



Partnering with Communities to Improve Health

# MGH Special Populations Community Health Needs Assessment 2013



MASSACHUSETTS  
GENERAL HOSPITAL

CENTER FOR COMMUNITY  
HEALTH IMPROVEMENT

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For more information about this report or the center's assessment process, please visit [www.massgeneral.org/cchi](http://www.massgeneral.org/cchi) or email Leslie Aldrich at [laldrich@partners.org](mailto:laldrich@partners.org).



# Executive Summary

## **Massachusetts General Hospital: A Tradition of Caring**

MGH recognizes that access to high-quality health care is necessary, but by no means sufficient, to improving health status. We are also committed to engaging in deep and transformative relationships with local communities to address the social determinants of health. The MGH has had health centers in Revere, Chelsea and Charlestown for more than 40 years and in 1995 created the Center for Community Health Improvement (CCHI) to partner with underserved communities to achieve measurable, sustainable improvements in health and well-being.

## **Community Health Needs Assessment**

CCHI conducted its first community health needs assessments (CHNA) in 1995 in Revere, Chelsea and Charlestown, and has done so periodically over the past 17 years. We used the Patient Affordable Care Act CHNA requirements as an opportunity to improve upon past processes and in 2012, worked with these communities to formalize assessment methods and develop new relationships. We collected and analyzed data and worked with the communities to identify priorities and develop strategic plans. Almost 3,000 people across the three communities had input into this process.

## **Special Populations**

In addition to our work with communities, CCHI has worked for decades with specific populations with distinct health needs. Caring for the most vulnerable among us is in Mass General's DNA. For more than two decades, the MGH has partnered with the Boston Health Care for the Homeless Program, and has provided opportunities to Boston youth in science, technology, engineering and math (STEM). In the more recent past, the MGH has engaged with seniors who reside outside the doors of the hospital, as well as refugees from around the world to help them navigate the healthcare system in their new surroundings. Although each of these four populations are unique, they each share a common need to forge connections with individuals who can make a difference in their lives to improve their health and well-being.

## **Special Population Assessment**

CCHI launched the second phase of our assessment process in the spring and summer of 2013 by reviewing national and local data and trends, and patient data when appropriate. CCHI also conducted focus groups and interviews with experts in the field who are familiar with our current programs (See Appendix A). We asked these individuals to identify the needs of these populations, review our work to date and make recommendations to better serve these populations. The following report summarizes our findings and outlines our plans to improve upon our work in the coming years.

## **Recommendations Moving Forward**

As the health care system changes to deliver quality care more affordably, it is vital that we pro-actively address the needs of our high-risk, vulnerable patients, specifically the homeless, refugees and seniors. Programs must be responsive to their cultural, linguistic, social and economic needs in order to give them the best quality care, improve outcomes and manage costs. Common themes among each of these populations include the need for: identification, navigation, outreach and closer management, all within a culturally sensitive context.

Additionally, MGH will continue to address a key social determinant of health: educational attainment. Last year we engaged more than 600 youth in grades three through college, in opportunities related to science, technology, engineering and math (STEM), as a pathway out of poverty. MGH is committed to continued growth and development of this program and will deepen engagement with school systems and partners.



## Caring for Vulnerable Populations at MGH

Population-based strategies and community-wide interventions make the greatest impact on the health of communities overall. That is why CCHI has invested in strategies in Chelsea, Revere and Charlestown which build and sustain community coalitions to improve both the physical and social environments so that the healthy choice is easy choice for all. For example, by making healthy food more accessible through farmers' markets and community gardens, it is easier for community members to make healthy eating choices.

However, certain populations experience multiple barriers to health care that require targeted interventions. These barriers could include different cultural beliefs about health and health care, transportation, language and more. MGH CCHI has been committed to working with vulnerable populations, including homeless persons, refugees, seniors, and youth. Although these four populations are each unique, they share commonalities. They each require focused interventions to connect with a range of health and social services, as well as opportunities. These programs reduce isolation, connect people to services and peers, and improve compliance with health care. Based on assessment findings, the following report outlines the populations we serve, the needs within these populations, interventions to date and recommendations for the future.



# Caring for Boston's Homeless

## **National Population**

According to the National Coalition to End Homelessness the number of people experiencing homelessness in the United States as of 2012 was 633,782 resulting in a rate of 20.3 per 10,000 individuals. Homeless populations are often classified into different categories including; sheltered, unsheltered, individuals, people in families, family households, veterans and chronically homeless.

The number of homeless individuals has declined overall with the largest decreases among individuals identified as chronically homeless and veterans despite the fact that more than half of the states in the U.S. have seen increases in this population. Although over a half million individuals are homeless on a given day, it is estimated that 2.3 to 3.5 million Americans experience homelessness annually. Currently, the number of family households experiencing homelessness is on the rise, which predisposes more children (who are already disproportionately homeless) to homelessness. The majority of the people identified as homeless as of 2012 were staying in emergency shelters or transitional housing. However 38 percent were unsheltered, meaning that they were living on the streets, in cars, uninhabited buildings or other places not appropriate for habitation.

## **Massachusetts Population**

In 2012 there was a modest increase in homelessness from past years with 17,501 people counted as experiencing homelessness in Massachusetts according to the U.S. Housing and Urban Development (HUD Point in Time Count). The rate of homelessness is 26.6 homeless persons per 10,000 people in the general population, which is currently higher than national rate. This is a 5 percent increase from 2011, which means that Massachusetts now ranks as the state with the 41<sup>st</sup> highest rate of homelessness. Although these numbers are fairly high Massachusetts did have a 10 percent decrease in chronic homelessness. Chronic homelessness is defined as homelessness among people who have a mental or behavioral disability, any substance use disorders, or chronic medical issues, who are homeless long periods of time, or repeatedly fall into homelessness. Massachusetts also saw a 6 percent decrease in homeless veterans, down from 1268 to 1181 in 2012. However, like the national trend, Massachusetts saw a 10 percent increase in homeless families.

## **Boston Population**

The annual 2012 homelessness census in Boston showed the current population of homeless men, women and children includes 6,992 individuals. This constitutes a 5.2 percent increase from the previous year. The Mayor's annual report showed that the increase in overall homelessness is affecting individuals and family alike.

## **Contributing Factors for Homelessness**

The factors that can contribute to homelessness include income and poverty, housing, and individual health concerns.

### ***Income and Poverty***

Nationwide the average income level has decreased by 1.3 percent, and while the number seems small, decreased income levels disproportionately affect the poorest members of society. According to the U.S. Census Bureau's September 2012 American Community Survey report,

the overall poverty rate in Massachusetts increased to 11.6 percent in 2011 from 11.4 percent in 2010. This includes an estimated 738,514 people in Massachusetts living in households that fell below the poverty threshold (\$23,021 for a family of four) (National Alliance to End Homelessness: State of Homelessness in America 2013)

### ***Housing***

The number of foreclosures across the US is still recovering from a collapsing housing market, though nationwide the number of foreclosures has decreased by 3 percent. However, some states, including Massachusetts saw increases in the foreclosure rate (MA 14 percent increase). The increasing cost of housing (for both renters and buyers) is currently coupled with huge decreases in federal housing assistance. Federal support for housing assistance fell 49 percent between 1980-2003 and is still falling today. (National Alliance to End Homelessness: State of Homelessness in America 2013)

### ***Specific Health Concerns***

Those who are homeless face unique health concerns that are not as commonly found among the housed population. In addition to suffering from chronic diseases such as hypertension, diabetes and asthma, often exacerbated by poor medication management, homeless people face high rates of mental and substance abuse disorders, as well as higher rates of TB, hepatitis C and HIV incidence. These diseases can often lead to housing and economic issues, or be caused or worsened by these stressors.

### **Morbidity & Mortality of the Homeless**

The Boston Healthcare for the Homeless Program (BHCHP) conducted a study in June 2013 with homeless individuals who were on MassHealth insurance. The study found that 68 percent suffered from a mental disorder and 60 percent suffered from a substance abuse disorder. Forty-eight percent of the study cohort suffered from both a mental disorder and a substance abuse disorder.

The leading causes of death for different populations of homeless individuals were discerned from a five year study conducted from 2003 to 2008 by BHCHP staff. The leading cause of death among young homeless individuals (25-44 years) was fatal drug overdose, which occurs at a rate that is 16 to 24-fold higher than the general Massachusetts population. Drug overdose has surpassed the previous leading cause of death in young people which was HIV. The leading cause of death among middle aged and older homeless individuals (45-66) was cancer and heart disease, and the mortality rates for these causes were about 2- and 3- fold higher than the general Massachusetts population. BHCHP is addressing these causes and high rates of mortality by integrating behavioral health care into healthcare outreach programs for homeless individuals.

### **MGH Collaboration with BHCHP**

In order to provide better care for this vulnerable population, MGH has partnered with BHCHP for over 28 years by providing clinical care at the hospital, in shelter clinics and on the streets. In 1984, Boston was one of nineteen national grant recipients to begin a pilot program that provided healthcare for the homeless. BHCHP was created as a result and MGH was one of the original partners and sites of care.

Today, the program has expanded to serve homeless individuals in seventy sites across the city, and provides care for over 12,000 patients through shelter clinics, and street based clinics through partnerships with healthcare providers like MGH. The program also provides care for



those who are too sick to be in a shelter or on the street, but are not sick enough to occupy an acute care bed by providing 104 beds in the Barbara McInnis House respite care center. Following is a description of the multi-faceted BHCHP/MGH partnership.

### **Medical Walk-in Unit**

BHCHP offers primary care each day of the week through the Medical Walk-in Unit located at MGH. The clinic sees patients via scheduled and walk-in visits and also coordinates and assists with planning the care and discharge of homeless patients at MGH. Last year there were over 2614 patient encounters for primary care and behavioral health at this MGH site. Over 2000 additional case management and/or nursing visits took place throughout the year during the Thursday Street Clinic. On Thursdays, the clinic is limited to patients who live on the streets, rather than the in the shelters.

### **Mental Health Program**

In 2008, MGH funded an innovative pilot partnership between BHCHP and the Massachusetts Department of Mental Health (DMH) and its hospital, Massachusetts Mental Health Center. The partnership program aims to offer homeless individuals a “medical home” that integrates medical and psychiatric care with support from two multidisciplinary teams. The medical teams now include two psychiatrists and a case manager who are funded by MGH. All clinicians are additionally credentialed within the DMH with full access to the DMH’s mainstream services. These psychiatrists work in partnership with their other team members including, internists, nurse practitioners, physician assistants, nurses, and social workers and services are provided in variety of places in order to best reach vulnerable homeless individuals

The results of this program included the integration of 417 patients into a medical and behavioral care program, where they had access to physicians, nurses and social workers. An additional 68 patients were seen in 200 visits to a MA Department of Mental Health shelter by a BHCHP physician and RN, who both worked closely with a second year psychiatry resident as part of their MGH Community Psychiatry rotation. This dynamic program has brought to light a need for systemic changes in the delivery of mental health services alongside physical health services to a vulnerable population.

### **Street Team**

BHCHP’s Street Team strives to provide care for homeless individuals wherever they may be. The Street Team is currently based out of MGH but the care that is administered occurs in a variety of unconventional settings such as; under bridges, down back alleys, in abandoned cars, on park benches and street corners, and in community meals programs, overnight drop-in centers, emergency departments, detoxification units, and nursing homes. The dedicated members of the Street Team are a consistent presence on the streets, and build trust with their population so that the care they provide gradually brings people from the street corner to the intensive care unit or respite housing, for the best possible care, and then ideally to safe housing.

### **Medical Respite Program**

The Barbara McInnis House is a respite care center for homeless individuals who are too sick to be in shelters or on the street, but not sick enough to occupy a bed in an acute care center. Located in Boston’s South End, the Barbara McInnis House has 104 beds, and is a nationally acclaimed program that is being emulated in over 60 different sites across the country. The program accepts patients from all Boston area hospitals and provides short term cost-effective

medical, nursing and case management services to over 2500 admissions per year. The majority of patients in the McInnis House are there for an average 11.9 days.

In fiscal year 2012, the Barbara McInnis House accepted 322 patients for admission from MGH. More 375 MGH patients are projected for admission by the close of the fiscal year 2013. Because patients from MGH tend to have higher acuity than other patients, the average length of stay is 14.75 days. This means that patients from MGH occupy about 15 percent of the bed days available in the year at McInnis House.

BHCHP has launched a program with emergency departments at hospitals across the city, including MGH, to better manage the care of high utilizers of emergency services. Together, BHCHP and the emergency departments have identified high utilizing patients and developed care plans that include diversion to McInnis House, when appropriate. In the past year, 39 patients were admitted from the MGH ED to McInnis 97 times. Already, the program has seen a 50 percent reduction in ED visits by high users, a 33 percent decrease of in-patient facilities and an 86 percent decrease in emergency transport for high users overall.

### **MGH Rotation with BHCHP**

BHCHP prepares physicians by teaching them how to care for the homeless population. Primary care residents from MGH join experienced BHCHP staff for community and street clinics during their ambulatory rotations. They also may choose to spend two or four weeks with BHCHP in an elective rotation, and may work directly with the multidisciplinary teams, learning firsthand from clinical providers about the unique health needs of homeless persons.



### **Recommendations Moving Forward**

As the health care system is challenged to deliver quality care more affordably, BHCHP remains a critical partner for MGH. Specific goals as we move forward include:

- As we develop accountable care organizations for MassHealth patients, we will explore partnership with BHCHP to include homeless persons in order to best meet the needs of this most vulnerable and high cost population;
- An important component of this approach will include continuously identifying and managing high users of the inpatient and emergency services;
- Specifically, we will develop targeted interventions to better address the needs of homeless patients with substance use disorders. MGH will integrate a coordinated approach to this into our overall hospital strategic plan.

# Refugee Health



## **Refugees Worldwide**

In 2012 the total number of refugees worldwide was estimated to be 15.4 million people (UN High Commission on Refugees). Each year, approximately 70,000 people from various countries are relocated to the United States because of war, famine or civil or political unrest. (Immigrant and Refugee Services of America, 2003) In the last fiscal year, 58,238 refugees have settled in the United States, primarily from Burma,

Bhutan and Iraq (US Office of Refugee Resettlement, fiscal year 2012). For refugees, entry and settlement into countries such as the United States is often a stressful and arduous ordeal. Refugees may experience psychiatric disorders precipitated by trauma in their home countries, have infectious diseases, or struggle to cope with chronic disease or injury from war or violence.

## **Refugee Health Assessment and Promotion**

All refugees entering the United States are subject to a health examination before their arrival. Upon entry to the United States refugees are subject to a domestic health screening to identify potential threats to the individual and/or public. However, health screenings administered to refugees differ vastly between states and providers. After the required initial health visit is complete, refugees are not required to follow up with a primary care physician, though they are required to attend a second appointment for follow-up vaccinations. Chronic illnesses are not addressed by the national and state refugee health protocols.

## **Refugees in Massachusetts**

In the 2012 fiscal year, 2,278 refugees entered Massachusetts, making it a mid-range refugee resettlement state. For the last five years refugees are representative of the national population and hail mainly from Iraq, Bhutan and Somalia (MA DPH Refugee Resettlement).

Refugees in Massachusetts are eligible for aid through the Massachusetts Refugee Resettlement Program (MRRP), which is offered through the Massachusetts Office of Refugees and Immigrants (ORI). Through MRRP, refugees receive services such as financial assistance and medical care for eight months, and employment assistance for sixty months from their arrival in the United States. Because most refugees who come to the United States have no income and few assets, most qualify for all of MRRP's services upon arrival. Upon arrival, refugees may be referred to resettlement agencies which provide assistance as NGOs.

Upon their arrival to Massachusetts, refugees are subject to an initial health assessment which is regulated by the MA Department of Public Health (MA DPH). The assessment is based on guidelines from the Center for Disease Control and Prevention (CDC) and the State Department's Office of Refugee Resettlement (ORR). MA DPH works closely with resettlement agencies during the processes of the health assessment and resettlement. These organizations

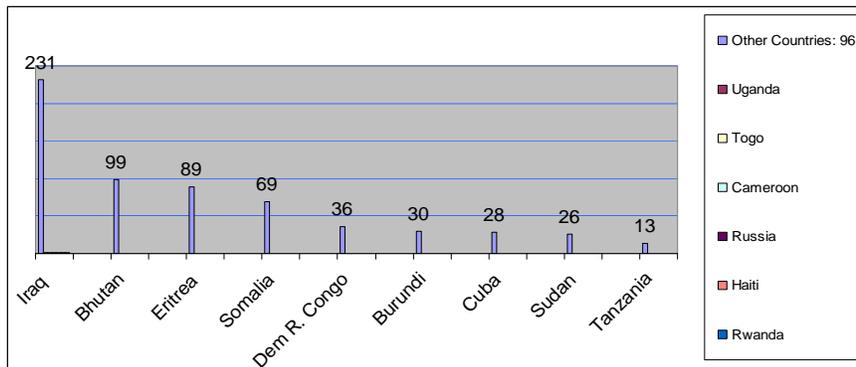
receive refugees at the airport and help them settle in their new homes, as well as providing basic necessities like clothing, furniture and food. The agencies also assist refugees in connecting to social services such as SNAP, MassHealth and the employment office.

### Caring for Refugees at MGH Chelsea Health Care Center

The MGH Chelsea HealthCare Center became a designated refugee health assessment site as per Massachusetts DPH certification in 2001 and works with resettlement agencies such as the Refugee and Immigrant Assistance Center, Catholic Charities of Boston and the International Institute of Boston. With funds from MA DPH, the health center offers initial health screenings for recent refugees as required by federal and state laws. MGH Chelsea follows MA DPH protocols when treating refugees by screening blood, monitoring TB tests and offering vaccinations. MGH Chelsea also includes a full medical history and identification of various issues including dental and eye problems, as well as addressing injuries from violence and malnutrition.

Through a patient centered model that utilizes both physicians and navigators, MGH Chelsea created a comprehensive **Refugee Health Assessment Program (RHAP)** that aims to address both the health and social concerns specific to its refugee populations with an emphasis on follow-up care. As a result, MGH navigators provide an initial home visit to each household to familiarize patients with the MGH healthcare system, assess the patient’s environment and coordinates services or resources that the patient may want or require. To date, over 1500 refugees have been served from over 15 different countries.

**Refugees & Asylees seen at MGH Chelsea 2007-2012 (N=717)**



Successful resettlement means taking care of the family unit as a whole and is not simply defined as connection to health care and placement in housing and employment. As a result, the **Refugee School Program (RSP)** was established in 1998 to bridge the cultural and academic gaps for newly arrived refugees. RSP orients new refugees on academic expectations while teaching social skills to ensure positive interactions with school personnel. In FY 2012, the RSP Manager, Ali Abdullahi, MSW and from Somalia, facilitated workshops with parents, created a monthly program for parents called “Coffee with the Principal” and holds an ongoing Refugee Boys Support Group in the middle school, dealing with risky behaviors, challenges with peers, girls and parents, gang prevention, and education promotion. More than 150 students were served.

The **Refugee Women's Health Access Program (RWHAP)** began in 2009 to respond to the unique needs of women refugees. Refugee women tend to take on increased responsibilities to care for their families in a new and unfamiliar country with little social support. Many women overlook their own health needs, opting instead to attend to their families' needs first. According to a comprehensive needs assessment in 2008, there were many gaps in services for refugee women, which included inadequate access to primary and preventive care, unnecessary visits to urgent or emergency care, low rates of recommended screenings, underutilization of mental health services and inadequate access to preconception, perinatal and inter-conception care, among others. Chantal Kayitesi, an RN/MPH from Rwanda holds psycho-educational groups with Somali, Nepali, and Iraqi women. These groups meet monthly and cover topics such as heart diseases, cancer screening, nutrition and exercise. While these groups provide critical health education, they also serve as places where women can come together, share experiences and support each other around key behavior changes, such as beginning an exercise regime. In FY 2012, there were 615 contacts with refugee women related to care coordination, navigation, concrete services, home visits and other services.

Together these programs provide a continuum of care across multiple sites including the hospital, home, schools and early intervention programs. The goal is to ensure the well-being of refugees in Chelsea and surrounding communities by providing culturally responsive health care and support in both the healthcare and school setting. These programs often serve as entry points into primary care and other services.

### Gaps in Service

Interviews with MA DPH, Catholic Charities of Boston & MGH Chelsea Providers revealed difficulties with registering refugees for MassHealth. Even after proving eligibility for MassHealth, the insurance may not become available within 30 days, which is the period in which refugees are required to undergo their initial health assessment. Furthermore, refugees may not always be aware of the need for insurance to attend the health assessment, which also delays the initial assessment and in turn delays care. For most refugees, MassHealth expires after eight months so working with refugees to register for long term insurance is essential.

Interviews with refugee care providers at MGH Chelsea revealed that most refugees lack familiarity with the western health care system and an understanding of chronic disease and health management. It was noted that that many providers' also lacked an understanding of cultural beliefs and background of new refugee and immigrant groups despite cultural competency training.

Access to care issues for women was also identified as a challenge. Providers felt women had issues transitioning to primary care even after getting their initial health assessment. In addition, many believe refugee women hold strong cultural and religious beliefs that often prevent them from receiving needed care. Low rates of preventive screenings for mammograms and pap-smears, underutilization of birth control, high rates of teen pregnancy, and early marriages were all identified as health issues associated with access to care issues.

## Recommendations Moving Forward

While we are proud of this work, there are multiple opportunities to expand and improve it, including:

- Engage more refugee families beyond the first two health care visits and to stay connected for at least the first 2 years. We have learned that it takes this period of time for initial adjustment and settlement and connection to primary care.
- Create a focused approach to engage refugee men, comparable to but different from the approach we have developed to engage women. Men are also not easy to engage in the health care system and we plan to develop outreach and engagement programs over the coming period of time.
- We plan to offer assistance and workshops to more young girls as a way to connect these girls and their mothers to primary care and help with overall prevention efforts.
- Engage more of our medical interpreter/community health workers in the implementation of the refugee work for better coordination of care and improved health outcomes.
- Integrate mental health screening as a part of the refugee health assessment process upon arrival to promote better access to behavioral health services.
- Educate new refugees about the importance of dental care and promote access to affordable dental care services in the community.



# Caring for Seniors

## National Trends

According to the Department of Health and Human Services Administration on Aging, the percentage of Americans 65 and over has more than tripled since 1900, and the number has increased over thirteen times. Those 65+ years numbered 41.4 million (13.1 percent of the population) in 2011 (the latest year for which data is available) and is projected to more than double to 92 million in 2060. The 85+ population alone is projected to triple from 5.7 million in 2011 to 14.1 million in 2040.



Much of this increase has occurred because of reduced death rates for children and young adults. However, the period of 1990-2007 has also seen reduced death rates for the population aged 65-84, especially for men. Although life expectancy continues to climb, researchers have raised concerns about future increases in the US compared to other high-income countries, primarily due to smoking and obesity, especially for women age 50+.

## National Health Care Costs

As reported by Massachusetts Health Care Finance and Policy in 2011, older consumers averaged out-of-pocket health care expenditures of \$4,769, an increase of 46 percent since 2000. In contrast, the total population spent considerably less, averaging \$3,313 in out-of-pocket costs. Older Americans spent 12.2 percent of their total expenditures on health, almost twice the proportion spent by all consumers. Health costs incurred on average by older consumers in 2011 consisted mostly (\$3,076 or 64 percent) for insurance, as well as for medical services, prescription drugs, and medical supplies.

## Massachusetts Healthcare Costs and Preventable Hospitalizations

Adults age 65+ are more likely to be hospitalized with a preventable condition, and account for over half of preventable hospitalizations (PH). In fact, 64 percent of PH hospitalizations in MA occurred in adults 65 and over. Heart failure, diabetes, UTIs, dehydration, hypertension, COPD/asthma and bacterial pneumonia represent a large number of PHs. Sixty-two percent are from chronic heart failure, COPD/Asthma and bacterial pneumonia.

## MGH Preventable Hospitalizations Costs

Preventable hospitalizations at MGH for those age 65 and older cost approximately \$73 million from 2009 to 2011, and have increased 8 percent from 67 million to 81 million over the last three years. Similar to the state, congestive heart failure and bacterial pneumonia made up the largest portion of cost, followed by UTIs, COPD and long term complications from diabetes.

## Caring for Vulnerable Elders: Senior HealthWISE

The elderly population makes up about 10 percent of the Boston population or roughly 62,000 individuals. Half of this population is between the ages of 65-75. Out of these individuals 41 percent live with some type of disability and 20 percent live below the poverty line (similar to the state).

The best way to control preventable hospitalizations and improve quality of life for seniors is to increase access to primary and preventive care and manage chronic conditions between health care settings. In an effort to do this, the MGH Senior HealthWISE (Wellness, Involvement, Support, Education) program was created in 2002 with support from the MGH Center for Community Health Improvement and the MGH Geriatric Medicine Unit. It is designed to enhance the health and well being of older adults in the neighborhoods surrounding the hospital.

The program provides a wide array of services that improve health management through education and support, as well as provide opportunities for socialization, exercise and connection to community resources. Programs are offered on the MGH campus, at local community sites, and three senior residences, the Blackstone, Amy Lowell and Beacon House, which all serve a large percentage of low-income seniors. Services are free of charge and open to individuals age 60+. With three staff members the program serves over 200 people yearly in over 3000 clinical contacts. In addition, ongoing health programs on issues such as hearing and balance, glaucoma, oral health, eating well, home safety and cardiovascular health, as well as educational events and newsletters reach close to 1000 people. Staff are trained in evidence based programs: Chronic Disease Self Management, Healthy Eating, Matter of Balance and Stay Sharp in order to deliver quality care.

A founding principle of Senior HealthWISE is to fill gaps in the fragmented healthcare system which is especially complex for frail and disabled individuals to navigate. While smaller in scale, the operational model of Senior HealthWISE is similar to an accountable care organization, where teams coordinate care for medically complex patients to improve quality and prevent hospital and emergency room visits.

## Population Trends

MGH Senior HealthWISE has solidified three building-based Wellness Centers. As the years have progressed, the building populations have reflected trends that were verified by focus group members who gathered in May, 2013. It was documented and confirmed that the population characteristics now reflect:

- An older, more frail and functionally disabled population with a greater need for tighter care coordination, linkage to providers and increased services to extend capacity for independent living. People are living longer while city, state and federal policy have shifted to *limit access to long term care in favor of community living*.
- The older population includes an increased number of psychiatrically disabled adults whose advancing years add chronic disease and cognitive impairment to their profile, requiring new interventions to support their needs.

As acknowledged by focus group members, Senior Housing is now accepting a large, previously homeless population of disabled Veterans, many living with both PTSD and addictions. Their complex needs present challenges to their integration into existing building populations.

## Recommendations Moving Forward

Following include the plans to more fully meet the needs of this vulnerable population. Consultation with and monthly presence in each building by:

- A psychiatric nurse or psychiatrist who can monitor conditions and communicate treatment concerns to outside providers.
- A pharmacist for medication reconciliation, clarification of use, and linkage to physician regarding side effects and problems.
- A nutritionist for dietary counseling, meal preparation support and group food preparation which would provide both healthy eating and social engagement.
- A physical therapist with expertise in Geriatrics. The role of a physical therapist, would be to conduct home safety evaluations, encourage fall prevention strategies, and advise individuals on use of adaptive devices.
- An addictions specialist to support the complex needs of many Veterans who are recovering addicts and joining the community as well as those with long standing alcohol addictions.
- Finally, training for Senior HealthWISE staff in identifying residents with mild to moderate brain disease, as well as new models of care will be explored. The goal is for the Wellness Center staff to patients in making the appropriate linkages and adaptations to remain living in the buildings.



# Serving Youth – STEM Education

## Labor Statistics

The Bureau of Labor and Statistics reported in the spring of 2012 that post-secondary education is required for the fastest growing job categories. Over the decade 2010-2020 the fastest growing jobs will be in health care occupations (healthcare, personal care and community and social service occupations). The majority of these jobs will require math and science skills.

## Stem Education

STEM education is the preparation of students in competencies and skills in four disciplines – science, technology, engineering and math. STEM education fosters the development of critical thinkers and innovators which can lead to the creation of new products and therefore helps sustain our economy.

## National and State Priority

According to the Program for International Assessment, the academic performance of 15 year olds in the United States is somewhere in the middle among 57 countries. The United States has one of the biggest gaps between high- and low-performing students among industrialized nations. President Barack Obama has identified the need to increase student achievement and expand STEM education and career opportunities to underrepresented groups. In a speech at the National Academies of Science in April, 2013, he stated, “Reaffirming and strengthening America’s role as the world’s engine of scientific discovery and technological innovation is essential to meeting the challenges of this century. That’s why I am committed to making the improvement of STEM education over the next decade a national priority.”

Governor Deval Patrick also believes in the benefits of promoting STEM education to youth. In October of 2009 he signed an Executive Order creating the Governor's STEM Advisory Council to ensure that all students receive STEM education to enable them to pursue post-secondary degrees or careers in these areas, as well as raise awareness of the benefits associated with an increased statewide focus on STEM. The Council serves as a vehicle for STEM advocates from the public and private sectors, as well as legislators and educators, to engage in meaningful collaboration.

Massachusetts STEM Key Goals
1. Increase student interest in STEM.
2. Increase STEM achievement of PreK-12 students.
3. Increase the percentage of students who demonstrate readiness for college-level study in STEM fields.
4. Increase the number of students who graduate from a post-secondary institution with a degree in a STEM field.
5. Increase the number/percentage of STEM classes led by effective educators, from PreK-16.
6. Align STEM education programs with the workforce needs of key economic sectors

## MA & Boston Youth

While Massachusetts students' test scores are among the best in the country, there are clear disparity in academic performance between white students and students of color. The achievement gap shows up in grades, standardized-test scores, course selection, dropout

rates, and college-completion rates, among other success measures (Achievement Gap, *Education Week*, August, 2004).

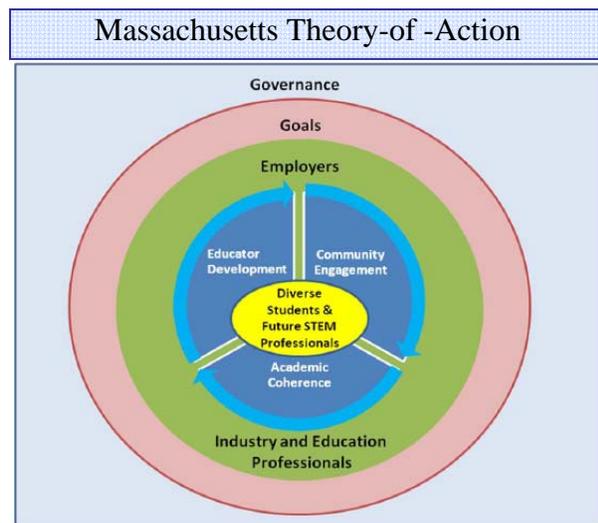
According to the Governor’s Stem Advisory Council, the number of students in our colleges and universities studying in STEM fields declined from 1993 to 2007, while the number rose

nationally. Massachusetts public school students have shown less of an interest in pursuing a college major in STEM education than students nationally.

About three-quarters of public school students in Boston, Chelsea and Revere qualify for free or reduced lunch, a key indicator of poverty. These students have low graduation rates. For example, 70 percent of Boston students graduate from high school versus 85 percent statewide. Even those who attend college have difficulty graduating. (2012 Department of Education data). Of the Boston high school graduating class of 2005 who entered college, only 47 percent had graduated six-years later.

## MGH & Youth STEM Opportunities

Every year for the past two decades MGH has inspired hundreds of Boston youth interested in health and science careers with related activities and employment opportunities. MGH is committed to expanding the horizons of these young people as a health improvement strategy as



well as a workforce development strategy. We know that educational attainment is highly correlated with economic status and is the largest predictor of health status.

The MGH Center for Community Health Improvement last year provided more than 600 youth (grades 3 through college) with academic, life and career skills that expanded and enhanced their educational and career options through activities related to science, technology, engineering and math (STEM). More than 400 MGH faculty and staff volunteered as supervisors and mentors to make these experiences possible. These activities enable

exploration and skill development through experiences and relationships related to STEM subjects and careers, life sciences and health and wellness. The Center also engages families across all programs through the following services.

**Grades 3-5** – STEM Clubs aim to develop excitement and engagement in STEM subjects, build confidence in students’ abilities to succeed in these subjects and increase exposure to STEM careers. Fun activities strengthen students’ intellectual abilities and critical thinking skills, sense of belonging and mastery of their future. Students perform hands-on lab experiments. Additionally, the MGH Multicultural Affairs Office offers guest speakers who are medical and surgical residents of color to inspire and motivate students. Clubs are hosted at after-school programs and/or community organizations, such as the Yawkey Boys & Girls Club in Roxbury, Charlestown Boys & Girls Club in Charlestown, the Richard J. Murphy School in Dorchester and the Young Achievers Science and Mathematics Pilot School in Mattapan, all neighborhoods of Boston.

**Grades 6-** – At the James P. Timilty Middle School, students have been working with MGH mentors on science fair projects from concept to completion for more than 20 years. Students work with their mentors to decide on a question that could be answered through scientific investigation, set up experiments, document observations, collect and analyze data and prepare oral presentations to defend their investigation. Mentors and students may choose to extend their

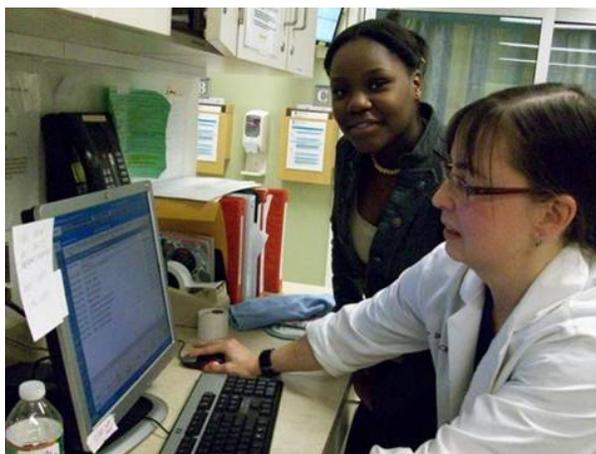
relationship through our partnership with Big Brothers Big Sisters of Massachusetts Bay. There is also a career exploration initiative for select graduating eighth graders that provides paid summer internships at MGH.

STEM programming for secondary school students is more intensive. East Boston High School, Edward M. Kennedy Academy for Health Careers, the United Way's Math, Science and Technology initiative and the Science Club for Girls Program are our high school partners.

**Grade 9** – The program gives students an introduction to MGH and its various STEM professions, educates youth about personal wellness and inspires students in the area of health promotion. Students are exposed to science and health careers and a public health curriculum every week at MGH. Students learn about fitness, nutrition, stress and relaxation to support healthy living choices. They learn skills they can apply to their daily lives.

**Grade 10** – The program provides opportunities for STEM career exploration, prepares youth with applicable professional skills, connects youth with an MGH mentor and continues instruction in stress and relaxation techniques to improve overall well-being. Students engage in a public health project overseen by MGH employee mentors, building their knowledge of public health and policy. They work on skills that will prepare them for summer jobs, internships and college.

**Grade 11 & 12** – Students meet weekly on the MGH main campus from September through June for shadowships, SAT preparation and a curriculum that includes a professional development module, sessions with the Benson-Henry Institute for Mind Body Medicine and hands-on science through Harvard's Bioscience for Teens program. In addition, students are placed in paid after-school and summer internships throughout the hospital in areas of career interest. Students participate in two 11-month internships and present a culminating project to their peers and the MGH community.



**MGH Bicentennial Scholars** – The 200th anniversary of MGH in 2011 inspired MGH President Dr. Peter Slavin to give a gift to the larger community. That gift is the MGH Bicentennial Scholars. Twenty-six 11th grade students from Boston, Chelsea and Revere are MGH Bicentennial Scholars. All students received intense college coaching and SAT preparation, and are now receiving scholarship funds and continued support to help them succeed in college. The goal is for the students to successfully graduate from college and enter health and science professions.

**MGH Youth Programs Alumni Summer Program** – This new program provides alumni/graduates of the High School Program and Posse Scholars (outside of the MGH Youth Programs) with employment and networking opportunities as part of their continued learning and professional development. Participants are currently pursuing their undergraduate or graduate degrees.

## Recommendations and Response Moving Forward

Through an in-depth strategic planning process with the Youth Programs team which included youth input and through feedback from the Youth Programs Advisory Committee, the following recommendations were made to improve upon existing programming:

- **Integrate the 21<sup>st</sup> Century skills into Programming:** The Partnership for 21<sup>st</sup> Century Skills is an organization that works with states and communities to reinvigorate learning to meet the demands of the 21<sup>st</sup> Century. These skills are focused on are life and career, learning and innovation, and information and technology. We believe these 21<sup>st</sup> Century skills should be integrated into all aspects of the MGH Youth Programs to ensure that every student is prepared to compete in an every-changing global economy. MGH Youth programs in partnership with the CCHI Evaluation team will work on identifying a validated measurement tool that will enable us to assess students' short term and long term skill development.
- **Strengthen the work being done with the technology and engineering sectors:** Science and math have a daily presence throughout the hospital. We need to make a more concerted effort to however, to connect with internal and external resources for students interested in technology and engineering, such as Partners Healthcare Information Systems and MGH's Biomedical engineering department.
- **Deepen the institutional partnership with Boston Public Schools:** MGH Youth Programs has been focused on students. We would also like to serve as a learning lab for educators by providing such things as paid summer teacher externships, classroom tours during the academic year, and an "ask the expert" series with MGH professionals who are doing work that is aligned with the classroom teaching.
- **Strengthen the college access and readiness curriculum:** In 2011 with the launch of the Bicentennial Scholars Programs our focus with students shifted from being workforce development based, to a more college access and persistence approach. We learned quite a bit from the Bicentennial cohort, and now with support from Partners Healthcare the MGH Youth Programs has been tasked with replicating the Bicentennial Scholars model over the next 10 years.



## Appendix

### Focus Group & Interview members

Barry Bock, RN	Director of Clinical Operations, Boston Health Care <i>for the Homeless Program</i>
Monica Bharel, MD	Chief Medical Officer, Boston Health Care <i>for the Homeless Program</i>
Sarah Ciambrone	Director of Respite Programs, Boston Health Care <i>for the Homeless Program</i>
Falah Hashem	Refugee and Immigrant Health Program, MA Department of Public Health
Leah Lovgren	Refugee Resettlement Coordinator, Catholic Charities of Boston
Ruth Palombo	Senior Health Policy Officer, Tufts Health Plan Foundation
Emily Shea	Commissioner, Boston Commission on Affairs of the Elderly
Joanne McMahan	Director of Development and Quality Assurance, Boston Senior Home Care
Mary DeRoo, RN	Director of Home and Community Programs, MA Executive Office of Elder Affairs
Mary Neagle, MSW	Project Manager, MGH Care Management Program
Susan Lange	Vice President of Youth Pathways, Commonwealth Corporation
Valeria Lowe-Barehmi	Principal, James P. Timilty Middle School
Muswi Willingham	Director of STEM, Boston Public Schools
Catherine Carney	Chief Academic Officer, East Boston High
Marty Martinez	Executive Director, Mass Mentoring Partnership
Liam Day	Director of Adolescent Health, Boston Public Health Commission