680	Fort Meade	Anne Arundel	Maryland
20758	1.8	557	Anne Arundel County	Anne Arundel	Maryland
20764	1.6	4082	Shady Side	Anne Arundel	Maryland
20776	2	3955	Anne Arundel County	Anne Arundel	Maryland
20778	2.2	1866	Anne Arundel County	Anne Arundel	Maryland
20779	1.2	1151	Anne Arundel County	Anne Arundel	Maryland
21012	1.4	21105	Arnold	Anne Arundel	Maryland
21032	1.6	8499	Arden-on-the-Severn	Anne Arundel	Maryland
21035	1.8	7180	Anne Arundel County	Anne Arundel	Maryland
21037	1.6	18765	Mayo	Anne Arundel	Maryland
21054	1.6	9220	Anne Arundel County	Anne Arundel	Maryland
21056	1	418	Anne Arundel County	Anne Arundel	Maryland
21060	3.4	26575	Glen Burnie	Anne Arundel	Maryland
21061	3.4	48393	Ferndale	Anne Arundel	Maryland
21076	2	9808	Severn	Anne Arundel	Maryland
21077	1.8	325	Anne Arundel County	Anne Arundel	Maryland
21090	1.8	9458	Linthicum	Anne Arundel	Maryland
21108	2	17841	Severna Park	Anne Arundel	Maryland
21113	2.4	28686	Odenton	Anne Arundel	Maryland
21114	2	26097	Crofton	Anne Arundel	Maryland
21122	1.8	59146	Green Haven	Anne Arundel	Maryland
21140	1.4	3530	Riva	Anne Arundel	Maryland
21144	3.2	31038	Severn	Anne Arundel	Maryland
21146	1.4	25290	Severna Park	Anne Arundel	Maryland
21226	4	7931	Brooklyn Park	Anne Arundel	Maryland
21401	3.2	36049	Parole	Anne Arundel	Maryland
21402	2.4	4978	Naval Academy	Anne Arundel	Maryland
21403	3	29423	Hillsmere Shores	Anne Arundel	Maryland

Baltimore County

Mean(zipcode): 2.4 / Mean(person): 3 CNI Score Median: 2.5 CNI Score Mode: 1.2

Zip Code	CNI Score	Population	City	County	State
21013	1.2	4533	Baltimore County	Baltimore	Maryland
21030	2.6	24168	Cockeysville	Baltimore	Maryland
21031	4	59	Cockeysville	Baltimore	Maryland
21051	1.2	303	Baltimore County	Baltimore	Maryland
21053	1.4	3219	Baltimore County	Baltimore	Maryland
21057	1.4	4788	Baltimore County	Baltimore	Maryland
21071	1.2	438	Baltimore County	Baltimore	Maryland
21082	1.2	1012	Pleasant Hills	Baltimore	Maryland
21087	1.4	5645	Kingsville	Baltimore	Maryland
21093	1.8	37989	Mays Chapel	Baltimore	Maryland
21111	1.2	5602	Baltimore County	Baltimore	Maryland
21117	3	49751	Baltimore County	Baltimore	Maryland
21120	1.6	7284	Baltimore County	Baltimore	Maryland
21128	1.4	11200	Baltimore County	Baltimore	Maryland
21131	1.2	7148	Baltimore County	Baltimore	Maryland
21133	3	28449	Randallstown	Baltimore	Maryland
21136	2.2	33590	Reisterstown	Baltimore	Maryland
21152	2	5773	Baltimore County	Baltimore	Maryland
21155	1.6	2467	Baltimore County	Baltimore	Maryland
21156	1.4	468	Baltimore County	Baltimore	Maryland
21161	1.6	5604	Harford County	Baltimore	Maryland
21162	2.4	3512	Baltimore County	Baltimore	Maryland
21163	1.8	6985	Baltimore County	Baltimore	Maryland
21204	3.2	22513	Towson	Baltimore	Maryland
21207	3.8	48376	Lochearn	Baltimore	Maryland
21208	2.8	34492	Pikesville	Baltimore	Maryland
21209	2.8	24996	Baltimore	Baltimore	Maryland
21219	3.2	9936	Baltimore County	Baltimore	Maryland
21220	3.8	37798	Baltimore County	Baltimore	Maryland
21221	4.2	42945	Essex	Baltimore	Maryland
21222	4	54158	Dundalk	Baltimore	Maryland
21227	4	32940	Lansdowne-Baltimore Highlands	Baltimore	Maryland
21228	2.6	46367	Catonsville	Baltimore	Maryland
21234	3.2	65350	Carney	Baltimore	Maryland
21236	3	42043	Perry Hall	Baltimore	Maryland
21237	3.2	27949	Rossville	Baltimore	Maryland
21244	3.4	34601	Milford Mill	Baltimore	Maryland
21286	2.8	18650	Hampton	Baltimore	Maryland

Howard County

Mean(zipcode): 2.1 / Mean(person): 2.4CNI Score Median: 1.7CNI Score Mode: 1.6

Zip Code	CNI Score	Population	City	County	State
20723	2.4	28083	North Laurel	Howard	Maryland
20759	1.6	2594	Howard County	Howard	Maryland
20763	3.4	2465	Savage-Guilford	Howard	Maryland
20777	1.6	3342	Howard County	Howard	Maryland
20794	3.4	15499	Jessup	Howard	Maryland
21029	1.6	10072	Howard County	Howard	Maryland
21036	1.8	2148	Howard County	Howard	Maryland
21042	1.6	37796	Howard County	Howard	Maryland
21043	2.4	39693	Ellicott City	Howard	Maryland
21044	3	43007	Columbia	Howard	Maryland
21045	2.8	37659	Columbia	Howard	Maryland
21046	2.4	15143	Columbia	Howard	Maryland
21075	2	24080	Elkridge	Howard	Maryland
21723	1.4	832	Howard County	Howard	Maryland
21737	1.6	1213	Howard County	Howard	Maryland
21738	1.4	2853	Howard County	Howard	Maryland
21794	1.4	2244	Howard County	Howard	Maryland
21797	1.6	8744	Howard County	Howard	Maryland

E. Other Available Data

A wide range of local, state and federal data and reports to help identify unmet needs have been used to obtain information for ethnic, racial and linguistic minorities, seniors and women and children.

These include:

- 2010 Community Survey, US Census
- Maryland Department of Health and Mental Hygiene
- Countyhealthrankings.com
- Worldlifeexpectancy.com

The table below describes the significant demographic characteristics and social determinants that are relevant to the needs of the communities Kernan Orthopaedics and Rehabilitation serves. Social determinants are factors that contribute to a person's current state of health. They may be biological, socioeconomic, psychosocial, behavioral, or social in nature. (Examples: gender, age, alcohol use, income, housing, access to quality health care, having or not having health insurance.)

Community Benefit Service Area(CBSA) Target Population (target population, by sex, race, and average age)	Baltimore City											
	Zip Code	Pop.	Male	Med. Age	Female	Med. Female Age	White	Black	Hispanic	Asian	Indian	Hawaiian
	21201	16,972	7,846	30.7	9,126	30	6135	9,221	571	1,718	200	34
	21202	22,832	13,852	32.8	8,980	32	6611	15,206	666	984	169	33
	21209	26,465	12,256	36	14,209	39	20,512	3,806	649	2,299	134	24
	21215	60,161	27,279	36.4	32,882	43	9,416	49,721	1,374	564	466	114
	21216	32,071	14,451	34.6	17,620	39	610	31,400	341	114	290	23
	21217	37,111	16,988	34.6	20,123	34	3,976	32,756	501	522	336	42
	21229	45,213	20,643	34.7	24,570	37	8,981	34,863	891	1,457	383	53
	Anne Arundel County											
	21060	29,223	14,345	37.3	14,878	40	22,130	5,410	2,004	1,132	375	97
	21061	53,684	26,210	34.8	27,474	35	36,524	13,153	4,470	2,991	677	187
	21144	31,884	15,403	35.4	16,481	37	18,047	11,784	1,937	2,263	408	114
	21122	60,576	30,026	38.7	30,550	40	55,032	4,104	1,815	1,403	566	95
	Baltimore County											
	21207	48,133	21,919	36	26,214	39	5,711	41,378	1,616	749	461	53
	21208	33,917	15,489	42.6	18,428	50	19,116	13,675	1,017	1,024	223	45
	21117	53,778	24,834	33.7	28,944	36	26,886	22,169	3,325	4,059	480	74
	21227	33,534	16,139	33.7	17,395	35	25,982	5,573	2,110	1,463	271	62
	21228	47,577	22,518	41	25,059	45	32,561	10,848	1,853	4,042	385	73
	21244	34,611	15,764	32.1	18,847	34	4,737	27,467	1,603	2,212	390	60

	<p>Howard County</p> <p>21042</p> <table border="1"> <tr> <td>21043</td> <td>38,076</td> <td>18,754</td> <td>43.5</td> <td>19,322</td> <td>45</td> <td>28,916</td> <td>2,512</td> <td>1,031</td> <td>7,122</td> <td>187</td> <td>38</td> </tr> <tr> <td>21044</td> <td>42,246</td> <td>20,640</td> <td>36.2</td> <td>21,606</td> <td>37</td> <td>26,568</td> <td>5,337</td> <td>1,756</td> <td>10,497</td> <td>331</td> <td>71</td> </tr> <tr> <td>21045</td> <td>41,704</td> <td>19,708</td> <td>36.9</td> <td>21,996</td> <td>39</td> <td>25,312</td> <td>11,605</td> <td>2,844</td> <td>5,180</td> <td>513</td> <td>79</td> </tr> <tr> <td>21075</td> <td>38,288</td> <td>18,563</td> <td>34.7</td> <td>19,725</td> <td>38</td> <td>20,870</td> <td>12,202</td> <td>4,174</td> <td>4,544</td> <td>648</td> <td>70</td> </tr> <tr> <td></td> <td>26,344</td> <td>12,898</td> <td>32.6</td> <td>13,446</td> <td>33</td> <td>17,313</td> <td>4,940</td> <td>1,617</td> <td>4,209</td> <td>286</td> <td>44</td> </tr> </table> <p><i>Source: 2010 American Community Survey – US Census</i></p>	21043	38,076	18,754	43.5	19,322	45	28,916	2,512	1,031	7,122	187	38	21044	42,246	20,640	36.2	21,606	37	26,568	5,337	1,756	10,497	331	71	21045	41,704	19,708	36.9	21,996	39	25,312	11,605	2,844	5,180	513	79	21075	38,288	18,563	34.7	19,725	38	20,870	12,202	4,174	4,544	648	70		26,344	12,898	32.6	13,446	33	17,313	4,940	1,617	4,209	286	44
21043	38,076	18,754	43.5	19,322	45	28,916	2,512	1,031	7,122	187	38																																																		
21044	42,246	20,640	36.2	21,606	37	26,568	5,337	1,756	10,497	331	71																																																		
21045	41,704	19,708	36.9	21,996	39	25,312	11,605	2,844	5,180	513	79																																																		
21075	38,288	18,563	34.7	19,725	38	20,870	12,202	4,174	4,544	648	70																																																		
	26,344	12,898	32.6	13,446	33	17,313	4,940	1,617	4,209	286	44																																																		
Median Household Income within the CBSA	<p>Baltimore City – \$38,458.00</p> <p>Anne Arundel County – \$79,843.00</p> <p>Baltimore County – \$64,629.00</p> <p>Howard County - \$101,417.00</p> <p><i>Source: US Census 2010</i></p>																																																												
Percentage of households with incomes below the federal poverty guidelines within the CBSA	<p>Baltimore City – 20.9%</p> <p>Anne Arundel County – 6.80%</p> <p>Baltimore County – 8.30%</p> <p>Howard County – 4.50%</p> <p><i>Source: 2010 American Community Survey- US Census</i></p>																																																												
Estimate of the percentage of uninsured people by County within the CBSA.	<p>Maryland Medical Insurance Statistics</p> <p>Total Maryland Residents - 5,534,528</p> <p>Maryland uninsured residents - 12.92%</p> <p>Total Maryland HMO enrollment - 1,464,677</p> <p>Avg annual employee premium in MD employer-sponsored plan (after employer contrib): \$964</p> <p>Avg MD hospital cost per inpatient day (before insurance) - \$2,113</p> <p><i>Source data according to the Kaiser Family Foundation</i></p> <p>Baltimore City: Of the 407,611 adults aged 18-64, approximately 37.3% are uninsured.</p> <p>Anne Arundel County: Of the 330,790 adults aged 18-64, approximately 36.5% are uninsured.</p> <p>Baltimore County: Of the 500,968 adults aged 18-64, approximately 43.6% are uninsured.</p> <p>Howard County: Of 181,824 adults aged 18 -64, approximately 26.5% are uninsured.</p> <p><i>Source: 2010 American Community Survey- US Census</i></p>																																																												
Percentage of Medicaid recipients by County within the CBSA.	<p>Baltimore City - 14.6%</p> <p>Anne Arundel County – 8%</p> <p>Baltimore County – 21.9%</p> <p>Howard County – 6.6%</p> <p><i>Source: Maryland Department of Mental Health and Hygiene</i></p>																																																												
Life Expectancy by County within the CBSA.	<p>Maryland Life Expectancy 78.09</p> <p>Females</p> <p>Baltimore – 75.6 – Ranks 24th in State</p> <p>Anne Arundel County – 80.2 – Ranks 13th in State</p> <p>Baltimore County – 80.3 – Ranks 10th in State</p> <p>Howard County – 82.6 – Ranks 2nd in State</p> <p>Males</p> <p>Baltimore – 66.7 – Ranks 24th in State</p> <p>Anne Arundel County – 75.7 – Ranks 7th in State</p> <p>Baltimore County – 75.1 – Ranks 11th in State</p>																																																												

	Howard County – 79.8 – Ranks 2 nd in State <i>Source: worldlifeexpectancy.com</i>
Mortality Rates by County within the CBSA.	The following information pertaining to Kernan’s CBSA’s was obtained through countyhealthrankings.org Anne Arundel County: Ranks 10 th out of 24 Maryland jurisdictions. Baltimore City: Ranks 24 th out of 24 Maryland jurisdictions. Baltimore County: Ranks 15 th out of 24 Maryland jurisdictions. Howard County: Ranks 2 nd out of 24 Maryland jurisdictions.
Access to healthy food, quality of housing, and transportation by County within the CBSA. (to the extent information is available from local or county jurisdictions such as the local health officer, local county officials, or other resources)	The following information pertaining to Kernan’s CBSA’s was obtained through countyhealthrankings.org Access to Healthy Food Anne Arundel County – 56% of the county’s zip codes include healthy food outlets for residents. Baltimore City – 96 percent of the City’s zip codes include healthy food outlets for residents. Baltimore County -77 percent of the county’s zip codes include healthy food outlets for residents. Howard County – 70 percent of the county’s zip codes include health food outlets for residents. Access to transportation – Baltimore City, Baltimore County and Anne Arundel County residents have access to a variety of transportation options. Bus routes, Metro, light rail and taxi cabs are widely available. Many of Kernan’s patients take advantage of MTA’s Mobility, busses and taxis that can accommodate wheelchairs. Howard County, due to its more affluent residents, has fewer mass transit options.

f. Data Gaps Identified

Wherever possible, the most current and up-to-date data was used to determine the health needs of the community benefit service area. However detailed the data may be, there are gaps in the data.

- Information such as Medicaid coverage and insurance coverage are not available by geographic areas within Kernan’s community benefit service areas of Baltimore City, Anne Arundel, Baltimore, and Howard counties.
- Data is not available on all topics to evaluate health needs within race/ethnicity by age-gender subgroups.
- Data is not as available in the counties as compared to Baltimore City.

III. Findings

Information on health needs was obtained through community meetings with the Baltimore City Health Department Neighborhood Health Initiative, UMMS Community Needs Survey, and a meeting with Baltimore City community group stakeholders. Throughout each group, the same health issues were listed as key. They included obesity, heart disease, high blood pressure, and access to care. The following is a recap of those findings.

a. Baltimore City Health Department – City Wide Needs Assessment

Neighborhood Health Initiative
Council District 8 Community Forum
March 22, 2012
HB2015 Indicator Ranking Summary

The Baltimore City Health Department held community forums throughout the city to gauge community awareness and obtain feedback on health and social issues. During the meeting the attendees from the communities in the District 8 (Kernan Orthopaedic and Rehabilitation’s district) were asked to rank community health concerns. The following chart is a compilation of the community rankings.

Table 1. Summary of HB2015 Ranking Forms Received

Ranking Form Detail	%	#
Number of ranking forms received		17
Number of ranking forms completed per instructions	76%	13
Forms by Neighborhood/CSA		
Allendale/Irvington/South Hilton	24%	4
Beechfield/Ten Hills/West Hills	12%	2
Dickeyville/Franklinton	12%	2
Edmondson Village	24%	4
Forest Park/Walbrook	6%	1
Other	12%	2
Not Identified	12%	2

Table 2 is the ranking of health indicators by the District 8 community meeting attendees.

Table 2. Summary of HB 2015 Health Indicator Rankings

Indicator	Response Rate	Score
Adults getting the medical care they’ve needed in the past year [PA1]	60%	62.1
Adults with high blood pressure taking their medicine regularly [PA4]	48%	53.5
Adults who are obese [PA3]	41%	49.6
High school students using alcohol or drugs [PA7]	44%	48.6
Adults dying too young from heart disease [PA4]	48%	46.5

Babies dying before their 1st birthday [PA9]	48%	45.5
Liquor stores in the neighborhood [PA10]	38%	43.6
High school students smoking cigars or cigarettes [PA2]	43%	38.7
Adults smoking cigarettes [PA2]	43%	38.5
Adults getting some physical exercise regularly [PA3]	41%	38.5
Kindergarteners fully ready for school [PA9]	49%	36.3
HIV/AIDS [PA5]	45%	35.1
Teenage girls 15 to 19 years old having a baby [PA9]	37%	31.0
Women over 40 getting screened for breast cancer every 2 years [PA8]	31%	30.1
High school students feeling sad or hopeless almost every day for 2 wks [PA6]	26%	27.8
Vacant buildings in the neighborhood [PA10]	20%	25.9
Gonorrhea in children 10-19 years old [PA5]	25%	23.9
Adults over 50 getting screened for colon cancer [PA8]	21%	23.4
Adults getting the mental health care they've needed in the past year [PA6]	30%	21.5
Staying in the hospital for diabetes (high sugar) [PA1]	19%	21.1
Going to the emergency room for high blood pressure [PA1]	19%	19.1
Children 0 to 18 years old being killed by someone or getting shot [PA9]	31%	17.1
Syphilis [PA5]	15%	16.2
Pregnant women smoking cigars or cigarettes during pregnancy [PA2]	20%	16.0
Chlamydia in children 10-19 years old [PA5]	21%	14.2
Distance to the supermarket [PA3]	22%	13.2
Going to the emergency room for asthma [PA1]	13%	13.1
Going to the emergency room for alcohol or drugs [PA7]	15%	12.7
Going to the emergency room for diabetes (high sugar) [PA1]	7%	9.1
Staying in the hospital for alcohol or drugs [PA7]	14%	8.8
Staying in the hospital for high blood pressure [PA1]	7%	5.1
Staying in the hospital for asthma [PA1]	1%	1.1

Based on top 10 ranking out of 32 indicators from the ten priority areas; highest score equals highest rank

Summary of Responses to:

What else do you think would be helpful to improve health in your community?

Corner stores selling cigarettes, sugar drinks, chips and salted snacks to our young children. The children stop at the stores on the way to school and when they are dismissed. It's not healthy at all. (*Western District BCPD*)

Having access for exercise low cost; education in schools for reading labels, etc.; start early enough to prevent problems (*Westgate*)

Getting more people to attend these type meetings (*Irvington*)

If people could get out and walk and feel safe in their own neighborhoods, then we could cut down on high blood pressure. People would feel good about themselves and their neighborhood and that would cut down on mental health. (*no neighborhood listed*)

Social workers checking on the housing and family lives of children. Housing inspectors coming to the community and citing owners of unkempt properties. More police presence. Creation of jobs with living wages in the community, or improving bus service to jobs (out to the work hubs in the counties). (Allendale)

b. UMMS Community Survey

During Fiscal Year 2012, the Baltimore City hospitals that are a part of the University of Maryland Medical System (UMMS), prepared a short survey in order to determine if the needs of their various communities were being met. The hospital group was comprised of Kernan Orthopaedics and Rehabilitation, Maryland General Hospital, Mt. Washington Pediatric Hospital, and the University of Maryland Medical Center. The surveys were available online, sent out as a part of a community mailer, placed in the hospital lobbies, and were asked of participants at community events. The survey and the tabulated results can be found in the Appendix.

Data was received throughout the City of Baltimore. Approximately 871 surveys were tabulated for the report. Information obtained through the survey showed that the top five major health concerns are:

- Overweight/Obesity
- High Blood Pressure/Stroke
- Diabetes
- Smoking/Drug/Alcohol Use
- Heart Disease

Those responding to the survey comprised the following:

Racial Composition

African American – 73%	Caucasian – 2%
Asian-Pacific Islander – 21%	Hispanic – 2%
Other – 2%	

Age Group Composition

Under 18 years – 1%	19-24 years – 3%
25-30 years – 4%	31-40 years – 12%
41-50 years – 20%	51-60 years – 27%
61-65 years – 13%	Over 65 years – 21%

Top 5 Health Concerns

Topic	Frequency Selected
Overweight/Obesity	604
High Blood Pressure/Stroke	598
Diabetes/Sugar	594
Smoking/Drug/Alcohol Use	550
Heart Disease	501
N=871	

Complete Ranking of All Health Concerns

	Frequency Selected
Overweight/Obesity	604
High Blood Pressure/Stroke	598
Diabetes/Sugar	594
Smoking/Drug/Alcohol Use	550
Heart Disease	501
Cancer	452
Mental Health Issues	399
HIV/AIDS	391
Access to Health Care	363
STDs	320
Asthma/Lung Disease	309
Dental Health	277
Traffic Accidents	122
Injuries	121
SIDS	81
Other	63
N=871	

Complete Ranking of All Barriers to Health Care

	Frequency Selected
No Health Insurance	655
Too Expensive	569
No Transportation	282
Local MDs Not Part of Plan	258
MD Too Far From Home	119
Service Not Available in City	98
Couldn't Get Appt with MD	92
Other	89
N= 871	

c. Baltimore City Stakeholders

In April 2012 a meeting was held with key community stakeholders and members of the University of Maryland Medical System, to determine what they thought what issues needed to be addressed within the City of Baltimore. These included experts from:

- American Heart Association
- American Diabetes Association
- American Asthma Association
- American Cancer Society
- American Red Cross
- Brain Injury Association of Maryland
- Baltimore Adapted Recreation and Sports
- US against MS
- Coalition to End Childhood Lead Poisoning
- Donate Life
- B'More Healthy Babies
- Baltimore Healthy Start, Inc.
- Baltimore City Head Start Program

- Sisters Together and Reaching (HIV/AIDS)
- Baltimore City Fire Department
- Baltimore City Police Department

The experts on the stakeholders' panel felt that the top six items that they would like to see tackled for Baltimore City included overarching social determinants of health and the following:

- Obesity
- Poverty
- Mental Health
- Access to Care
- Access to Healthy Food
- Reducing Infant Death Rate

When asked what the role of UMMS should be in addressing the above mentioned community needs, the group responded that they felt that there were three areas that the hospitals could respond to with support. These topics and the group suggestions included:

Access to Care

- Bring health care to the people; don't make the people come to the hospitals.
- Use mobile units in the communities, and equip them with appropriate staff and health materials.
- Hire health workers from the communities, to gain a community's trust and to act as a navigator for that community.
- Sign up those who need insurance, etc.
- Have an educator available who can follow up and explain test results.
- Provide materials that are appropriate for the specific age of those receiving the screening or taking the testing.

Poverty

Provide education and activity program geared towards:

- Asthma
- Housing
- Healthy Food – Target children and teach them to eat well. Work with farmers' markets and schools to teach how make healthy meals from what you can purchase from the farmers' markets. Provide vouchers to purchase local produce.
- How to resurrect a neighborhood in blight to rebuild home, family, etc.
- Access to affordable housing

Mental Health

- Routine mental health assessments given in schools, churches, etc.
- Use UMMS experts to be a part of the neighborhood team.
- Make mental health education a part of the school curriculum –would help to break down the social stigma of mental illness.
- African American community is not receptive to mental health issues.
- Communities would be more receptive to mental health services if they were a part of the mobile unit.

IV. Response to Findings

a. Unaddressed Identified Needs

As mentioned in the previous section, cancer, mental health issues, HIV/AIDS, access to health care, STDs, asthma/lung disease and dental health were identified by survey respondents as items requiring more attention. Baltimore City community group stakeholders felt access to care, poverty and mental health issues were unaddressed.

The members of the UMMS Community Health Outreach and Advocacy team will continue to meet and discuss the items that are currently not being addressed by system hospitals and determine if programs and resources can be allocated to assist in those unaddressed areas. Currently areas are being addressed as resources allow. Many of the health needs mentioned in the first paragraph are met through UMMS community outreach efforts, described in the Community Benefits Implementation Plan section.

Available resources to assist in the unaddressed identified needs include:

- Baltimore City Health Department
- Baltimore City Government
- Anne Arundel County Government
- Baltimore County Government
- Howard County Government
- State of Maryland (governmental agencies)
- U.S. Health and Human Services Department
- Housing Office (HUD)

b. Community Benefits Implementation Plan

1. Initiatives

The following information highlights the initiatives Kernan has undertaken to meet the major health needs pertinent to Kernan's specialty patient population and identified in Healthy Baltimore 2015, Maryland's State Health Improvement Plan (SHIP) and in the UMMS market research survey.

- Chronic Disease: Heart Disease– Reduce deaths from heart disease.
 - Initiative 1 – Adapted Sports Festival was created to help disabled adults fight obesity and heart disease, diabetes
- Chronic Disease: Obesity – Reduce the proportion of children and adolescents who are considered obese
 - Initiative 2 – Promoting Physical Activity in High Schools through Sports
- Healthcare Access – Reduce the proportion of individuals who are unable to afford to see a doctor
 - Initiative 3 – Support Groups/Patient Education
- Chronic Disease – Reduce deaths from heart disease.
 - Initiative 4 – Take a Loved One to the Doctor Day/Spring Into Good Health – Targets obesity, diabetes, high blood pressure and cardiac issues.
- Healthcare Access - Increase the proportion of children and adolescents who receive dental care
 - Initiative 5 – Dental Care for those in Need

All initiatives are in the initial stages of measuring for outcomes.

Initiative 1

Chronic Disease: Obesity –reduce death from heart disease

Adapted Sports Festival

Obesity rates among adults with disabilities are approximately 57% higher than for adults without disabilities.

From the 2008 Behavioral Risk Factor Surveillance System, CDC

Physical Activity for People with Disabilities

According to the Centers for Disease Control, obesity affects people in different ways, and evidence shows that regular physical activity provides important health benefits for people with disabilities. Benefits of physical activity include improved cardiovascular and muscle fitness, improved mental health, and a better ability to do tasks of daily life.

Sufficient evidence now exists to recommend that adults with disabilities should also get regular physical activity. The Adapted Sports Festival helps to meet SHIP Vision Areas 5: - Chronic Disease #25 – Reduce deaths from heart disease. This is also the #4 in Healthy Baltimore 2015.

Patient care staff at Kernan noticed that disabled patients did not have opportunities or knowledge of how they could participate in sports, or how to get regular exercise, like their able-bodied counterparts.

With a desire to help improve the quality of life of its patient population, Kernan Orthopaedics and Rehabilitation Hospital organized and hosted its second Adapted Sports Festival on Saturday, September 18, 2010, and it's third on September 17, 2011. A fourth is planned for September 2012.

The purpose of the Adapted Sports Festival is to enable individuals of all abilities to lead active, healthy lifestyles. Kernan's staff felt that participation in sports and recreational pursuits could help to make this possible.

Designed as a fun-filled day for individuals with physical disabilities and their families, the day included chances to participate in hand cycling, bocce ball, wheelchair basketball, a wheelchair slalom course, volley ball and adapted golf. There was also a quad rugby demonstration.

The hospital's recreational therapy staff, along with other rehabilitation professionals at Kernan, encouraged patients to explore a wide range of outdoor activities. This process was incorporated into the rehabilitation program at Kernan, and continued once patients are discharged back to their homes and communities.

Current and former patients, as well as individuals with disabilities living in the community, attended the event and were encouraged to participate in a range of recreational activities. All activities were supervised by trained staff, taking into account individual needs and abilities. Equipment was adapted as necessary and patients were encouraged to utilize newly developed skills and techniques acquired through rehabilitation.

A part of the event was bringing in a disabled athlete, so that participants could ask questions and gain valuable in site into how others in similar physical conditions could participate in sports and lifestyle. Jesse Billauer was the keynote speaker for the 2010 event. On the verge of becoming a professional surfer, Jesse Billauer sustained a devastating injury when a wave pushed him headfirst into a shallow sandbar, leaving him paralyzed with a complete C-6 injury. Jesse did not let this injury keep him down. His desire to get back into the water led him to develop a system in which he could surf again, and with the help of others, developed a way to get individuals with spinal cord injuries surfing.

Initiative 1.

Identified Need	Hospital Initiative	Primary Objective of the Initiative	Single or Multi-Year Initiative Time Period	Key Partners and/or Hospitals in initiative development and/or implementation	Evaluation dates	Outcome	Continuation of Initiative
Obesity: Increase the proportion of the disabled community who are at a healthy rate. Decrease risk for stroke, diabetes; reduce death from heart disease.	Adapted Sports Festival	To encourage disabled community members to participate in sports and to keep as physically fit as possible, in order to reduce obesity and other health risk factors. People with disabilities find it much more difficult to exercise and maintain a healthy lifestyle than their able-bodied counterparts.	Multi-year All day event that occurs 10 a.m. – 4 p.m.	Baltimore Adaptive Recreation and Sports (BARS) Forest Park Golf Course Brain Injury Association	Fall 2010	Evaluations by participants requested that Kernan keep providing opportunities for sports/activities for people with disabilities.	This event marked the second year of the initiative. Will continue indefinitely.

Initiative 2

Chronic Disease: Obesity - Reduce the proportion of children and adolescents who are considered obese

Promoting Physical Activity in High Schools Through Sports

Studies show that regular physical activity reduces the risk for depression, diabetes, heart disease, high blood pressure, obesity, stroke, and certain kinds of cancer. Yet, the [2008 Physical Activity Guidelines Advisory Committee](#) notes that data from various national surveillance programs consistently show most adults and youth in the U.S. do not meet current physical activity recommendations, --45% to 50% of adults and 35.8% of high school students say they get the recommended amounts of moderate to vigorous physical activity.

Many high school students in the Baltimore and Howard County communities do not have a primary care physician and some do not have the resources to see a doctor to obtain a physical in order to participate in sports. The athletic trainers at Kernan Orthopaedics and Rehabilitation, as well as many of the sports medicine physicians, donate their time each summer to provide an opportunity for students to see a physician at their school and obtain a free physical in order to participate in athletics—an opportunity for

many of these students to remain active in order to reduce obesity. Additionally, the physicians and /or residents in the sports medicine program donate their time to attend athletic contests as team physicians for various schools.

Initiative 2.

Identified Need	Hospital Initiative	Primary Objective of the Initiative	Single or Multi-Year Initiative Time Period	Key Partners and/or Hospitals in initiative development and/or implementation	Evaluation dates	Outcome	Continuation of Initiative
Obesity: Reduce the proportion of children and adolescents who are considered obese.	Obtaining access to High School Sports by providing physicals.	Providing sports physicals and care to high school students who participate in sports activities. Studies show that keeping active in sports enables many students to ward off obesity and to set a course for a life time of physical fitness.	Multi-Year Event occurs over several Saturdays during the early summer – June/July.	Baltimore County Schools: Randallstown High School Milford Mill High School Mt. deSales Hereford High School Howard County Schools: Howard High School, Mt. Hebron High School, Glenelg High School	Yearly	Parents and students request that they can bring/arrange for their students to attend the free physicals. Many of these students do not have a physician or are seen by one on a regular basis.	Continuing

Initiative 3

Healthcare Access - Reduce the proportion of individuals who are unable to afford to see a doctor

Support Groups

As a specialty hospital, Kernan provides care to patients who have unique health care needs. In partnership with treating those who have been patients in the stroke, multi-trauma, spinal cord, or traumatic brain injury units, Kernan offers a series of classes and support groups that are open to patients, caregivers and the community. These free classes focus on prevention and wellness, while support groups are specifically tailored to the specialized needs of patients who have undergone a life changing event and rehabilitation process—and would otherwise not have access to appropriate providers and caregivers. Physicians, nurses and other caregivers are frequently guest speakers and provide information to those who may not have access.

Kernan provides education, serves as an advocate and supports the disability populations within its continuum of care. During FY 2011, Kernan provided and facilitated monthly support groups for brain

injury, stroke, spinal cord injury, amputee, caregivers', total joint, and trauma survivors' programs. Additionally, clients with multiple sclerosis were served by participating in Kernan's MS (Multiple Sclerosis) Day Program. These classes are open to all within the community.

Initiative 3.

Identified Need	Hospital Initiative	Primary Objective of the Initiative	Single or Multi-Year Initiative Time Period	Key Partners and/or Hospitals in initiative development and/or implementation	Evaluation dates	Outcome	Continuation of Initiative
Access to Care among disabled population	Assisting patients who are discharged from any physical rehabilitation facility and their loved ones to adapt to their new lifestyle	To help those experiencing a life-changing event, and/or their loved ones to be able to adapt to their new experience with the aid of support groups such as: Brain Injury, Stroke Spinal Cord Injury, Amputee, Caregivers, Trauma Survivors Wheelchair Basketball, Wheelchair Seating MS Day Program	Multi-year. Each group meets monthly or bi-monthly, depending upon needs of the group. Length of meeting varies from 1 – 2 hours.	UMMS and other hospitals within the community: Shock Trauma Center, UMMC, Maryland General, BWMC, St. Agnes, Howard County General	Ongoing	Family/ community members request that Kernan continue these groups as it gives them an outlet for questions and learning opportunities, friendships, etc. with others in similar circumstances.	Ongoing.

Initiative 4

Chronic Disease - Reduce deaths from heart disease.

Take a Loved One to the Doctor Day/Spring Into Good Health

Take a Loved One to the Doctor Day and Spring Into Good Health are two annual events that focus on improving health in the West Baltimore community, based on identified needs from the 2008 Baltimore City Health Status Report and the 2005 Jackson Organization/UMMC 2005 Community Needs Assessment. Last fall's annual event was held in September 2010, on the west side of Baltimore City at the University Park across from the UMMC. That location was chosen because of the convenient accessibility to all forms of public transportation and local businesses for event participants. From community resources, to on-site screening for vascular disease and glaucoma, to prevention and wellness information, and testing for cholesterol, HIV, and diabetes, this event had something for everyone. Free prostate screenings and flu shots were also offered to participants. The attendees could "ask the expert" questions about specific health concerns, and how to access care. Members of UMMS Community Health Outreach and Advocacy team hospitals were also on hand to provide information and screenings. The event was attended by over 2000 people. An additional event – Spring into Good Health – was held in April 2010 at Mondawmin Mall, to provide another opportunity for community screenings and health

information. The attendance at these events backs up the results from surveys requesting more health information, and access, to our community members. Because of survey results and information received from stakeholders, as well as Healthy Baltimore 2015 and SHIP, additional screening events are planned for the summer of 2011 and winter of 2012.

Initiative 4.

Identified Need	Hospital Initiative	Primary Objective of the Initiative	Single or Multi-Year Initiative Time Period	Key Partners and/or Hospitals in initiative development and/or implementation	Evaluation dates	Outcome	Continuation of Initiative
Chronic Disease – Reduce deaths from heart disease by targeting obesity, diabetes, high blood pressure and other cardiac issues.	Take A Loved One to the Doctor Day – to provide access to health education, screenings, medical care and community resources for at risk cardiac community members with no or limited access to care.	To provide opportunities for health screening and education to members of the community who do not have access to medical care, health screenings and education.	Multi-year Twice each year – September and April.	UMMS Community Health Outreach and Advocacy team hospitals: UMMC Kernan Hospital, Maryland General Hospital, Mt. Washington Pediatric Hospital, Baltimore City Health Department, Baltimore City Government	Fall 2010 Spring 2011	Event attendees, as well as health care providers/vendors were surveyed. Results concluded that events such as this are helpful to the community and bring health care opportunities to those who do not have access to care.	Effort is currently in its 8 th year. Will continue.

Initiative 5

Healthcare Access - Increase the proportion of children and adolescents in need who receive dental care

Dental Services.

Kernan provides a complete dental practice, including nine treatment areas for general and pediatric dentistry. In addition to the reception and business areas, the suite also includes areas for disinfection, sterilization, X-ray and laboratory, and facilities for comprehensive dental treatment under general anesthesia.

A special mission of the Kernan Dental Service is to serve children and adults who have limited access to oral health care in the community. This population includes mentally and/or physically disabled individuals, as well as many children in the Maryland Medicaid Program.

Mentally disabled adults experience a range of oral health problems greater than that seen in the general population. Their disabilities can make even routine care difficult, sometimes requiring the use of general anesthesia. The dentists at Kernan have taken up the challenge of treating this special group of people. Staff visits area schools to instruct students on oral care, as well as participate in community health fairs. Dental education was provided to Kernan's adopted school, Dickey Hill Elementary School students, as well as students attending the St. Michael's School health fair. The dental clinic staff has formed relationships with dental practices throughout Maryland so that all patients have resources to dental care. The hospital plans to revise its dental clinic web page to include forms and resource data to enable patients to have all information that they need available to them prior to arriving for an appointment.

During FY 2011, the dental clinic saw 10,470 patients and performed 1,417 procedures in the dental operating room, filling a much needed gap in care throughout the State of Maryland.

Initiative 5.

Identified Need	Hospital Initiative	Primary Objective of the Initiative	Single or Multi-Year Initiative Time Period	Key Partners and/or Hospitals in initiative development and/or implementation	Evaluation dates	Outcome	Continuation of Initiative
Increase the proportion of children and adolescents who receive dental care by providing access to oral health care	Dental Program/Clinic to combat lack of dental care for disabled children and adults as well as low income families.	To provide care to children and adults who have limited access to oral health care, especially special needs patients.	Multi-year program Take oral screenings to neighboring elementary/middle school each year.	Area Schools, hospitals, primary care and dental practices throughout the State of Maryland that cannot treat special needs children and adults. MChip program; University of Maryland School of Dentistry	Yearly	10,470 clinic visits and 1,417 procedures of patients including disabled and /or low income adults and children in FY 2011.	Yes. Visits to area schools and community groups confirm that many area children do not see a dentist regularly and are uninformed regarding oral care.

IV. Appendix

Please see attachments that contain the following:

- a. Survey Sample
- b. UMMS CHNA Survey Report