Mount Auburn Hospital

Community Health Needs Assessment

September 25th, 2015

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Introduction

Mount Auburn Hospital (MAH) is a regional teaching hospital of Harvard Medical School located in Cambridge, Massachusetts serving the citizens and communities of metropolitan Boston. Incorporated in 1871, MAH is a not-for-profit, charitable institution with a dual mission of providing clinically excellent care with compassion and teaching students of medicine and the health professions. The Hospital's motto "Excellence with Compassion" is proudly evident on each employee and physician identification badge as a clear and present reminder of these important commitments to patients.

The Hospital offers a broad spectrum of primary, secondary and tertiary services and programs both at the main campus in Cambridge and throughout the Hospital's service area. Mount Auburn provides comprehensive inpatient and outpatient medical, surgical, obstetrical, and psychiatric services and has specialized centers of care for bariatrics/weight management, cardiology and cardiac surgery, hematology/oncology, orthopedics/spine, neurology/neurosurgery, and vascular surgery.

Mount Auburn Hospital is the sole corporate member of Mount Auburn Professional Services, Inc. (MAPS), a physician and professional practice group employing physicians and mid-level providers in primary care, emergency medicine, obstetrics/gynecology/urogynecology, hospital and critical care medicine (hospitalists and intensivists) as well as multiple specialties. MAPS has 25 off-site locations including office buildings in Arlington, Belmont, Cambridge, Lexington, Medford, Somerville, Watertown, and Waltham.

Mount Auburn also operates a homecare and hospice agency. CareGroup Parmenter Home Care & Hospice offers among other services hospice, skilled nursing care, physical, occupational and speech language therapy and maternal child health care to patients and families in almost fifty cities and towns in Massachusetts. It also provides the following specialized programs: symptom management, telehealth, wound care and behavioral health.

Mount Auburn Hospital addresses the identified health needs in the community and provides community residents with a wide range of services consistent with our community health mission statement: *Mount Auburn Hospital is committed to improving the health and wellbeing of community members by collaborating with community partners to reduce barriers to health, increase prevention and/or self-management of chronic diseases and increase the early detection of illnesses.*

This community health needs assessment has been developed following both the Massachusetts Attorney General's and the Internal Revenue's 1.501 (r) guidelines. The latest formal community Health needs assessment was completed in July 2012 and was broadly shared with community organizations and individual members.

An advisory group of twenty two community members including those affiliated with public health departments, community based organizations, members of Community Health Network Area (CHNA) 17 and MAH staff helped to guide the assessment process and evaluate the data. Relevant quantitative and qualitative data from over 800 community members have been reviewed during this process.

The top health concerns identified by this assessment were: obesity and inactive living, poor self-management of chronic disease, mental health and substance abuse. Access to care and emergency preparedness were also identified as important concerns.

The information about these health concerns will guide the MAH Community Benefit implementation plan for three years. Priorities for the implementation plan will be developed by reviewing identified needs and the resources available to meet those needs. MAH recognizes that community benefit assessment and planning is ongoing and that this is a living document. MAH senior management and the Board of Trustees are committed to improving community health and will approve the final implementation plan.

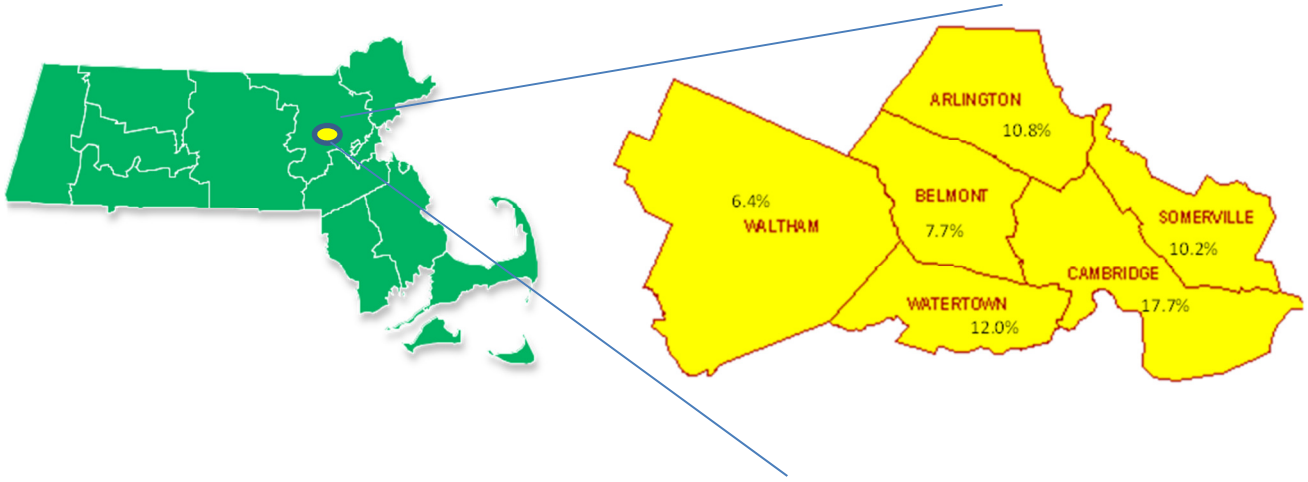
Community Health Needs Assessment

Full Report

I. Mount Auburn Hospital's Community Benefit Communities

MAH community benefits are aimed at serving *all* community members who live Arlington, Belmont, Cambridge, Somerville, Waltham, and Watertown. Special populations include community members served by Charles River (formerly Joseph M. Smith) Community Health Center (CRCHC) the closest federally qualified community health center and the students at Cristo Rey (formerly North Cambridge Catholic) High School. For the purpose of this report these communities will be refered to as MAH communities.

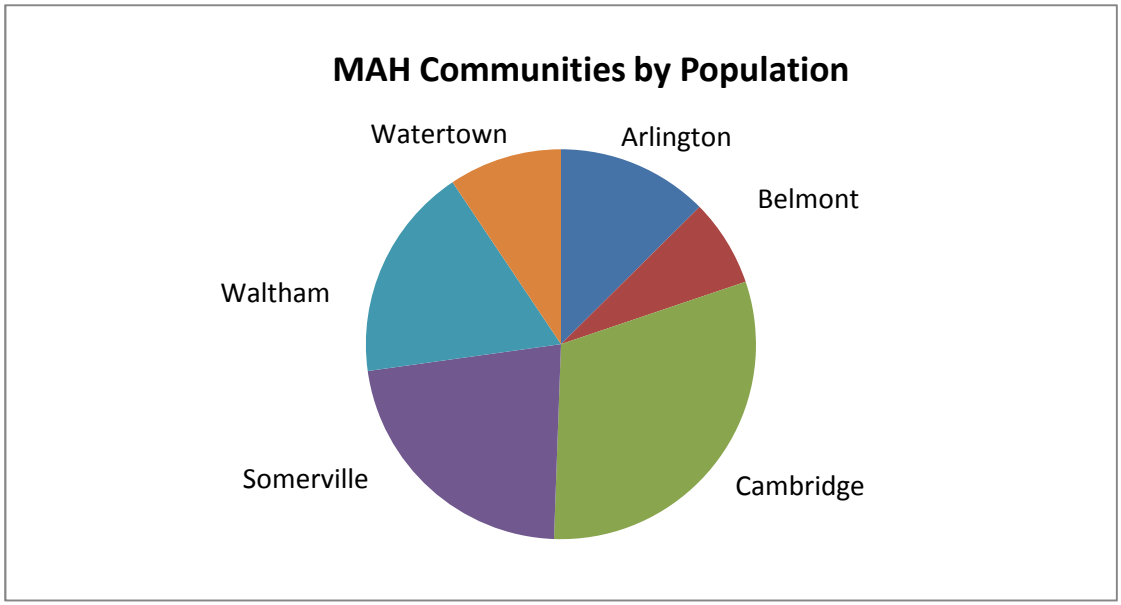
The decision of which cities and towns to include was made by reviewing MAH primary discharge data. Towns that represented more than 5% of MAH discharges were included and are depicted below.



A. Population Characteristics of MAH Communities

From the American Community Survey 2012 estimates:

Population Size:
Over 341,000 people live within the six cities and towns that comprise MAH communities. Collectively these six cities and towns represent 5.2% of the total Massachusetts population. According to the 2012 American Community Survey, Cambridge's population of 105,026 is the largest of the six cities and towns. The other population estimates are Somerville (75,974), Waltham (60,836), Arlington (42,952), Watertown (32,073) and Belmont (24,759).



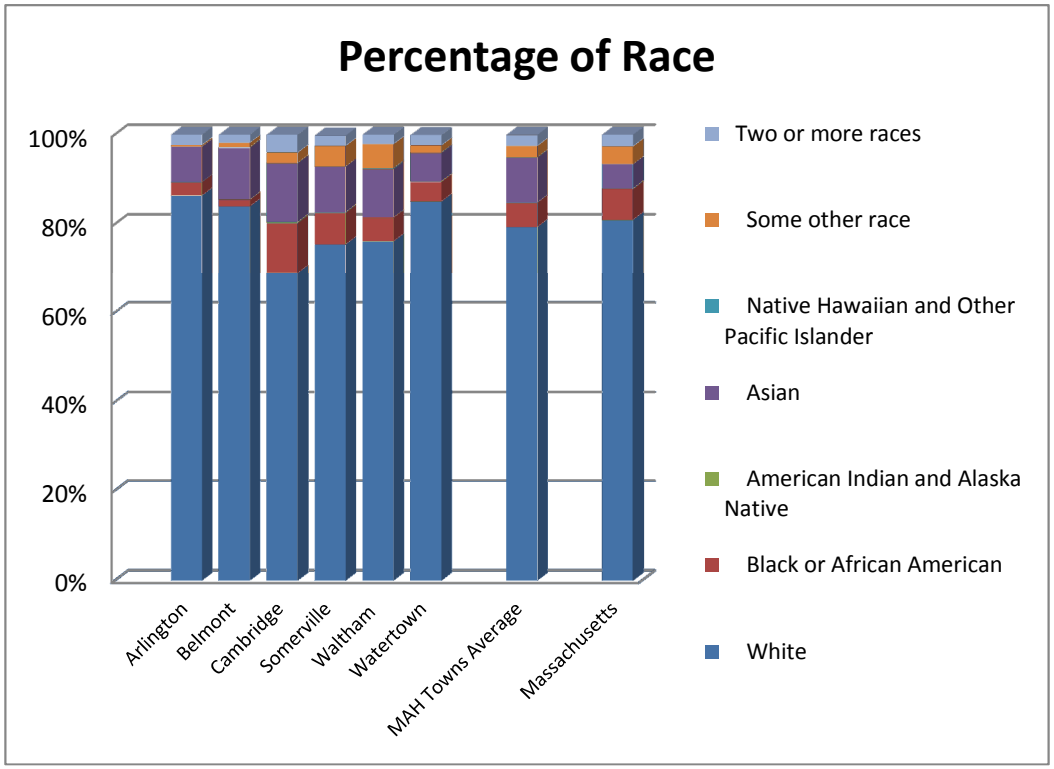
Age:
The percentage of population by age in MAH communities is similar to the state average with two exceptions:

- MAH communities have a lower percentage (4.9%) to MA (19.1%) among 5 to 19 year olds
- MAH communities have a higher percentage (43.3%) to MA (33.8%) among 20 to 44 year olds

MAH communities have an average 12.88% of the population age 65 years and older. Arlington (15.7%), Belmont (15.1%) and Watertown (15.2%) are all above the state average of 13.9%. The median age in Massachusetts is 39.1. Most MAH communities fall below that average.

Average Age			
Somerville	30.8	Massachusetts	39.1
Cambridge	31.0	Belmont	40.8
Waltham	33.7	Arlington	41.9
Watertown	38.8		

Diversity:
MAH communities are rich in diversity. Cambridge, Somerville and Waltham are all more racially diverse than the state averages.



Waltham's rate of 14.2% Hispanic or Latino is higher than the state average of 9.5%. All other MAH communities are lower than the state average.

Census data reveals the following about languages spoken. With the exception of Spanish, MAH communities have higher rates of "speaking a language other than English" than the state average.

	MAH Communities	Massachusetts
Speak a language other than English	**29%**	21.4%
Speak Spanish or Spanish Creole	6%	**7.7%**
Speak other Indo-European languages	**15%**	8.9%
Speak Asian and Pacific Island languages	**6%**	3.7%

Socio-economic Status:

There are many proxies for determining socio-economic status. The following information is from the American Community Survey 2010 5-year estimates. The MAH communities' average for <u>percentage of people whose income is below the poverty line</u> is 9.57%. While this is below the state average of 10.7%, three MAH communities, Cambridge, Somerville and Waltham all have percentages higher than the state.

All MAH communities have median household income in the past 12 months (in 2010 inflation-adjusted dollars) higher than the state average of $65,981 with the exception of Somerville and Cambridge. Somerville has the lowest average at $61,731; Belmont the highest at $95,197.

All MAH communities have higher percentages of individuals 25 years or older who have a bachelor's degree or higher than the state average of 22.1%. Cambridge is the highest at 72.10% and Waltham the lowest at 44.70%. In both of the indicators listed below none of the MAH communities are higher than the state average.

	MAH Communities	Massachusetts
Unemployed individuals in labor force, 16 years and over	3.77%	**5.50%**
Households with Foods Stamp/SNAP benefits in the past 12 months	3.92%	**9.5%**

CRCHC serves many vulnerable community members. A review of 2014 data reveals the following profile of CRCHC patients:

- Limited English Proficiency- 54% require interpreter services
- Below Federal Poverty Level-64% ≤ 100%, 93% ≤ 200%
- Insurance- 41% uninsured, 47% MassHealth/public
- Race/Ethnicity- 59% Hispanic, 9% Asian, 8% Black, 16.5% White Non-Hispanic, 7.5% Other

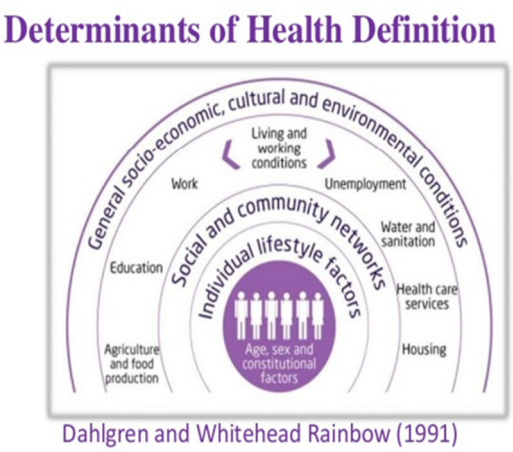
Cristo Rey also serves vulnerable community members. A review of the student profile shows that:

- 2% are Caucasian, 68% are Hispanic, and 33% are African American
- 85% qualify for free/reduced lunch
- 52% live below federal poverty guidelines
- The mean family income is $27,483.

II. The Community Health Needs Assessment Process

The assessment was carried out by MAH staff. This decision not to hire an outside organization was made after thoughtful internal review and based on two main criteria. First, MAH's community health staff, in particular the Regional Center for Healthy Communities department, had the skills required to conduct an assessment of this magnitude. Second, MAH recognized the added value of having MAH staff conduct interviews and lead group discussions. The personal connections that were made throughout the process increased understanding between community organizations and hospital staff. Once this decision was made approval from Mount Auburn Hospital's Institutional Review Board was sought and this assessment was approved as a quality improvement project.

Throughout the assessment process MAH made an effort to consider the World Health Organization's definition of health[1] as not only the physical health of the people who live in its communities but also as the spiritual, social, physical and emotional well-being of community members and the community as a whole. Implicit in this approach is an understanding that health is not determined solely by healthcare but also by the social determinants of health which include social supports, environmental opportunities, policies and norms of the community and by the underlying economic factors and well-being of where people live.



The process began by building an advisory group to provide input into the assessment process. Over 500 community members who work or live in MAH communities were invited to be part of this group. Although it was stressed that all levels of knowledge both lived and learned were valued special efforts were made to engage representatives from local departments of public health and Community Health Network Area (CHNA) 17. CHNA 17 is a coalition of public, non-profit and private sectors who meet to think together about how to make communities healthier and to share resources. Mount Auburn Hospital shares the same priority towns of Arlington, Belmont, Cambridge, Somerville, Waltham and Watertown as CHNA 17.

Advisory group members were given information about their role, a timeline for meetings and a description of the work that members would have to do during and between meetings. The final advisory group consisted of 22 members representing all six cities and towns. For a full list of advisory group members see Appendix 1).

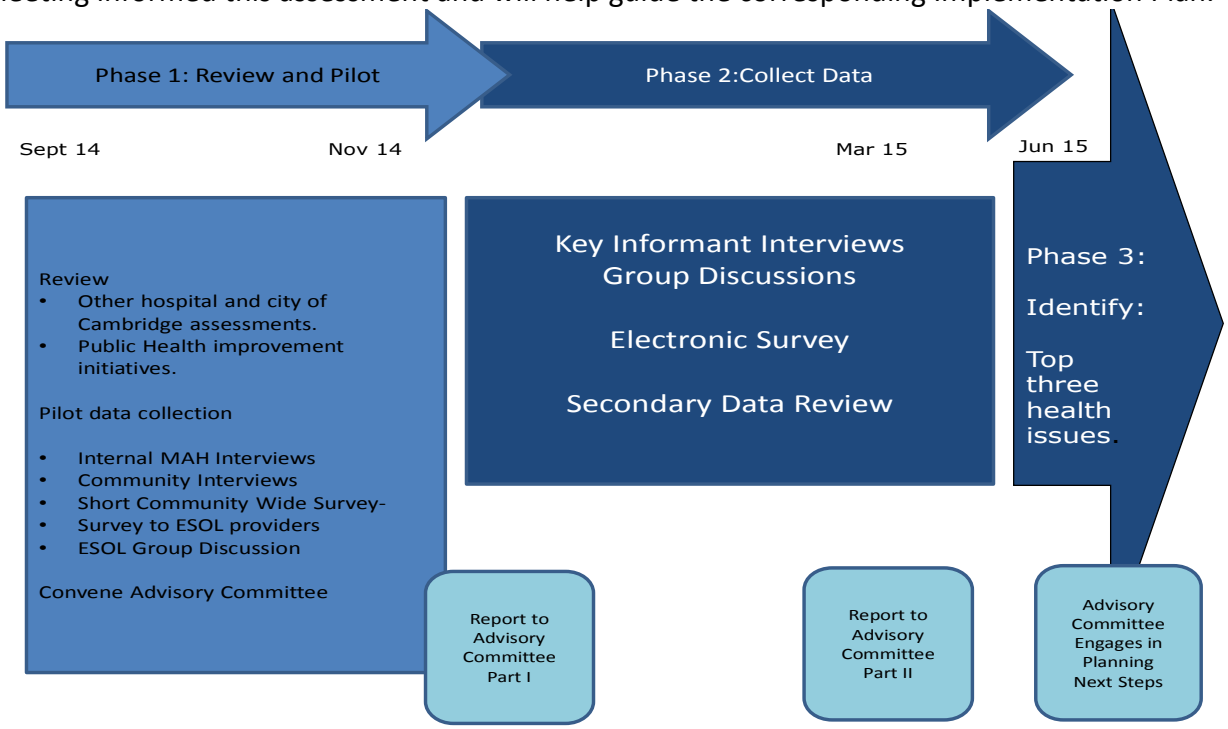
The roles and responsibilities of the advisory group were to:

- Learn about community assessment and help design the MAH's assessment process
- Participate in the assessment as appropriate-answer surveys, be part of interviews and attend meetings
- Help involve a broad and diverse group of residents and other stakeholders in this process

The assessment was conducted in three phases (see chart below). Phase 1 included a review of other assessments, a broad community survey and a pilot of assessment interview and group discussion instruments. Preliminary data garnered during this phase were presented to the advisory committee who finalized the assessment instruments and provided input for Phase 2. During Phase 2 a community wide survey, more interviews and a review of secondary data were conducted. The advisory group reviewed data and provided input to the third phase. The

[1] http://www.who.int/trade/glossary/story046/en/

third phase began by again inviting a broad base of the community to participate in a collaborative group sharing process utilizing the World Café methodology[2] . During this meeting community members articulated a deeper understand about the top health issues. Over 700 invitations were sent out to attend this half day meeting. Information from this meeting informed this assessment and will help guide the corresponding Implementation Plan.



The director of community health organized meetings of the assessment team, facilitated the discussions, captured decisions, shared the process with the larger membership, and connected the hospital administration to the process.

III. Data Collection

A. Guiding Principles

The goal was to collect quantitative and qualitative information from each of the six communities in order to create a profile of health concerns in the MAH communities. The following principles guided the data collection.

- **People in our communities see the identified health concern as a problem:** We asked community members what they saw as important issues, what was most relevant to their community members and their lives. A wide sample of community members in all six communities was asked two questions:

[2] http://www.theworldcafe.com/key-concepts-resources/world-cafe-method

- What concerns you most about your community today?
- What would make your community a better place to live?

The way these questions were presented and asked was crafted specifically to allow the answers to be broad and inclusive of the social determinants of health. The goal was not to bias people's thinking toward medical care or illness. A third question, "What is the one thing you would like to improve about your health?" elicited community members personal health concerns.

- **The identified health concern affects all six MAH communities:** Quantitative data about magnitude and incidence of problems were reviewed. The focus of this review was to identify common themes across the MAH communities. The advisory group chose to conduct key informant interviews of leaders from organizations that would be alike in each town. Departments of Public Health, which represent all populations, and Councils on Aging, which represent elders, were chosen. The group recognized that youth serving organizations were not uniform throughout each city and town and relied on a review of Youth Behavior Risk Survey information to represent that cohort.

  Throughout this process engaged community members were asked to think locally about health concerns and focus on data pertaining to the six communities.

- **Measurable and sustainable change can be made on the identified health concern in three years:** The members of the advisory group and other community members who participated were asked to use their collective knowledge to decide this. A review of evidenced based programs such as Healthy People 2020[3] and the Center for Disease Control's Winnable Battles[4] was shared with the advisory group and will be utilized during implementation planning.

- **There are resources related to the identified health concern upon which new activities can built:** The members of the advisory group and other community members who participated were asked to brainstorm together and create a list of community resources.

- **The identified health concern affects vulnerable populations:** It was decided that invitations to participate in the assessment would be as broad as possible. Everyone was welcome. Organizations who serve immigrant populations such as English Speakers of Other Languages (ESOL) and others who serve underserved populations were included. Throughout the process participants were asked to consider and prioritize the needs of vulnerable populations.

[3] http://www.healthypeople.gov/
[4] http://www.cdc.gov/winnablebattles/

These guiding principles were utilized throughout the data collection phase of the assessment.

B. Data Sources

The goal was to collect data from a variety of sources in order to define the main health concern and also articulate what that definition means to community members. Data came from four main sources.

1. Review of current MAH Community Benefit Programming

By reviewing the evaluation of the 2012 Implementation Plan (Appendix 2) and asking the opinions of key stakeholders, an evaluation of current MAH Community Benefit programming, including a recommendation of whether or not to consider continuing the program, was completed.

2. Quantitative Data: Reviewing Existing Secondary Data

To develop a quantitative health summary of MAH communities existing data was drawn from the following sources:

- Census, American Community Survey 2012
- City of Cambridge Assessment-2014
- Mass CHIP (Appendix 3)
- Massachusetts Department of Public Health Status of Childhood Weight in Massachusetts 2009-2011
- Mount Auburn Hospital Emergency Room Data (Appendix 4)
- Tufts Health Plan Foundation Healthy Aging Data Report 2015 (Appendix 5)
- Youth Behavior Risk Surveys Arlington (2013-2014), Belmont (2011-2012), Cambridge (2013-2014), Somerville (2013-2014), Waltham (2011-2012), and Watertown (2011-2012) (Appendix 6)

When possible data was reviewed for each individual city and town in the MAH communities; otherwise, it was reviewed at the county or CHNA level.

3. Qualitative Data: Interviews, Groups Conversations, Surveys and World Café

This assessment attempted to solicit broad input from all community members. Whenever possible MAH included needs of the vunerable populations and/or individuals or organizations serving or representing such populations. A review of the population

characteristics for all six towns helped the advisory group decide that special emphasis would be placed on elderly community members. They came to this conclusion for three reasons 1) elders represent the largest growing population of MAH patients, 2) three of MAH communities (Arlington, Belmont and Watertown) have elder populations higher than state average and 4) Councils on Aging were located in each town providing a similar base.

Qualitative data were collected from over 800 community members (Appendix 7) through the following methods:

a. Key Informant Interviews

A total of 25 interviews were conducted representing a range of sectors and hospital leadership with a focus on vulnerable populations. A representative from each Department of Public Health and Councils on Aging was interviewed. A semi-structured interview guide (Appendix 8) was used for all interviews which were approximately 60 minutes. The interviews explored the participants general perceptions of the town or populations served including strengths and areas of concern. Each participant was asked to first identify three top health concerns. For each concern, participants shared details about the topics, their visions for improvement and the barriers to realizing those visions. MAH took this opportunity to understand relationships between community organizations and with local hospitals including Mount Auburn (Appendix 9).

b. Groups Conversations

Seven group conversations were held. They were all aimed at hearing opinions of vulnerable populations (two were interpreted). Every effort was made to hold these discussions at times convenient for community members. Similar to the key informant interviews a semi-structured moderator's guide was used across all groups (Appendix 10). The group discussions explored how participant's described their community including strengths and weaknesses. Participants were asked to identify the most pressing health concerns in their communities and share their ideas to improve the health concern. On average the group conversations lasted 70 minutes and included five to six participants.

c. Surveys

Six different surveys were utilized to gather information.

i. Community Paper Survey

In order to gather preliminary information from a large section of the population a small paper survey was administered at multiple public venues. Two hundred and twelve community members representing all six MAH communities were asked three questions:

- What concerns you most about your town?
- What would make your town a better place to live?
- What is the one thing you would like to improve about your health?

These early results informed the advisory group's decisions in Phase I.

ii. English as a Second Language Provider Survey

An electronic survey (Appendix 11) was sent to the four English Speakers of Other Language providers in the area-Project Literacy in Watertown, Cambridge Learning Center in Cambridge, Waltham Family School in Waltham and Somerville Center for Adult Learning in Somerville. The staff was asked to share their insights into the health needs of immigrants. Eighteen staff completed this survey.

iii. Collaborations with others conducting surveys

Throughout this process MAH identified three opportunities to collaborate with others who were surveying community members. MAH Community Health provided insight and in some cases technical assistance to the following surveys. The results were reviewed along with other data for this assessment.

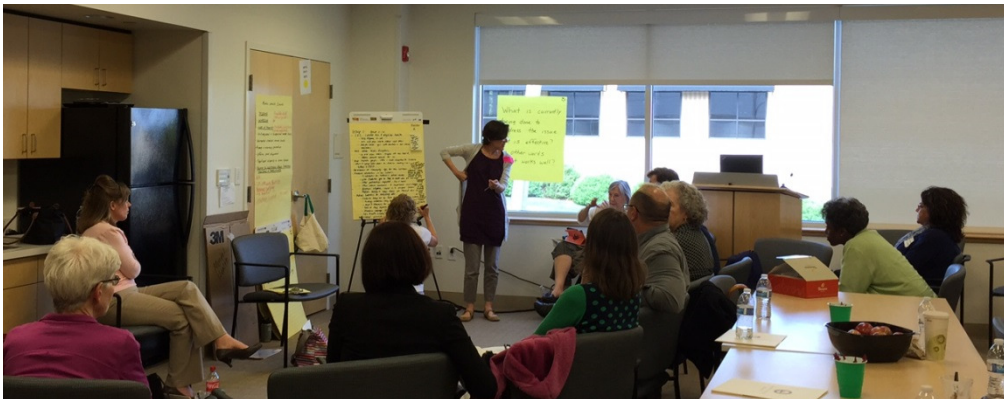
- CHNA 17 Youth Summit Participants, n=180
- Healthy Waltham High School Survey, n=89
- Community Day Center of Waltham Homeless Survey, n=100

iv. Community Electronic Survey

A subcommittee of the advisory group designed an electronic survey that was based on early data. The survey was sent to over 1,000 community members. CHNA 17 shared this survey with their email list of nearly 400. Other community organizations including those in the Advisory group were asked to share broadly. Two hundred and ninety one community members shared their top health concerns, their opinions about availability and access to health services and their interest in possible health programming (Appendix 12).

d. World Café

After initial analysis of the above data sources was completed the results were presented to the advisory group. With the advisory group consensus MAH engaged community members to further define the top health concerns. Forty three community members met for half a day (see photo below) and for each health topic they finalized a definition, explored the underlying causes, shared what is currently being done and suggested what could be done in the next three years.



4. Written comments solicited on the 2012 Assesment and Implementation Plan

As required, the 2012 Community Health Needs Assessment and corresponding Implementation Plan were posted on the MAH website and made available in hard copy. Both reports were also shared with Community Health Network Area 17. Community members were encouraged to share their thoughts, concerns or questions.

C. Data Analyses

The qualitative information gathered was manually coded and then analyzed for main categories and sub-themes. At each advisory group meeting data analysis updates were shared (Appendix 13). There were some town/city differences noted. However, the analysis was focused on finding common themes across all MAH communities.

D. Data Limitations

As with any project of this scope there are several limitations. First, this was not conducted as research, rather as a quality improvement project for the Mount Auburn Hospital Community Health department and should be viewed in that light. The data sources were collected at different points in time and, although they were the most recent available at the time, do not represent any one point in time. Data from interviews, group conversations and survey self-reports were possibly subject to bias.

IV. Key Findings

A. Needs identified during a review of current MAH Community Benefit Programming

Many of the current MAH community benefit programs were evaluated to be both effective and valued by community partners (Appendix 2). Specific community programs are listed under key findings where the need for these programs was reinforced during this assessment. Final decisions about community benefit activities will be made in the Implementation Plan.

B. Needs Identified During Quantitative and Qualitative Data Review

The same guiding principles described on page 13 were applied as criterion to review the data. They were:

- People in our communities see the identified health concern as a problem
- The identified health concern affects all six MAH communities
- There are resources related to the identified health concern upon which new activities can built
- The identified health concern affects vulnerable populations

A fifth criterion, whether measurable and sustainable change can be made on the identified health concern in three years, will be utilized during the design of the Implementation Plan.

The following provides an overview of the key findings that emerged from this assessment.

1. Top Four Health Concerns Identified

There was a clear consensus on the top three health concerns: obesity and inactive living, poor self-management of chronic disease and mental health issues. Although community members originally included substance abuse, homelessness and domestic violence under the umbrella of mental health issues it was quickly apparent that substance abuse is a current community health crisis and should be delineated as its own category.

In addition to identifying the top health concerns, community members also stressed the following common themes:

- There is synergy among all three health concerns.
- There is a need to align current activities addressing each health concern.
- There is a need for communication between organizations doing similar work including resource sharing.
- There are likely disparities among community members who have language and cultural barriers and are of lower socio-economic status.

A review of the top health concerns follows. It includes how the community members saw the concern and what the related data showed. How community members saw the concern was determined by reviewing notes from key informant interviews, group conversations and comments in the electronic survey. A draft of each definition was shared at the large community meeting where it was finalized. What related data showed was reviewed by the advisory group and MAH community benefit staff.

Current resources addressing the identified health concerns and related MAH community benefit programs are reviewed in Appendix 14.

a. Obesity and Inactive Living

"We haven't been able to normalize promoting healthy eating and active living to help people." World Café participant

How the community members saw the concern. Most community members prioritized engaging in healthy lifestyles as a health concern. Specific goals mentioned included increasing eating healthy foods, losing weight and increasing physical activity. Access to healthy foods was noted as a community wide concern particularly for vulnerable populations. CRCHC community health staff expressed the necessity of food drives to support their neediest patients.

Community members noted a tie between obesity/ inactive living and stress in addition to mental health and chronic disease. They felt an individual's lack of finances and social isolation can both play a role and that there was a degree of misunderstanding about the prevention and the science of obesity.

What related data shows:

- Although MAH communities score high 72-98 on Walkability Score (0-100) www.walkscore.com, having better places to walk was a common theme in the qualitative data. Twenty seven percent of the electronic survey participants wanted help to lose weight, thirty two percent wanted help to exercise more. Forty one percent of the paper survey participants wanted more active living "better sidewalks", and "more green space to walk and exercise" were common responses. Forty four percent of the paper survey participants wanted to lose weight and/or exercise more.

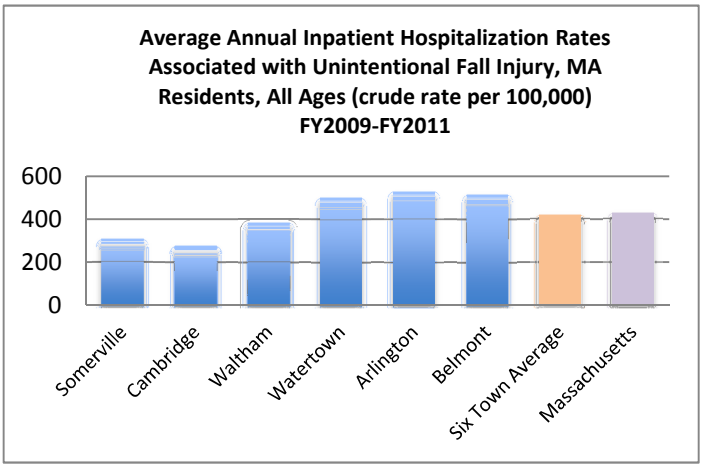
- Mass DPH Status of Childhood Weight in Massachusetts 2009-2011 shows that four MAH communities-Cambridge (19.5%), Somerville (24.3%), Waltham (21%) and Watertown (17.6%) all have higher rates of obese students than the state average of 16.3%.

- The chart below is a summary of relevant Mass CHIP data represented in Quintiles. There is a wide range for MAH communities. For some indicators they score well and for others poorly. The data also shows variation between individual towns. For example Cambridge and Belmont have the highest quantile of adults eating five or more fruits and vegetables daily while Somerville, Waltham and Watertown are all in the lower 2nd quintile.

City/town	QUINTILES: Three years average prevalence of adult eating 5 or more fruits and vegetables in MA (CY2005, 2007, 2009)	QUINTILES: Three years average prevalence of overweight or obese among adults in MA (CY2009 -2011)	QUINTILES: Three years average prevalence of obesity among adults in MA (CY2008 - 2010)	QUINTILES: Five years average prevalence of lack of physical activity among adults in MA (CY2001, 2003, 2005, 2007, 2009)
Arlington	4	2	2	**4**
Belmont	**5**	**1**	**1**	**1**
Cambridge	**5**	**1**	**1**	**1**
Somerville	2	**1**	**4**	**4**
Waltham	2	2	3	**4**
Watertown	2	**1**	**4**	**4**
MAH Average	3.2	1.3	2.5	3

- The City of Cambridge Health Assessment May 2014[5] notes that "although data shows that weight is trending downward among Cambridge public school children, there continues to be disproportionately higher rates of obesity among minority and lower income youth."

- With the exception of Cambridge all MAH communities are higher than the state average (3.9%) of having a hip fracture. Half of MAH communities (Arlington, Belmont and Watertown), have higher rates of unintentional fall injuries resulting in hospitalizations.



- A review of the most recently available YRBS data showed that MAH communities scored:
  - Better (53%) on having exercised or participated in physical activity for at least 20 minutes 3 times in a week when compared to the state average of 44%.
  - Worse (36%) on two or more hours on a school night sitting in front of a TV screen when compared to the state average of 25%.

[5] 2014 City of Cambridge Community Health Assessment
http://www.cambridgepublichealth.org/publications/FinalCambridgeCHAreport(2).pdf

YRBS Subsection	State	Arlington	Belmont	Cambridge	Somerville	Waltham	Watertown	MAH Community Benefit Area Average Score
Having exercised or participated in physical activity for at least 20 minutes; 3x in the week prior to the survey	44%	55%	71%	47%	40%	61%	45%	53%
2 or more hours on school night in front of a TV screen	25%	42%	12%	74%		30%	24%	36%

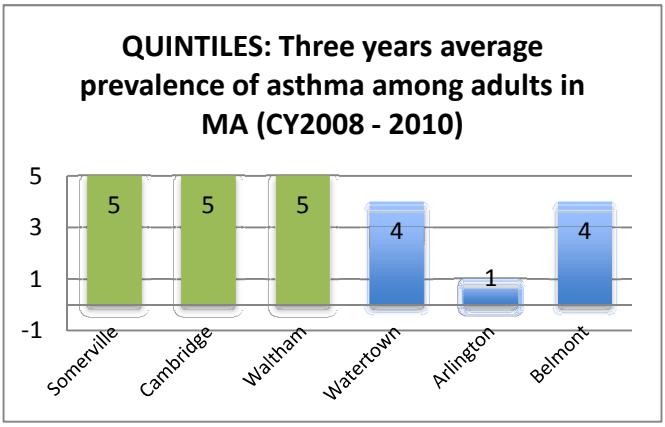
b. Poor Self-Management of Chronic Disease

"Self-care is critical. Whether or not a patient/family understands discharge instructions or not, how to fill prescriptions or not, how to take medications or/not can mean ending up in hospital." Key Informant Interviewee

How the community members saw the concern. A lack of community members understanding of how to manage (and prevent) chronic disease was expressed by both clinicians and lay community members. There was a concern that people are not living at their best because of chronic disease burden and that they are experiencing a poor quality of life. Clinicians and community members both identified limited self-advocacy and self-empowerment skills as a concern for those with chronic diseases. Relationships between physicians and patients and hospital systems and patients need improvement. There is a need for better case management and more effective handoffs. Denial, hopelessness, acceptance (passivity) all play a role in poor self- management of chronic disease. Throughout the community there is a lack of experience dealing with chronic disease, a lack of information about chronic disease and an expectation that chronic disease cannot be managed.

What related data shows. Thirty six percent of electronic survey participants responded that they wanted help in managing a chronic disease. There are some specific areas were MAH communities are higher than the state's in chronic disease indicators.

- Asthma hospitalization of children 0-9 in Arlington and Cambridge are worse than the state average. Cambridge, Somerville and Waltham are in the 5th quintile for adult asthma rates.



- Breast Cancer incidence is higher in Arlington, Belmont and Waltham. Breast Cancer death rates are higher in Arlington, Belmont and Cambridge.

	Arlington	Belmont	Cambridge	Somerville	Waltham	Watertown
Total Breast Cancer Incidence	**220**	**121**	**315**	**200**	**228**	**124**
Area Age-Adjusted Rate	*152.8*	*151.2*	134.9	109	136.6	113.2
State Age-adjusted Rate	*134.5*	*134.5*	134.5	134.5	134.5	134.5
Breast Cancer Deaths	**20**	**15**	**33**	**16**	**21**	**13**
Area Age-Adjusted Rate	*21.1*	*26.7*	23.5	14.4	18.6	16.6
State Age-adjusted Rate	*20.8*	*20.8*	20.8	20.8	20.8	20.8
Breast Cancer Hospitalizations	**30**	**17**	**37**	**29**	**33**	**20**
Area Age-Adjusted Rate	*35.3*	*37*	26.2	27	33.3	33.4
State Age-adjusted Rate	*39.7*	*39.7*	39.7	39.7	39.7	39.7

- Colorectal cancer incidence rates are higher for females in Arlington, Belmont, Somerville and Waltham. Death rates are higher for females in Cambridge, Somerville and Waltham and males in Watertown.

	Arlington		Belmont		Cambridge		Somerville		Waltham		Watertown	
	F	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**
Colon/Rectum Cancer Incidence-Area 5 year Count	**82**	**59**	**42**	**31**	**93**	**95**	**85**	**68**	**85**	**55**	**47**	**35**
Area Age-Adjusted Rate	46.5	53.7	45	46.3	38.3	55	43	50.3	44.9	42	33.3	44.4
State Age-adjusted Rate	42.5	57.1	42.5	57.1	42.5	57.1	42.5	57.1	42.5	57.1	42.5	57.1
Colon/Rectum Cancer Deaths	**15**	**6**	**5**	**3**	**20**	**10**	**17**	**12**	**18**	**7**	**6**	**11**
Area Age-Adjusted Rate	13.1	9	9.3	7.4	13.6	9	14.4	16.8	14.3	9.1	5.9	22.3
State Age-adjusted Rate	13.1	18	13.1	18	13.1	18	13.1	18	13.1	18	13.1	18

- Bronchus and lung cancer rates for incidence are higher for males in Somerville and Waltham. Deaths are higher for females and males in Somerville as well as females in Waltham. Both females and males in Somerville and Waltham and females in Waltham all have higher rates of hospitalization.

	Arlington		Belmont		Cambridge		Somerville		Waltham		Watertown	
	F	M	F	M	F	M	F	M	F	M	F	M
Total Bronchus & Lung Cancer Incidence	**78**	**73**	**36**	**31**	**103**	**112**	**109**	**127**	**96**	**115**	**73**	**61**
Area Age-Adjusted Rate	47.6	67.2	41.6	45.4	44.5	69.8	59.4	97.4	54.5	85.3	60.4	74
State Age-Adjusted Rate	65.1	83	65.1	83	65.1	83	65.1	83	65.1	83	65.1	83
Bronchus & Lung Cancer Deaths	**41**	**29**	**12**	**15**	**41**	**29**	**54**	**49**	**47**	**45**	**31**	**26**
Area Age-Adjusted Rate	37.4	44.1	23.1	35.2	37.4	44.1	50.2	68.8	42.9	57.3	41.2	52.3
State Age-Adjusted Rate	41.3	58.8	41.3	58.8	41.3	58.8	41.3	58.8	41.3	58.8	41.3	58.8
	Arlington		**Belmont**		**Cambridge**		**Somerville**		**Waltham**		**Watertown**	
Bronchus & Lung Cancer Hospitalization Rates	**38**	**37**	**16**	**13**	**50**	**51**	**65**	**58**	**62**	**54**	**39**	**19**
Area Age-Adjusted Rate	40.4	57.5	31.5	29.5	35.8	51	59	74.5	60.7	68.1	57	37.8
State Age-Adjusted Rate	47.3	57.5	47.3	57.5	47.3	57.5	47.3	57.5	47.3	57.5	47.3	57.8

- The data below is for Arlington, Belmont, Cambridge, Somerville and Watertown. (It does not include Waltham.) For females there is a higher rate of larynx and trachea, lung and bronchus cancer than the state. For males, there is a higher rate of larynx cancer than the state.

Deaths for Causes where Smokers Age 35 plus Are At Least Ten Times More Likely to Die Than Non-Smokers 2010 ICD 10	# Deaths	Age Adjusted Rate	SMR
Larynx Cancer (ICD-10 C32)			
Total	2	0.9	69.2
Male	1	1.1	48.5
Female	1	0.8	127.5
Trachea, Lung, Bronchus Cancer (ICD-10 C33-C34)			
Total	118	43	94
Male	44	42	71.2
Female	74	45.6	117

- In order to assess if patients were presenting at advanced stages (which may be an indication that community members are not getting cancer screenings) a review of breast and colorectal stage at diagnosis from the MAH cancer registry data was completed for the time period 2010 to 2012.

The chart below illustrates that for breast cancer, Mount Auburn Hospital was below national average for stages II, III and IV.

2010 - 2012 Breast Cancer by Stage MAH vs National

Stage	MAH-10	National-10	MAH-11	National-11	MAH-12	National-12
0	20%	21%	38%	20%	28%	21%
I	48%	40%	40%	41%	48%	42%
II	22%	24%	13%	24%	15%	24%
III	5%	9%	3%	8%	2%	8%
IV	1%	4%	3%	4%	3%	4%
UNK	4%	3%	2%	2%	4%	2%

The chart below illustrates that for colorectal cancer, Mount Auburn Hospital was consistently at least three times the national average for Stage 0, below the national average for stage IV. In FY11 both Stage II and III were above the national average. That trend was changed by FY12 with Stage III equal to national average and Stage II less than the national average.

	2010 - 2012 Colorectal Cancer by Stage MAH vs National					
Stage	MAH-10	National-10	MAH-11	National-11	MAH-12	National-12
0	23%	6%	21%	6%	23%	6%
I	26%	20%	4%	20%	8%	20%
II	20%	24%	29%	24%	21%	25%
III	11%	24%	29%	25%	25%	25%
IV	17%	19%	17%	19%	10%	19%
UNK	3%	7%	0%	6%	12%	6%

- All MAH communities have at least one healthy aging indicator from the Massachusetts Healthy Aging Data Report[6] that is worse than the state average:

	Arlington	Belmont	Cambridge	Somerville	Waltham	Watertown	MAH Town	State
% ever had a heart attack	5.00%	3.40%	3.50%	4.90%	4.90%	5.70%	4.57%	5.00%
% with ischemic heart disease	43.90%	42.00%	38.60%	46.80%	45.50%	46.30%	43.85%	44.10 %
% with congestive heart failure	23.40%	21.60%	20.70%	28.80%	24.20%	25.20%	23.98%	24.80 %
% with atrial fibrillation	16.40%	15.10%	14.20%	15.40%	15.30%	15.90%	15.38%	16.10 %
% with osteoarthritis/rheumatoid arthritis	49.30%	48.90%	46.90%	46.90%	50.10%	50.00%	48.68%	50.20 %
% with osteoporosis	23.50%	22.80%	20.30%	21.90%	21.80%	21.80%	**22.02 %**	21.70 %
% with glaucoma	27.80%	25.90%	25.50%	25.60%	26.20%	25.50%	**26.08 %**	25.10 %
% with cataract	64.90%	65.50%	62.40%	60.40%	65.30%	67.30%	64.30%	65.70 %
% women with breast cancer	11.80%	12.40%	11.20%	9.70%	10.80%	12.10%	**11.33 %**	10.30 %
% with colon cancer	3.40%	3.90%	2.80%	3.60%	3.10%	3.30%	3.35%	3.30%
% men with prostate cancer	13.30%	12.50%	15.20%	12.30%	14.20%	16.20%	13.95%	14.60 %
% with lung cancer	1.90%	2.30%	1.90%	1.80%	2.10%	1.70%	1.95%	2.10%
% with anemia	48.30%	49.10%	48.50%	51.40%	52.30%	54.80%	**50.73 %**	48.70 %
% with benign prostatic hyperplasia	38.60%	41.30%	36.90%	34.70%	43.80%	42.80%	39.68%	40.90 %
% with chronic kidney disease	19.80%	16.70%	18.90%	23.80%	20.30%	21.90%	20.23%	22.20 %

c. Mental Health Issues

"*We need to bring visibility to mental health, increase socialization and offer easily accessible programs." Key Informant Interviewee*

How the community members saw the concern. This category includes undiagnosed and diagnosed mental illness as well as untreated and treated mental

[6] https://mahealthyagingcollaborative.org/data-report/explore-the-profiles

illness. Since community members understood that homelessness and domestic violence are related to mental illness they are included in this category. The need to address and reduce the stigma was seen as a priority as was an increase in primary and secondary prevention resources. Hoarding and perpetual caregiving were noted as significant problems. There are close links between mental health and physical health and between mental health and the social determents of poverty and homelessness. Also contributing to poor mental health are isolation, a lack of connectives, and a lack of social supports.

What related data shows: The chart below is a summary of relevant Mass CHIP data represented in quintiles. Cambridge and Somerville are in the highest quintile for prevalence of symptoms of depression in the past two weeks among adults. Somerville is in the highest quintile for prevalence of poor mental health (<15 days poor mental health) among adults, while Arlington, Cambridge and Waltham are in the second highest quintile.

	QUINTILES: Three years average prevalence of symptoms of depression in past two weeks by PHQ-8 among adults in MA (CY2006, 2008, 2010)	**QUINTILES: Five years average prevalence of poor mental health (>15 days poor mental health) among adults in MA (CY 2007, 2008, 2009, 2010, 2011)**
Arlington	3	4
Belmont	4	2
Cambridge	**5**	4
Somerville	**5**	**5**
Waltham	3	4
Watertown	4	2
MAH Average	4	3.5

- Watertown has a higher percentage of elders with Alzheimer's disease or related dementias (15.3%) than the state (14.4%).

- Cambridge (32.4%), Somerville (31.5%) and Watertown (31.6%) all have higher percentages of people who reported ever being diagnosed with depression compared to state (28.6%). Cambridge (77.4%) and Somerville (77.4%) both have lower rates of receiving adequate emotional support than the state (80.7%).

	Arlington	Belmont	Cambridge	Somerville	Waltham	Watertown	MAH Average	State
% receiving adequate emotional support	83.00%	81.30%	77.40%	77.40%	81.30%	81.30%	80.28%	80.7%
% ever diagnosed with depression	28.10%	28.10%	32.40%	31.50%	27.70%	31.60%	29.9%	28.6%

- A review of the most recent Youth Risk Behavior Surveys shows that the state average of students who reported attempting suicide was 6% while the MAH communities' average was 8%. Waltham was an outlier at 15 %.

- Twenty eight percent of the electronic survey participants wanted help in reducing stress. Fifty three percent of the Waltham homeless surveyed self-reported that they had mental health or behavioral health problems.

- Because domestic violence is often underreported accurate statistics are not readily available. In 2013 MAH worked with CHNA 17 to conduct focus groups about Crime and Safety which included domestic violence. The incidences of domestic violence were shared in CHNA 17's Crime and Safety Report[7]. Reported incidences in 2012 were Arlington (302), Belmont (413), Cambridge (965) and Watertown (407). Reported arrests in 2011 were Somerville (81) and Waltham (272).

d. Substance Abuse

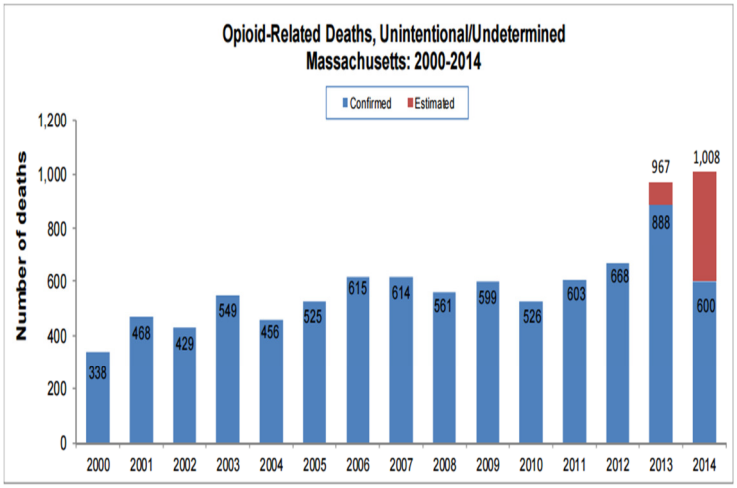
"There are only three cities or towns that have access to clean needle programs in the state. There is a huge stigma about substance abuse. People look down when they think about substance abuse." Group Conversation Participant

How the community members saw the concern: Use of alcohol, illegal drugs and prescription medications are all problems. Tobacco is a related issue although community members recommended that it be considered separately. The interconnectedness of substance abuse to mental illness, homelessness and domestic violence was often mentioned. Currently there is an opioid overdose crisis that requires immediate intervention. Stigma and the belief that substance abuse is not an illness are impediments to prevention and treatment. There is a significant lack of available treatment, detox and follow up resources for

[7] http://www.chna17.org/home/documents

community members. Loved ones of someone who is ready to quit are frustrated because there are no treatment beds available.

What related data shows: When this assessment began in September 2014 substance abuse and overdoses were significant public health concerns. At the completion of this assessment in the summer of 2015, MAH communities are experiencing opioid overdoses in unprecedented numbers. Information reviewed at the beginning of this assessment from the MA Department of Public Health and the CDC is now considered obsolete. "Every shift I work I see at least one overdose. Sadly I can see that same patient more than once in a 12 hour shift stated an MAH Emergency Room physician. According to the CDC opiate poisoning fatalities, or overdoses, are the number one cause of injury-related fatalities in the U.S. In the Massachusetts Department of Public Health April 2015 Data Brief Fatal Opioid-related Overdoses among MA Residents[8], Middlesex County had the most total overdoses from 2000-2014 (1620) and the most overdoses in 2014 (212). The following chart is from the MA Department of Public Health.[9]



- Arlington reports that as of July 1, 2015 the number of opiate overdoses has already surpassed the number of opiate overdoses in all of 2014.

- Additionally, all MAH communities have higher percentages of people who report excessive drinking (Arlington 10.4%, Belmont 10.2%, Cambridge 14.1%, Waltham 10.2%, Watertown 10.2%) than the state (9.2%).

- According to the MASSCHIP, in CHNA 17 (Arlington, Belmont, Cambridge, Somerville and Watertown) there were 2340 admissions and 1081 inject drug use admissions to DPH funded treatment programs in 2011. In 2009 there

[8] http://www.mass.gov/eohhs/docs/dph/quality/drugcontrol/county-level-pmp/data-brief-apr-2015-overdose-county.pdf
[9] http://www.mass.gov/eohhs/docs/dph/injury-surveillance/overdose/fatal-opioid-overdoses-2000-2013.pdf

were 909 alcohol and other drug related hospital discharges in these MAH communities.

2. Access to Health Care Services

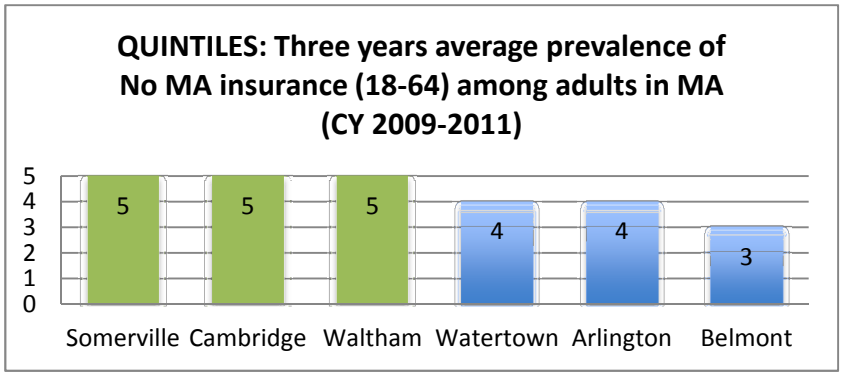
In addition to identifying health concerns community members were asked to describe barriers to health and health care. Mentioned throughout the assessment were concerns about access to services especially for vulnerable populations. Community members expressed the most dissatisfaction with counseling or mental health services and alcohol or drug treatment services.

The following information is from the electronic survey:

- 43% of participants rated health appointments after 5p and 41% rated weekend health appointments as either *very important or extremely important*.
- For participants who were not able to see a health care provider in the past 12 months, 68.6% reported it was because they couldn't get an appointment.

Access issues were often mentioned with insurance issues. Insurance issues were described as particularly challenging for recent immigrants. Financial counselors who could help navigate the enrollment system were found to be very helpful. Representatives from Councils on Aging often mentioned a concern for the clients who are not able to afford copays for services. Eleven percent of the electronic survey participants reported that they did not see a provider because the copay or other cost was too high.

This chart is from Mass CHIP data 2009-2011. Under the Affordable Care Act improvements in the rate of uninsured community members have been made. However, vulnerable populations continue to have access and insurance concerns.



CRCHC is truly the only affordable health care facility in the Allston-Brighton neighborhood of Boston and in Waltham. Almost half (49%) of CRCHC patients and their families are uninsured, and 94% are low income. Recent studies show that the majority of primary care providers in CRCHC's service area are not accepting new patients, and of those who do, 50% do not accept Mass Health insurance. Less than 5% accept uninsured patients. CRCHC aims to meet this urgent need for health care and fill the rapidly growing gap left in our own community.

CRCHC has seen a dramatic increase in low-income community members accessing care at the health center in recent years. 63% of CRCHC patients fall at or below 100% of the federal poverty line and 93% fall at or below 200% of the federal poverty line.

The following needs were identified during interviews and group discussion with JSMCHC staff.

- Assistance with enrollment in health insurance.
- Fifty percent of CRCHC patients receive mammography from the Dana Farber Cancer Institute Blum Van. Many of the remaining women may prefer to go Mount Auburn Hospital for convenience.
- Patients who have breast cancer screening and then transfer their care to another facility need a release of information signed in order to have Mount Auburn Hospital information sent elsewhere. An improvement in this process could potentially reduce delays in care.
- Direct admit to colonoscopy screening for LEP patients. Currently there are two appointments for each LEP patient who has a colonoscopy. First, the patient has an appointment at CRCHC to review the prep and screenings and the second appointment for the actual colonoscopy. If the patient is not scheduled as a direct admission and needs to meet with the gastroenterologist at third appointment before the colonoscopy, it adds an additional appointment and reduces compliance. A way to minimize this additional appointment would be desirable.
- Better communication of need for interpretation on referral forms. Currently the referral forms do not print the Language field automatically. Some patients are scheduled without a plan for interpretation.
- For perinatal women:
    - Reduce the percentage of women who enter prenatal care after 14 weeks
    - Provide prenatal group support
    - Provide labor coaches-Doulas-for isolated women
    - Develop a system between Mount Auburn Hospital and CRCHC that connects prenatal women with the following services as needed:
        - Behavioral/ Mental Health counseling
        - Gestational diabetes education
        - Family planning education
    - For prenatal women doing physically demanding jobs provide abdominal binders and support stockings

Transportation was also tied to access issues.

> *"Transportation always needs to be on a Needs List. We never have enough. It is very important to address social/cultural transportation- not just medical and groceries and shopping. It needs to be looked at holistically." Key Informant Interviewee*

Mount Auburn Hospital staff mentioned concerns about transportation to and from appointments. All the Councils on Aging reported being able to provide some

transportation services but would welcome enhanced or augmented services. Electronic survey participants listed *very important or extremely important* for public transportation to appointments (43%), on street parking for health appointments (42%), and low cost parking for health appointments (68%).

Another access issue mentioned was language barriers.

"*I cannot understand the doctor's office when they call. I usually ask them to call back and leave a message. Then I either listen to the message over and over to try to understand it. If I am lucky I can find someone who speaks English to listen to the message for me." Group Conversation Participant via Spanish Medical Interpreter*

Limited English Proficient community members and clinicians both stressed the importance of interpreter services in order to effectively communicate. Most preferred working with a trained medical interpreter over utilizing their family or friends. Some did express concern about confidentiality issues. In the electronic community survey 24% of participants stated that having an interpreter during health appointments was important. Only six percent did not see a provider because of language barriers.

The following chart is from the 2014 MA Department of Education First Language Not English data[10] for MAH communities. The total enrollment was 28,389. Spanish is the most commonly represented language, followed by Portuguese then Haitian Creole.

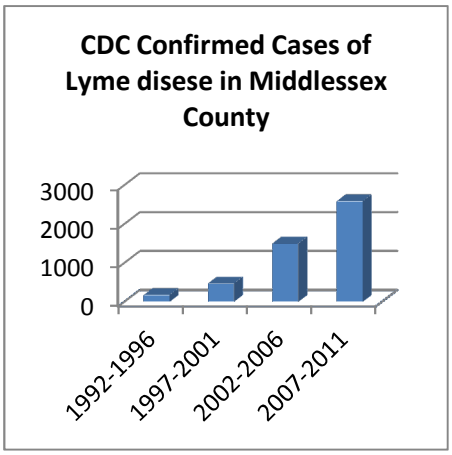
Language	% of total students enrolled	#		Language	% of total students enrolled	#
Arabic	1.06%	302		Japanese	0.40%	116
Armenian	0.77%	221		Korean	0.58%	167
Cantonese	0.14%	40		Mandarin	0.23%	68
C. Verdean	0.10%	31		Nepali	0.65%	185
Chinese	1.60%	479		Portuguese	3.00%	853
Farsi	0.10%	29		Punjabi	0.33%	96
Greek	0.32%	91		Russian	0.55%	158
H. Creole	2.36%	672		Spanish	11.30%	3233
Italian	0.19%	55		Turkish	0.17%	49

3. Broad Public Health Concerns

"More than anything, we need to bring silos together," said a World Café participant.

[10] http://profiles.doe.mass.edu/help/data.aspx

Throughout the assessment themes of needing to be more connected were common. In particular there was a need to have better connections with hospitals and local departments of public health. During the World Café many discussions highlighted the need to share resources between organizations doing similar work.



There is a need for MAH to be connected to public health issues such as Safe Babies/Safe Kids[11], flu immunization, and the rising rates of Lyme disease (see chart for CDC confirmed cases[12]) and the recent Ebola crisis. Participation in emergency preparedness was seen as an essential function of the hospital. Additionally, support from MAH emergency room physicians to local police, fire and ambulance staff was highly valued.

Workforce development, particularly for underserved community members was also mentioned. ESOL providers were interested in relaying information about health career paths and tips for applying for jobs to students. A Cristo Rey representative stressed the value of the Corporate Work Study Programs that allows students to *earn* their tuition while being exposed to possible health care career paths.

CHNA 17 membership has requested opportunities to further explore racial justice and offer opportunities to learn about practices and policies that address racism within communities and organizations in meaningful and sustainable ways. MAH Diversity Committee is also exploring this topic.

C. Written Comments Received on the 2012 Assesment and Implementation Plan

The only feedback received was from university students who were looking for information for projects. There were no comments on the Massachusetts Attorney General's website that publishes hospital's community benefit reports and provides an opportunity for public comments.

V. Opportunities During The Assessment Process

MAH community benefit staff took this opportunity to further relationships with community partners and to build the capacity of each participant. In some cases activities were identified during the process. Mental Health First Aid and community health worker trainings were done in response to needs identified during key informant interviews. During one of the advisory group meetings the Right Question Formulation Technique™ was taught. During the World

[11] http://middlesexda.com/prevention/safe-babies-safe-kids.php
[12] www.tickchek.com/stats/county/massachusetts/middlesex/

Café a brief meditation exercise and a module on Laughter and Chronic Illness were presented. Targeted questions were also incorporated into the key informant interviews.

A. Community Health Needs Assessments are an opportunity to bring public health and the healthcare delivery system together to improve population health. During this process MAH asked participants to share their definition of the term Population Health. Participants were asked to describe the term in their own words, identify the most critical components and answer if they felt population health related to their role. Most (87%) of the interview participants had heard of the term Population Health. Everyone who recognized the term felt it played a role in their work. Their comments included "Hugely", "Definitely" and "Absolutely".
   - "Historically we have looked at individual patients one at a time. We are moving towards trying to increase the health of people collectively and learn what is the most cost efficient way to do so."
   - "As we look at quality across the continuum of care work at the hospital has to be interwoven with work outside the hospital. They are inextricably intertwined. They can't be separated."

   It was not surprising that some themes identified in the discussions about critical components of population health were similar to the themes identified related to the health outcomes. Population heath was seen as

   - Working with others-collaborating and communicating with traditional and non-traditional partners
   - Giving people the ability to take control of their own lives may help avoid developing chronic diseases.
   - Being inclusive of all people including vulnerable populations.

B. Because a review of early data identified that the need for increased communication was a theme, we asked interview participants to fill in the blank in the following question with up to three answers.

   If the organization I represent would work closer with _____we would be able to improve the health of the community members we serve.

   Hospitals in general and Mount Auburn Hospital in particular, were the two most common answers. Other common answers were clinical providers, religious groups, law enforcement, schools, and local clinics.

   Mount Auburn Hospital asked one additional question to interview participants. This question was designed to help guide decisions for the Implementation Plan.

   Please fill in the blank with something other than money or funding. If I had _____it would enable me to better serve this community or population.

Not surprisingly “more staff” was the most common response. The ability to utilize social media, space and technology were also common themes. Again some of the responses tied to the themes identified related to health outcomes.

- Transportation for clients to access services and basic needs.
- Communication between community based organizations, in particular better coordination with hospitals and other community based organizations.