CareGroup, Inc.

DoN Application Number: CG-18051612-HE

Substantial Capital Expenditure

Beth Israel Deaconess Medical Center, Inc.

Attachments to the Application

July 27, 2018

By

CareGroup, Inc.
109 Brookline Avenue
Boston, Ma 02215

ATTACHMENTS TO THE APPLICATION

TABLE OF CONTENTS

Page

A. Copy of Notice of Intent

If you have any questions, please call DHCD at 617-573-1100

PUBLIC ANNOUNCEMENT CONCERNING A PROPOSED HEALTH CARE PROJECT

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This public announcement concerning the Project supersedes the public announcement published in this newspaper on May 4, 2018.

First or last 3	$736
Any 2 digits	$63
Any 1 digit	$6

ANY ORDER

All 4 digits	$438
First 3	$245
Last 3	$123

THURSDAY NIGHT **4146**

Payoffs *(based on a $1 bet)*

EXACT ORDER

All 4 digits	$4855
First or last 3	$680
Any 2 digits	$58
Any 1 digit	$6

ANY ORDER

All 4 digits	$405
First 3	$227
Last 3	$113

July 5 **12-16-31-32-46**

Lucky Ball **17**

Jackpot: $1,000 a day for life ; winners

MEGABUCKS

July 4 **02-11-14-30-35-38**

Jackpot: $$777,448; No winners

PREVIOUS DRAWINGS

	Midday	Night
Wednesday	**9099**	**4270**
Tuesday	**8196**	**3034**
Monday	**6934**	**1904**

THURSDAY NUMBERS AROUND NEW ENGLAND

Maine, N.H., Vermont

Day: 3-digit **716** 4-digit **3535**

Eve: 3-digit **444** 4-digit **6417**

Wed. Tri-State Megabucks **03-24-32-34-35 (4)**

Rhode Island **7757**

Wednesday's Powerball **04-07-15-41-44**

Powerball **10**

was designed to ensure equal pay for "comparable work." Governor Charlie Baker signed it in 2016, but it did not go into effect until this week. Rowe says that over the years, she has repeatedly asked for her salary to be adjusted to be equal to that of Ferrillo.

According to Rogers, Rowe's attorney, "She loves her job. She wants to resolve this amicably. She regrets that litigation was necessary and hoped she could have resolved it internally."

Rogers says Rowe met with management at the Boston Symphony Orchestra on Feb. 14, and again in March in an attempt to resolve the matter.

Asked for comment, a BSO spokeswoman responded by e-

of Elizabeth Rowe," he stated. "I consider Elizabeth to be my peer and equal, at least as worthy of the compensation that I receive as I am."

The suit asserts that the BSO discriminated by using past salary histories, themselves subject to gender bias; by structuring contracts offered to certain male employees differently than those offered to any female employees; and by using "salary criteria based on suppressing the pay of those playing instruments traditionally played by women."

Jeremy Eichler can be reached at jeichler@globe.com, or follow him on Twitter @Jeremy_Eichler.

holds be fingerprinted. The fingerprints are then shared with local, state, and federal authorities, including the Department of Homeland Security, to determine the immigration status

W.R. has not seen her son since May 30, when she watched Border Patrol agents take him away from the separate, caged-off area for children where he slept in a frigid facili-

W.R. said she filled out a "family reunification packet" and submitted more than 40 pages of materials to the Baytown, Texas, shelter run by the Christian nonprofit BCFS

she knew the location of local clinics if her son were to fall ill.

"She was much more concerned with my religious practices than my rights as being his mother and my son's right to be reunited with his mother,"

dent fellow in law and policy at

Email: brainlab@bu.edu

On top of his game at the front of the house

▶MAITRE D'
Continued from Page A1

ger?

Anyone in the restaurant business in these parts will tell you: He is Frank Lunardi, the last maître d' in Boston.

Time was that you could hardly step into a restaurant of

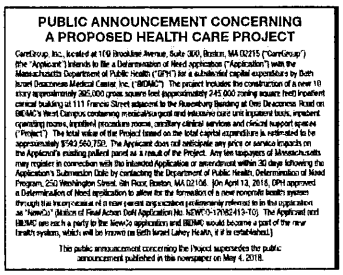
Frank Lunardi helped Karen Corbosiero to her seat at the table.

phone currently containing 1,600 names and numbers. These days, he is perpetually reaching for a pair of reading glasses.

Most everyone who works in restaurants in Boston seems painfully aware that a once-great calling lives on in Boston

RETURN OF PUBLICATION

I, the undersigned, hereby certify under the pains and penalties of perjury, that I am employed by the publishers of *The Boston Globe* and the following Public/Legal announcement was published in two sections of the newspaper on July 6, 2018 accordingly:



PUBLIC ANNOUNCEMENT CONCERNING A PROPOSED HEALTH CARE PROJECT

CareGroup, Inc., located at 109 Brookline Avenue, Suite 300, Boston, MA 02215 ("CareGroup") (the "Applicant") intends to file a Determination of Need application ("Application") with the Massachusetts Department of Public Health ("DPH") for a substituted capital expenditure by Beth Israel Deaconess Medical Center, Inc. ("BIDMC"). The project includes the construction of a new 10 story approximately 365,000 gross square feet (approximately 245,000 zoning square feet) inpatient clinical building at 111 Francis Street adjacent to the Rosenberg Building at One Deaconess Road on BIDMC's West Campus containing medical/surgical and intensive care unit inpatient beds, inpatient operating rooms, ancillary clinical services and clinical support spaces ("Project"). The total value of the Project based on the total capital expenditure is estimated to be approximately $582,560,750. The Applicant does not anticipate any price or service impacts on the Applicant's existing patient panel as a result of the Project. Any ten taxpayers of Massachusetts may register in connection with this intended Application or amendment within 30 days following the Application's Submission Date by contacting the Department of Public Health, Determination of Need Program, 250 Washington Street, 6th Floor, Boston, MA 02108. [On April 13, 2018, DPH approved a Determination of Need application to allow for the formation of a new nonprofit health system through the incorporation of a new parent organization preliminarily referred to in the application as "NewCo" (Notice of Final Action Date Application No. NEW70-17082413-TO). The Applicant and BIDMC are each a party to the NewCo application and BIDMC would become a part of the new health system, which will be known as Beth Israel Lahey Health, if it is established.]

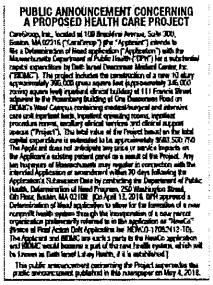
This public announcement concerning the Project supersedes the public announcement published in this newspaper on May 4, 2018.

1) "Public Announcement Concerning A Proposed Health Care Project" page ___, Legal Notice Section.

(check one) _____ Size two inches high by three columns wide
___X___ Size three inches high by two columns wide

2) "Public Announcement Concerning A Proposed Health Care Project" page ___, _____ Section.

(check one) ___X___ Size two inches high by three columns wide
_____ Size three inches high by two columns wide



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This public announcement concerning the Project supersedes the public announcement published in this newspaper on May 4, 2018.

Marie Burke
Signature

Marie Burke
Name

Classified Advertising Rep
Title

502973.1

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Notice of Sale and Disposal of Property Notice
47807, Page 185, as affected by Loan Modification Agreement, dated July 7, 2016, recorded at said Registry in Book 56849, Page 318, and now held by the plaintiff by assignment has/have filed with this court a complaint for determination of Defendant's/ Defendants' Servicemembers status.

If you now are, or recently have been, in the active military service of the United States of America, then you may be entitled to the benefits of the Servicemembers Civil Relief Act. If you object to a foreclosure of the above-mentioned property on that basis, then you or your attorney must file a written appearance and answer in this court at Three Pemberton Square, Boston, MA 02108 on or before July 30, 2018 or you will be forever barred from claiming that you are entitled to the benefits of said Act.

Witness, JUDITH C. CUTLER, Chief Justice of said Court on June 18, 2018

Attest: Deborah J. Patterson
Recorder
July 6

FRIDAY, JULY 6, 2018 BOSTON HERALD

PUBLIC ANNOUNCEMENT CONCERNING A PROPOSED HEALTH CARE PROJECT

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RETURN OF PUBLICATION AFFIDAVIT

I, the undersigned, hereby certify that I am employed by the publishers of the *Boston Herald* and the following Public/Legal announcement was published in two sections of the newspaper on July 6, 2018 accordingly:

1) "Public Announcement Concerning ... page 35
Legal Notice Section.

(check one) ✓ Size two inches high by three columns wide
____ Size three inches high by two columns wide

2) "Public Announcement Concerning ... page 9
Main News Section.

(check one) ____ Size two inches high by three columns wide
✓ Size three inches high by two columns wide

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Signature

Laurie Kluse
Name

Legal Advertising Rep
Title

On this 9th day of July 2018, before me, the undersigned notary public, personally appeared LAURIE KLUSE (name of document signer), proved to me through satisfactory evidence of identification, which were PERSONAL KNOWLEDGE, to be the person whose name is signed on the preceding or attached document, and who swore or affirmed to me that the contents of the document are truthful and accurate to the best of (his) (her) knowledge and belief.

Regina Munroe (official signature and seal of notary)
My commission expires _____

REGINA MUNROE
Notary Public
Commonwealth of Massachusetts
My Commission Expires
March 21, 2019

B. Affidavits of Truthfulness Form

Massachusetts Department of Public Health
Determination of Need
Affidavit of Truthfulness and Compliance with Law and Disclosure Form 100.405(B)

Version: 7-6-17

Instructions: Complete Information below. When complete check the box "This document is ready to print:". This will date stamp and lock the form. Print Form. Each person must sign and date the form. When all signatures have been collected, scan the document and e-mail to: **dph.don@state.ma.us** Include all attachments as requested.

Application Number: CG-18051612-HE

Original Application Date: 7/27/2018

Applicant Name: CareGroup, Inc.

Application Type: Hospital/Clinic Substantial Capital Expenditure

Applicant's Business Type: (•) Corporation ( ) Limited Partnership ( ) Partnership ( ) Trust ( ) LLC ( ) Other

Is the Applicant the sole member or sole shareholder of the Health Facility(ies) that are the subject of this Application? (•) Yes ( ) No

The undersigned certifies under the pains and penalties of perjury:

1. The Applicant is the sole corporate member or sole shareholder of the Health Facility[ies] that are the subject of this Application;
2. I have ~~read~~[1] 105 CMR 100.000, the Massachusetts Determination of Need Regulation;
3. I understand and agree to the expected and appropriate conduct of the Applicant pursuant to 105 CMR 100.800;
4. I have ~~read~~[1] this application for Determination of Need including all exhibits and attachments, and ~~certify~~[2] that all of the information contained herein is accurate and true;
5. I have submitted the correct Filing Fee and understand it is nonrefundable pursuant to 105 CMR 100.405(B);
6. I have submitted the required copies of this application to the Determination of Need Program, and, as applicable, to all Parties of Record and other parties as required pursuant to 105 CMR 100.405(B);
7. I have caused, as required, notices of intent to be published and duplicate copies to be submitted to all Parties of Record, and all carriers or third-party administrators, public and commercial, for the payment of health care services with which the Applicant contracts, and with Medicare and Medicaid, as required by 105 CMR 100.405(C), et seq.;
8. I have ~~caused~~[3] proper notification and submissions to the Secretary of Environmental Affairs pursuant to 105 CMR 100.405(E) and 301 CMR 11.00;
9. ~~If subject to M.G.L. c.6D, § 13 and 958 CMR 7.00, I have submitted such Notice of Material Change to the HPC in accordance with 105 CMR 100.405(G);~~ [4]
10. Pursuant to 105 CMR 100.210(A)(3), I certify[5] that both the Applicant and the Proposed Project are in material and substantial compliance and good standing with relevant federal, state, and local laws and regulations, as well as with all ~~previously issued~~ Notices of Determination of Need ~~and the terms and Conditions attached therein;~~ [6]
11. I have ~~read~~[3] and understand the limitations on solicitation of funding from the general public prior to receiving a Notice of Determination of Need as established in 105 CMR 100.415;
12. I understand that, if Approved, the Applicant, as Holder of the DoN, shall become obligated to all Standard Conditions pursuant to 105 CMR 100.310, as well as any applicable Other Conditions as outlined within 105 CMR 100.000 or that otherwise become a part of the Final Action pursuant to 105 CMR 100.360;
13. Pursuant to 105 CMR 100.705(A), I ~~certify~~[2] that the Applicant has Sufficient Interest in the Site or facility; and
14. Pursuant to 105 CMR 100.705(A), I ~~certify~~[2] that the Proposed Project is authorized under applicable zoning by-laws or ordinances, whether or not a special permit is required; or,
    a. If the Proposed Project is not authorized under applicable zoning by-laws or ordinances, a variance has been received to permit such Proposed Project; or,
    b. The Proposed Project is exempt from zoning by-laws or ordinances.

Corporation:

Attach a copy of Articles of Organization/Incorporation, as amended

John T. Szum		7/24/2018
CEO for Corporation Name:	Signature:	Date
Hans Michael Norkus		
Board Chair for Corporation Name:	Signature:	Date

[1] been informed of the content of

[2] have been informed by the Officers of Beth Israel Deaconess Medical Center, Inc.

[3] been informed of/that

[4] This section is not applicable to this Application.

[5] to my knowledge

[6] issued in compliance with 105 C.M.R. 100.000, the Massachusetts' Determination of Need Regulation effective January 27, 2017

Massachusetts Department of Public Health
Determination of Need
Affidavit of Truthfulness and Compliance with Law and Disclosure Form 100.405(B)

Version: 7-6-17

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    b. The Proposed Project is exempt from zoning by-laws or ordinances.

Corporation:

Attach a copy of Articles of Organization/Incorporation, as-amended

John T. Szum
CEO for Corporation Name:

Signature:

Date

Hans Michael Norkus
Board Chair for Corporation Name:

Signature: Hans Michael Norkus

Date: 7/24/2018

[1] been informed of the content of

[2] have been informed by the Officers of Beth Israel Deaconess Medical Center, Inc.

[3] been informed of/that

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[5] to my knowledge

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C. Affidavits of NewCo Parties

AFFIDAVIT OF TRUTHFULNESS

SEACOAST REGIONAL HEALTH SYSTEMS, INC.

Application Number: CG-18051612-HE **Original Application Date: July 24 2018**

Applicant Name: CareGroup, Inc.

Application Type: Hospital/Clinic Substantial Capital Expenditure

The undersigned each certify under the pains and penalties of perjury:

1. CareGroup, Inc. ("CareGroup") is the sole corporate member of Beth Israel Deaconess Medical Center, which is the subject of the New Inpatient Building ("NIB") Project, DON Application #: CG-18051612-HE (the "Application").
2. I was apprised of the NIB project during the diligence process for the Beth Israel Lahey Health merger.
3. I understand that CareGroup intends that the NIB project will proceed if it receives determination of need (DoN) approval, whether before and/or after the formation of Beth Israel Lahey Health.
4. I have been informed of the content of the NIB project description and of the Beth Israel Lahey Health description as contained in the Application, and this information is consistent with my expectations as a party to Beth Israel Lahey Health.
5. I understand that Beth Israel Lahey Health, if formed, will become the Holder of and obligated to all commitments, terms and requirements of any NIB DoN, including becoming obligated to all Standard Conditions pursuant to 105 CMR 100.310, as well as any applicable Other Conditions as outlined within 105 CMR 100.000 or that otherwise become a part of the Final Action pursuant to 105 CMR 100.360.

ON BEHALF OF SEACOAST REGIONAL HEALTH SYSTEMS, INC.

Mark L. Goldstein, CEO

7/24/2018

Date

David J. LaFlamme, Board Chair

7-24-2018

Date

AFFIDAVIT OF TRUTHFULNESS

LAHEY HEALTH SYSTEM, INC.

Application Number: CG-18051612-HE **Original Application Date: July 23, 2018**

Applicant Name: CareGroup, Inc.

Application Type: Hospital/Clinic Substantial Capital Expenditure

The undersigned each certify under the pains and penalties of perjury:

1. CareGroup, Inc. ("CareGroup") is the sole corporate member of Beth Israel Deaconess Medical Center, which is the subject of the New Inpatient Building ("NIB") Project, DON Application #: CG-18051612-HE (the "Application").
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ON BEHALF OF LAHEY HEALTH SYSTEM, INC.

Howard Grant

Howard Grant, JD MD, CEO

7-23-18

Date

Ann-Ellen Hornidge

Ann-Ellen Hornidge, JD, Board Chair

7-23-18

Date

D. Scanned Copy of Application Fee Check

THE SECURITY FEATURES ON THIS CHECK INCLUDE PADLOCK ICON, ULTRAVIOLET FIBERS, A BROWN BLEACH STAIN FEATURE AND A SIMULATED WATERMARK ON THE BACK.

Beth Israel Deaconess Medical Center
330 Brookline Avenue
Boston, MA 02215

Bank of America

963569
51-44/119

Date Jul/13/2018 **Pay Amount** **$1,187,138.00*****

Pay ****ONE MILLION ONE HUNDRED EIGHTY-SEVEN THOUSAND ONE HUNDRED THIRTY-EIGHT AND XX/100 DOLLAR ****

VOID AFTER 6 MONTHS

To The Order Of
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF PUBLIC HEALTH
DETERMINATION OF NEED PROGRAM
250 WASHINGTON ST.
BOSTON MA 02108

Authorized Signature

Two Signatures Required for $100,000 or More

MC 1241 (Rev. 11/12)

[redacted]

Check Date: Jul/13/2018		Supplier Number: 109050				Check No: 963569
Invoice Number	**Invoice Date**	**Voucher ID**	**Gross Amount**	**Discount Taken**	**Late Charge**	**Paid Amount**
442015	Jul/06/2018	02048903	1,187,138.00	0.00	0.00	1,187,138.00
return to Marcia Fearon						

Check Number	Date	Total Gross Amount	Total Discounts	Total Late Charge	Total Paid Amount
963569	Jul/13/2018	1,187,138.00	0.00	0.00	1,187,138.00

E. Affiliated Parties Table Question 1.9

Massachusetts Department of Public Health
Determination of Need
Affiliated Parties

Version: DRAFT 3-15-17

DRAFT

Application Date: 07/27/2018 Application Number: CG-18051612-HE

Applicant Information

Applicant Name: CareGroup, Inc.

Contact Person: John T. Szum Title: Treasurer and Chief Financial Officer

Phone: 6176671881 Ext: E-mail: jszum@caregroup.org

Affiliated Parties

1.9 **Affiliated Parties:**
List all officers, members of the board of directors, trustees, stockholders, partners, and other Persons who have an equity or otherwise controlling interest in the application.

Add/ Del Rows	Name (Last)	Name (First)	Mailing Address	City	State	Affiliation	Position with affiliated entity (or with Applicant)	Stock, shares, or partnership	Percent Equity (numbers only)	Convictions or violations	List other health care facilities affiliated with	Business relationship with Applicant
+ -	Barker	Thomas	Foley Hoag, LLP, 155 Seaport Boulevard	Boston	MA	CareGroup, Inc.	CareGroup Director			No		No
+ -	Canepa	John	83 Church Street	Watertown	MA	CareGroup, Inc.	CareGroup Director			No	Mount Auburn Hospital	No
+ -	Jick	Daniel	High Vista Strategies, LLC, John Hancock Tower, 52th Floor	Boston	MA	CareGroup, Inc.	CareGroup Director			No	Beth Israel Deaconess Medical Center	No
+ -	Nichols	Peter	41 Phillips Street	Boston	MA	CareGroup, Inc.	CareGroup Director			No	new England Baptist Hospital	No
+ -	Norkus	Hans Michael	Alliance Consulting Group, 420 Boylston Street	Boston	MA	CareGroup, Inc.	CareGroup Director			No		No
+ -	Strieder	Helen	64 Pond Street	Jamaica Plain	MA	CareGroup, Inc.	CareGroup Director			No		No
+ -	Wilkins	John	Wilkins Investment Counsel, Inc., 160 Federal Street, 17th Floor	Boston	MA	CareGroup, Inc.	CareGroup Director			No		No

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To submit the application electronically, click on the"E-mail submission to Determination of Need" button.

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E-mail submission to Determination of Need

F. Change In Service Table (with Supplemental Notes)

Massachusetts Department of Public Health
Determination of Need
Change in Service

Version: DRAFT 6-14-17

DRAFT

Application Number: CG-18051612-HE Original Application Date: 07/27/2018

Applicant Information

Applicant Name: CareGroup, Inc.

Contact Person: John T. Szum Title: Treasurer and Chief Financial Officer

Phone: 6176671881 Ext: E-mail: jszum@caregroup.org

Facility: Complete the tables below for each facility listed in the Application Form

1 Facility Name: Beth Israel Deaconess Medical Center, Inc. CMS Number: 220086 Facility type: Hospital

Change in Service

2.2 Complete the chart below with existing and planned service changes. Add additional services with in each grouping if applicable.

Add/Del Rows		Licensed Beds	Operating Beds	Change in Number of Beds (+/-)		Number of Beds After Project Completion (calculated)		Patient Days	Patient Days	Occupancy rate for Operating Beds		Average Length of Stay	Number of Discharges	Number of Discharges
		Existing	Existing	Licensed	Operating	Licensed	Operating	(Current/ Actual)	Projected	Current Beds	Projected	(Days)	Actual	Projected
	Acute													
	Medical/Surgical	493	493	39	39	532	532	159,775	171,888	89%	89%	5.94	25,664	27,754
	Obstetrics (Maternity)	62	62	0	0	62	62	18,887	19,676	83%	87%	3.76	5,023	5,205
	Pediatrics	0	0	0	0	0	0	0	0	0%	0%	0	0	0
	Neonatal Intensive Care	16	16	0	0	16	16			0%	0%			
	ICU/CCU/SICU	77	77	30	30	107	107	23,215	29,663	83%	76%			
+ -										0%	0%			
	Total Acute	648	648	69	69	717	717	201,877	221,227	85%	85%	9.7	30,687	32,959
	Acute Rehabilitation									0%	0%			
+ -										0%	0%			
	Total Rehabilitation									0%	0%			
	Acute Psychiatric													

Add/Del Rows		Licensed Beds Existing	Operating Beds Existing	Change in Number of Beds (+/-) Licensed	Operating	Number of Beds After Project Completion (calculated) Licensed	Operating	Patient Days (Current/ Actual)	Patient Days Projected	Occupancy rate for Operating Beds Current Beds	Projected	Average Length of Stay (Days)	Number of Discharges Actual	Number of Discharges Projected
	Adult	25	25	0	0	25	25	8,316	8,437	91%	92%	11.6	717	709
	Adolescent									0%	0%			
	Pediatric									0%	0%			
	Geriatric									0%	0%			
+ -										0%	0%			
	Total Acute Psychiatric	25	25	0	0	25	25	8,316	8,437	91%	92%	11.6	717	709
	Chronic Disease									0%	0%			
+ -										0%	0%			
	Total Chronic Disease									0%	0%			
	Substance Abuse													
	detoxification									0%	0%			
	short-term intensive									0%	0%			
+ -										0%	0%			
	Total Substance Abuse									0%	0%			
	Skilled Nursing Facility													
	Level II									0%	0%			
	Level III									0%	0%			
	Level IV									0%	0%			
+ -										0%	0%			
	Total Skilled Nursing									0%	0%			

2.3 Complete the chart below If there are changes other than those listed in table above.

Add/Del Rows	**List other services** if Changing e.g. OR, MRI, etc	Existing Number of Units	Change in Number +/-	Proposed Number of Units	Existing Volume	Proposed Volume
+ -						

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Edit document then lock file and submit Keep a copy for your records. Click on the "Save" button at the bottom of the page.

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Supplemental Note to Change In Service Table

Question 2.2: *Complete the chart below with existing and planned service changes. Add additional services within each grouping if applicable.*

Please note the following regarding the Change in Service Table submitted as part of the Application:

1. Fiscal Year Data: Data provided is for Fiscal Year 2017, ending September 30, 2017.

2. Number of Beds After Project Completion: Numbers provided in column titled "Number of Beds After Project Completion (calculated)" account for new beds expected to be created by the Project together with existing beds BIDMC anticipates closing after Project completion; numbers do not include potential small fluctuations in the number of licensed beds that may occur as part of normal hospital operations unrelated to the Project.

3. Existing Medical/Surgical Beds & Occupancy Rate for Current Beds: In August 2017, 20 Medical/Surgical beds were put into service, increasing the existing bed count from 473 to 493. Entering 493 beds (which includes the 20 additional beds in service for only the last two months of FY 2017) in the Table as the number of Medical/Surgical "Licensed Beds Existing" caused the "Occupancy rate for Operating Beds" for Medical/Surgical beds, as calculated by the Table, to drop from the actual average of 93% (calculated based on the actual number of beds in service each month during FY 2017) to a modified average of 89% (calculated as though 493 beds were in service for the entire fiscal year).

4. ICU/CCU/SICU Average Length of Stay & Discharges: "Average Length of Stay (Days)" for the ICU/CCU/SICU is not provided, as this is included in the number provided for Medical/Surgical "Average Length of Stay (Days)". Discharge numbers are also captured collectively for ICU/CCU/SICU and Medical/Surgical beds in the response for Medical/Surgical "Number of Discharges".

5. Neonatal Intensive Care Data: Data for "Patient Days (Current/Actual)", "Patient Days Projected", "Average Length of Stay (Days)", and "Number of Discharges Actual" for Neonatal Intensive Care beds are not provided, as this data is captured collectively by BIDMC with data for Well Infant Nursery Bassinets and Special Care Nursery Bassinets, which data is likewise not provided. Note, the Project does not include any changes in Neonatal Intensive Care beds.

6. Medical/Surgical Patient Days and Discharges: The numbers provided for Medical/Surgical “Patient Days (Current/Actual)” and “Number of Discharges” includes both inpatient and observation days and discharges.

G. Factor 4 Materials

1. Certification from Independent Certified Public Accountant

Analysis of the Reasonableness of Assumptions Used For and Feasibility of Projected Financials of:

CareGroup, Inc.

For the Years Ending September 30, 2018
Through September 30, 2027

BDO

Tel: 617-422-0700
Fax: 617-422-0909
www.bdo.com

One International Place
Boston, MA 02110-1745

July 26, 2018

Dan Roble
General Counsel
CareGroup, Inc.
109 Brookline Avenue, Suite 300
Boston, MA 02215

RE: Analysis of the Reasonableness of Assumptions and Projections Used to Support the Financial Feasibility and Sustainability of the Proposed Project

Dear Mr. Roble:

Enclosed is a copy of our report on the reasonableness of assumptions used for and feasibility of the financial projections for CareGroup. Please contact me to discuss this report once you have had an opportunity to review.

Sincerely,

BDO USA, LLP

TABLE OF CONTENTS

BDO

Tel: 617-422-0700
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www.bdo.com

One International Place
Boston, MA 02110-1745

July 26, 2018

Dan Roble
General Counsel
CareGroup, Inc.
109 Brookline Avenue, Suite 300
Boston, MA 02215

RE: Analysis of the Reasonableness of Assumptions and Projections Used to Support the Financial Feasibility and Sustainability of the Proposed Project

Dear Mr. Roble:

We have performed an analysis related to the reasonableness and feasibility of the financial projections (the "Projections") of CareGroup, Inc. ("CareGroup" or "the Applicant") related to a proposed project in connection with the construction of a new inpatient building located on the West Campus of Beth Israel Deaconess Medical Center, Inc. ("BIDMC"). This report details our analysis and findings with regards to the reasonableness of assumptions used in the preparation of the Projections and feasibility of the projected financial results prepared by the management of CareGroup ("Management"). This report is to be used by CareGroup in connection with its Determination of Need ("DoN") Application - Factor 4(a) and should not be distributed or relied upon for any other purpose.

I. EXECUTIVE SUMMARY

The scope of our review was limited to an analysis of the ten year financial projections for the Applicant for the fiscal years ending 2018 through 2027 prepared by Management and the supporting documentation in order to render an opinion as to the reasonableness of assumptions used in the preparation and feasibility of the Projections.

The Projections exhibit a cumulative operating EBITDA surplus of approximately 6.0 percent of cumulative projected revenue for CareGroup for the ten years from 2018 through 2027. Based upon our review of the relevant documents and analysis of the Projections, we determined the anticipated operating EBITDA surplus is a reasonable expectation and based upon feasible financial assumptions. Accordingly, we determined that the Projections are reasonable and feasible, and not likely to have a negative impact on the Applicant's patient panel or result in a liquidation of CareGroup's assets. A detailed explanation of the basis for our determination of reasonableness and feasibility is contained within this report.

II. RELEVANT BACKGROUND INFORMATION

CareGroup is a Massachusetts, non-profit, tax exempt corporation that oversees a regional, non-profit health care delivery system comprised of teaching and community hospitals, physician groups, and other caregivers. CareGroup's member hospitals include BIDMC and its three subsidiary hospitals, Beth Israel Deaconess Hospital-Milton, Beth Israel Deaconess Hospital-Needham, and Beth Israel Deaconess Hospital-Plymouth, as well as Mount Auburn Hospital and New England Baptist Hospital. BIDMC is herein referred to as the Academic Medical Center, whereas the remaining entities are referred to as the Community Hospitals.

BIDMC is a non-profit academic medical center and teaching affiliate of Harvard Medical School located in the Longwood Medical and Academic Area in Boston. BIDMC offers a full range of adult tertiary/quaternary clinical services including cardiovascular care, cancer care, digestive diseases, OB/GYN, neonatology, neurology, orthopedics, psychiatry, transplantation, and emergency services, including a Level 1 Trauma Center, and serves more than 500,000 patients

annually. BIDMC is the hub of a network of affiliated healthcare providers, including the Bowdoin Street Health Center and five other affiliated community health centers; three BIDMC-owned non-profit community hospitals (referenced above) and four other hospitals affiliated through Beth Israel Deaconess Care Organization; health care providers; and numerous physician groups. BIDMC was formed from a merger between Beth Israel Hospital and New England Deaconess Hospital. Since the merger, BIDMC has worked to fully integrate the services and operations of its two hospital campuses known as the East Campus and West Campus. Prior to the Proposed Project, BIDMC has 493 medical/surgical beds, 77 intensive care beds, 62 obstetrics beds, 25 psychiatric, 95 neo-natal beds, and 16 neo-natal intensive care unit beds.

The Applicant, through BIDMC, intends to construct a new inpatient clinical building (the "New Inpatient Building" or "NIB") on its West Campus (the "Proposed Project"). The NIB is planned to be 10 stories and approximately 375,000 gross square feet. The building will be largely comprised of clinical space and will house a range of clinical inpatient programs and inpatient beds, operating and procedure rooms, as well as a range of support services ancillary to the clinical inpatient programs. BIDMC expects the Proposed Project will include up to 158 inpatient beds, of which 128 are medical/surgical beds and 30 are intensive care unit ("ICU") beds. However, we note BIDMC anticipates closing 89 beds in an existing building on the West Campus at the time of the opening of the NIB. Therefore, there are expected to be an incremental 39 medical/surgical beds and 30 ICU beds to BIDMC's current bed count as of the date of the opening of the NIB. The beds to be closed are in double bedded rooms in one of BIDMC's older buildings on the West Campus. Per Management, the Proposed Project is dedicated to improving patient services and to address the current challenges faced by BIDMC in regards to aging facilities and capacity constraints. The Proposed Project is estimated to become operational in

the first quarter of FY 2023. By the end of FY 2024, BIDMC will reopen approximately 20 of the closed beds in the existing West Campus building.

III. SCOPE OF REPORT

The scope of this report is limited to an analysis of the ten year financial projections for CareGroup, the Applicant, for the fiscal years ending 2018 through 2027 (the "Projections"), prepared by Management, and the supporting documentation in order to render an opinion as to the reasonableness of assumptions used in the preparation and feasibility of the Projections. Reasonableness is defined within the context of this report as supportable and proper, given the underlying information. Feasibility is defined as based on the assumptions used the Proposed Project is not likely to result in a liquidation of the underlying assets or the need for reorganization.

This report is based on prospective financial information provided to us by Management. BDO has not audited or performed any other form of attestation services on the projected financial information related to the operations of CareGroup.

If BDO had audited the underlying data, matters may have come to our attention that would have resulted in our using amounts that differ from those provided. Accordingly, we do not express an opinion or any other assurances on the underlying data presented or relied upon in this report. We do not provide assurance on the achievability of the results forecasted by the Applicant because events and circumstances frequently do not occur as expected, and the achievement of the forecasted results are dependent on the actions, plans, and assumptions of

Management. We reserve the right to update our analysis in the event that we are provided with additional information.

IV. SOURCES OF INFORMATION UTILIZED

In formulating our opinions and conclusions contained in this report, we reviewed documents produced by Management as well as third party industry data sources. The documents and information upon which we relied are identified below or are otherwise referenced in this report:

1. Audited Financial Statement for BIDMC and Affiliates for Fiscal Year Ending 09/30/2017;
2. Audited Financial Statement for BIDMC and Affiliates for Fiscal Year Ending 09/30/2016;
3. Audited Financial Statements for CareGroup for Fiscal Year Ending 9/30/2017;
4. Audited Financial Statements for CareGroup for Fiscal Year Ending 9/30/2015;
5. BIDMC FY17 Year End Volume Statistical Report;
6. BIDMC FY16 Year End Volume Statistical Report;
7. Model used for the multiyear finance forecasting both before and after the building opens related to BIDMC;
8. Model used for the multiyear finance forecasting both before and after the building opens related to CareGroup;
9. Detailed analysis of Fixed Cost needs once the Building Opens in Year One;
10. Detailed analysis of Fixed Cost needs once the Building Opens in Year Two;
11. Estimate for the incremental Cost of the ICUs;
12. FY18 Operating and Capital Budget Presentation to Finance Committee;

13. Internal Financial Statement for BIDMC and Affiliates for Q1 Quarter Ending 12/31/2017;
14. Mount Auburn 2018 Budget;
15. Mount Auburn 2018 Budget Presentation;
16. New England Baptist Hospital 2018 Budget;
17. New England Baptist Hospital 2018 Budget Presentation;
18. New England Baptist 2018 Outlook;
19. CareGroup 2018 Outlook;
20. Harvard Medical Faculty Physicians 2018 Outlook;
21. Mount Auburn 2018 Outlook;
22. CareGroup Model Assumptions;
23. Future amortization of outstanding debt at 9-30-17;
24. Draft Determination of Need Application;
25. Cost Estimate Assumptions;
26. Leggat McCall Properties Total Project Cost Letter;
27. Maximum Capital Expenditure;
28. BIDMC March 2018 Capital Financing Plan;
29. IBISWorld Industry Report, Hospitals in the US, dated August 2017;
30. RMA Annual Statement Studies, published by Risk Management Associates;
31. Definitive Healthcare data; and
32. Determination of Need Application Instructions dated March 2017.

V. REVIEW OF THE PROJECTIONS

This section of our report summarizes our review of the reasonableness of the assumptions used and feasibility of the Projections.

The following tables present the Key Metrics, as defined below, which compare the operating results of the Projections to market information from RMA Annual Studies ("RMA"), IBISWorld, and Definitive Healthcare as well as the Applicant's historical performance, to assess the reasonableness of the projections.[1]

Key Financial Metrics and Ratios	Projected									
CareGroup, Inc.	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Profitability										
Operating Margin (%)	1.0%	1.6%	2.1%	2.3%	2.6%	1.2%	1.2%	1.2%	1.1%	1.1%
Excess Margin (%)	2.6%	2.4%	2.8%	3.0%	3.2%	1.9%	1.8%	1.8%	1.7%	1.6%
Debt Service Coverage Ratio (x)	6.8x	4.4x	4.7x	4.9x	5.0x	3.4x	3.4x	3.4x	4.8x	4.8x
Liquidity										
Days Available Cash and Investments on Hand (#)	105.1	101.2	96.2	97.9	96.4	98.5	101.3	103.4	107.6	111.7
Operating Cash Flow (%)	3.8%	4.8%	5.2%	5.5%	5.8%	5.0%	5.1%	5.0%	5.0%	4.9%
Solvency										
Current Ratio (x)	3.1x	3.1x	3.1x	3.1x	3.1x	3.2x	3.3x	3.6x	3.7x	3.9x
Ratio of Long Term Debt to Total Capitalization (%)	25.2%	22.4%	31.3%	28.3%	25.3%	22.9%	20.6%	19.2%	17.7%	16.3%
Ratio of Cash Flow to Long Term Debt (%)	25.8%	36.1%	23.6%	27.1%	32.0%	30.8%	35.3%	37.7%	41.3%	44.8%
Unrestricted Net Assets ($ in Millions)	$1,547.6	$1,660.1	$1,813.3	$1,977.6	$2,152.7	$2,268.8	$2,379.3	$2,482.2	$2,586.7	$2,690.7
Total Net Assets ($ in Millions)	$1,923.4	$2,077.6	$2,244.7	$2,424.6	$2,612.3	$2,702.6	$2,797.9	$2,884.8	$2,972.4	$3,058.5

[1] We note BIDMC comprises approximately 98.0 percent of Excess of Revenues over Expenses of CareGroup in FY 2018 and over 50.0 percent of Total Assets.

Key Financial Metrics and Ratios	Actual		Industry Data			
CareGroup, Inc.	2016	2017	RMA	IBISWorld	Healthcare	
Profitability						
Operating Margin (%)	0.5%	-0.1%	5.8%	8.0%	-8.4%	
Excess Margin (%)	1.4%	1.9%	NA	NA	3.1%	(1)
Debt Service Coverage Ratio (x)	0.6x	3.9x	NA	NA	NA	
Liquidity						
Days Available Cash and Investments on Hand (#)	129.7	112.4	NA	NA	25.1	
Operating Cash Flow (%)	2.1%	2.1%	NA	7.9%	NA	
Solvency						
Current Ratio (x)	3.3x	3.2x	1.8x	1.8x	1.8x	
Ratio of Long Term Debt to Total Capitalization (%)	29.8%	26.7%	35.7%	NA	NA	
Ratio of Cash Flow to Long Term Debt (%)	11.0%	12.8%	NA	NA	NA	
Unrestricted Net Assets ($ in Millions)	$1,382.0	$1,491.2	NA	NA	NA	
Total Net Assets ($ in Millions)	$1,692.2	$1,824.5	$37.8	NA	NA	

Footnotes:

(1) Net income margin from Definitive Healthcare data treated as an equivalent to excess margin.

The Key Metrics fall into three primary categories: profitability, liquidity, and solvency. Profitability metrics are used to assist in the evaluation of management performance in how efficiently resources are utilized. Liquidity metrics, including common ratios such as "days of available cash and investments on hand", measure the quality and adequacy of assets to meet current obligations as they come due. Solvency metrics measure the company's ability to take on and service debt obligations. Additionally, certain metrics can be applicable to multiple categories. The table below shows how each of the Key Metrics are calculated.

Key Financial Metrics and Ratios

Ratio Definitions	Calculation
Profitability	
Operating Margin (%)	Income / (Loss) from Operations Divided by Total Operating Revenue
Excess Margin (%)	(Operating Revenue - Operating Expenses + Non-Operating Revenue) Divided by (Total Operating Revenue + Non-Operating Revenue)
Debt Service Coverage Ratio (x)	(Excess of Revenues Over Expenses Plus Depreciation and Interest) Divided by Principal and Interest Payments
Liquidity	
Days Available Cash and Investments on Hand (#)	Cash and Investments Divided by Daily Operating Expenses (Excl. Depreciation)
Operating Cash Flow (%)	Cash Flow from Operations Divided by Total Operating Revenue
Solvency	
Current Ratio (x)	Current Assets Divided by Current Liabilities
Ratio of Long Term Debt to Total Capitalization (%)	Long Term Debt Divided by Total Capitalization (Total Debt and Unrestricted Net Assets)
Ratio of Cash Flow to Long Term Debt (%)	Cash Flow from Operations Divided by Long Term Debt
Unrestricted Net Assets ($ in Millions)	Total Unrestricted Net Assets
Total Net Assets ($ in Millions)	Total Shareholders' Equity of the Company

1. Revenues

We analyzed the projected revenues within the Projections. Revenues for the Applicant include net patient service revenue, research, and other operating revenues. Approximately 86.0 percent of revenues are derived from net patient service revenues. Based upon our discussions with Management and the documents provided, the projected patient service revenues were estimated based upon Management's anticipated changes in the following categories:

Payer Increases - Academic Medical Center

Management projected inpatient payer increases of 2.0 percent per year and outpatient payer increases of 1.5 percent per year based on an analysis of the historical payer rate increases over a ten year period.

Historical Payer Rate Growth
FY 2007 to 2017

	Inpatient	Outpatient
Maximum	4.9%	5.1%
Average	2.2%	2.2%
Median	1.8%	1.6%
Minimum	0.7%	0.7%

Payer Increases - Community Hospitals

Management projected inpatient payer increases of 3.0 percent per year and outpatient payer increases of 2.0 percent per year. Per Management, over the past few years, the Community Hospitals received higher commercial rate increases than the Academic Medical Center.

Volume Increases

For both the Academic Medical Facilities and Community Hospitals, Management projected inpatient volume growth between 0.9 percent and 1.3 percent annually based on data from a third party consultant and outpatient volume growth between 1.5 percent and 2.0 percent annually.

Mount Auburn was projected to have inpatient market share increases in addition to the growth above of 2.0 percent annually between FY 2019 and FY 2023 given the hospital's additional capacity which was approximately 69.0 percent during FY 2017. The additional volume would increase Mt. Auburn's medical/surgical occupancy to 87.0 percent in FY 2027.

Case Mix Index - Academic Medical Center

Management projected increases to the case mix index ("CMI") of approximately 0.6 percent annually. We noted this appeared to be reasonable given a ten year lookback at the historical CMI indicated an annual average increase of 1.9 percent.

Case Mix Index - Community Hospitals

Management did not forecast any changes to the case mix index within the Projections for the Community Hospitals, which was deemed to be conservative.

Number of Beds

The number of beds for the Community Hospitals is expected to remain the same over the projection period; however, the Projections do include the total number of licensed

beds expected upon opening of the NIB, taking into account small fluctuations in the number of licensed beds anticipated as part of normal hospital operations unrelated to the Proposed Project. As discussed above, the NIB is expected to open in the first quarter of FY 2023. At this time, a net 39 medical/surgical beds and 30 ICU beds will be added to BIDMC's bed count. Thereafter, by the end of FY 2024, approximately 20 beds will be reopened in an existing building on BIDMC's West Campus. The increase in beds over the projection period will allow the Applicant to increase volume, but maintain occupancy levels under their target level of 90.0 percent at BIDMC.

In order to determine the reasonableness of the projected revenues, we reviewed the underlying assumptions upon which Management relied. Based upon our review, Management relied upon the historical operations and anticipated market movements. The ten year compound annual growth rate ("CAGR") in the Projections of 3.8 percent falls below the range of CareGroup's historical revenue growth rates.

Based upon the foregoing, it is our opinion that the revenue growth projected by Management reflects a reasonable estimation of future revenues of CareGroup.

2. Operating Expenses

We analyzed each of the categorized operating expenses for reasonableness and feasibility as it related to the Projections.

The operating expenses in the analysis include salaries and benefits, supplies and other expenses, depreciation, and interest. Salaries and benefits account for approximately 60.0 percent of total operating expenses and supplies and expenses account for approximately 35.0 percent of total operating expenses. Management provided a detailed buildup of these expenses in the Projections.

Salaries and benefits were projected based on an annual merit adjustment of 2.0 percent as well as an annual market adjustment of 1.0 percent. Further, variable increases in total salary expense were included based on the increase in volume projected. Additionally, expected budgetary adjustments were factored in over the ten year period of the Projections. Supplies and expenses were increased at an inflationary rate of 2.5 percent. Supplies and expenses for BIDMC included additional variable costs that were calculated based on an increase in patient days and an estimated efficiency adjustment of less than 1.0 percent of total supplies and expenses annually for FY 2019 through FY 2023.

Management also included incremental direct costs for salaries, employee benefits, and supplies and expenses beginning in FY 2023 through the remainder of the projection period corresponding to the opening of the NIB. Management's expense projections considered floor closures in existing West Campus facilities, that net one new medical/surgical floor was opening and one new ICU floor was opening in FY 2023 in the NIB. By the end of FY 2024, an existing medical/surgical floor is expected to be reopened on the West Campus. Therefore, additional staff and supplies will be necessary to support the new floors.

Based upon the foregoing, it is our opinion that the operating expenses projected by Management reflects a reasonable estimation of future expenses of the Applicant.

3. Capital Expenditures and Proposed Project Financing

We reviewed the capital expenditures projected related to the Proposed Project. The total project costs related to the construction of the NIB are approximately $593.6 million (excluding the community initiative) and are included within the Projections between FY 2019 and FY 2022. The Projections also include routine capital expenditures for CareGroup ranging from $157 million to $197 million annually. The total project cost budget for the NIB was developed jointly by BIDMC Facilities and Leggat McCall Properties (the Applicant's project representative) and is based on: (1) an initial construction estimate by the Proposed Project's construction manager, Turner Construction; (2) professional services contracts awarded to date, and (3) historic cost data from both BIDMC and Leggat McCall. BIDMC Facilities annually undertakes over $80M in capital projects (over 150 projects in FY 2017). Leggat McCall Properties has completed over 10 significant, ground up, hospital or healthcare projects in and around Boston in the last 18 years. We note that construction cost is approximately 60.0 percent of the total project cost.

In addition to capital expenditures, we also reviewed the proposed financing of the project. The Projections detailed that a mix of debt financing and contributions would be utilized to fund the Proposed Project. Debt financing accounts for approximately 60.0 percent of the estimated capital expenditures, with the remainder to be financed through contributions.

CareGroup intends to incur debt through BIDMC related to the NIB. We reviewed slides from a 2018 capital financing plan indicating BIDMC's recommendation and the board's approval for the financing approach. It is our understanding BIDMC should not have difficulty obtaining the debt financing required.

It is our understanding that the anticipated contribution amounts for the Proposed Project will be raised through BIDMC's capital campaign. As the contributions are yet to be committed, we are unable to confirm the financing via contributions. It is our understanding that should the Applicant not obtain all of the estimated capital contributions, the Applicant will make up any shortfall through either cash on hand, operating cash flows, or additional debt, depending on interest rates at the time. We performed a sensitivity analysis assuming the Applicant was only able to raise half of the contribution amounts and instead funded approximately 20.0 percent of the Proposed Project based on cash on hand. We assessed the impact on the Key Financial Metrics and Ratios and noted no impact to our conclusions on the reasonableness and feasibility of the Proposed Project.

VI. FEASIBILITY

We analyzed the Projections and Key Metrics for the Proposed Project. In preparing our analysis we considered multiple sources of information including industry metrics, historical results, and Management expectations. It is important to note that the Projections do not account for any anticipated changes in accounting standards. These standards, which may have a material impact on individual future years, are not anticipated to have a material impact on the aggregate Projections.

Within the projected financial information, the Projections exhibit a cumulative operating EBITDA surplus of approximately 6.0 percent of cumulative projected revenue for the ten years from 2018 through 2027. We note a net decrease in cash in the Projections until the NIB becomes operational (except for FY 2020); however, positive cash flow from operations for each year. Based upon our review of the relevant documents and analysis of the Projections, we determined the anticipated operating surplus is a reasonable expectation and based upon feasible financial assumptions. Accordingly, we determined that the Projections are reasonable and feasible, and not likely to have a negative impact on the patient panel or result in a liquidation of assets of CareGroup.

Respectively submitted,

Erik Lynch
Partner, BDO USA LLP

2. Capital Costs Chart F1.a.i

Factor 4: Financial Feasibility and Reasonableness of Expenditures and Costs

Applicant has provided (as an attachment) a certification, by an independent certified public accountant (CPA) as to the availability of sufficient funds for capital and ongoing operating costs necessary to support the Proposed Projects without negative impacts or consequences to the Applicant's existing Patient Panel

F4a.i **Capital Costs Charts:**

For each Functional Area document the square footage and costs for New Construction and/or Renovations

		Present Square Footage		Square Footage Involved in Project				Resulting Square Footage		Total Cost		Cost/Square Footage	
				New Construction		Renovation							
Add/Del Rows	Functional Areas	Net	Gross	Net	Gross	Net	Gross	Net	Gross	New Construction	Renovation [1]	New Construction	Renovation
	Lobby/Circulation	-	-	27,395	34,244	-	-	27,395	34,244	$25,614,512	$0.00	$748.00	
	Medical/Surgical Floors	-	-	68,353	119,619	-	-	68,353	119,619	$134,417,681	$0.00	$1,123.72	
	Intensive Care Unit Floor	-	-	17,509	30,465	-	-	17,509	30,465	$35,552,655	$0.00	$1,167.00	
	Perioperative Floor	-	-	20,802	37,444	-	-	20,802	37,444	$51,934,828	$0.00	$1,387.00	
	Radiology	-	-	6,097	9,999	-	-	6,097	9,999	$10,548,945	$0.00	$1,055.00	
	Conference/Education	-	-	8,189	10,974	-	-	8,189	10,974	$7,594,008	$0.00	$692.00	
	Central Sterile Processing and Operating Room Storage Area			11,661	15,626			11,661	15,626	$13,235,200	$0.00	$847.00	
	Mechanical/Building Support	-	-	89,889	89,889	-	-	89,889	89,889	$80,091,099	$0.00	$891.00	
	Vertical Cores	-	-	15,205	23,112	-	-	15,205	23,112	$7,858,080	$0.00	$340.00	
	Rosenberg - L1 Loading Dock Renovations	-	1,040			867	1,040	867	1,040	$0	$520,000.00	$0.00	$500.00
	Rosenberg - L1 Emergency Department Renovations	-	1,410			1,084	1,410	1,084	1,410	$0	$1,057,500.00	$0.00	$750.00
	Rosenberg - L2 Egress Stair (to Courtyard) Renovations	-	500			500	500	500	500	$0	$250,000.00	$0.00	$500.00
	Rosenberg - L2 Pathology Renovations	-	884			884	884	884	884	$0	$663,000.00	$0.00	$750.00
	Rosenberg - L3 Radiology Renovations	-	1,734			1,083	1,734	1,083	1,734	$0	$1,473,900.00	$0.00	$850.00
	Rosenberg - L3 Connection to Rosenberg & Farr Bridge Renovations	-	300			300	300	300	300	$0	$165,000.00	$0.00	$550.00
	Rosenberg - L3 Peri-op Renovations	-	2,826			1,766	2,826	1,766	2,826	$0	$2,402,100.00	$0.00	$850.00
	Rosenberg - L5 Connection to Rosenberg & Farr Bridge Renovations	-	300			300	300	300	300	$0	$165,000.00	$0.00	$550.00
	Rosenberg - L6 Connection to Rosenberg	-	164			164	164	164	164	$0	$90,200.00	$0.00	$550.00
	Rosenberg - LL1 Materials Management/Kitchen Renovations	-	6,102			5,028	6,102	5,028	6,102	$0	$4,271,400.00	$0.00	$700.00
	Emergency Department Renovations	7,510	8,075			7,510	8,075	7,510	8,075	$0	$5,652,500	$0.00	$700.00
	Libby Loading Dock Renovations	15,610	19,764			15,610	19,764	15,610	19,764	$0	$7,213,860	$0.00	$365.00
	Project Total: (calculated)	**23,120**	**43,099**	**265,100**	**371,372**	**35,096**	**43,099**	**300,196**	**414,471**	**366,847,008**	**23,924,460**	**$885.10**	**$555.10**

Supplemental Note to Chart F4.a.i.
As part of the Project scope, enabling work renovations approved by the Department of Public Health are being made to maintain patient and ambulance access to the existing Emergency Department in the Rosenberg Building during construction and to temporarily relocate the loading facilities and permanently relocate the oxygen farm from the Project site. The functional areas and costs for such enabling work renovations are included in chart F4.a.i, submitted for the Project.

H. Articles of Organization

FEDERAL IDENTIFICATION
NO. 22-2629185

Examiner

Name
Approved

The Commonwealth of Massachusetts

William Francis Galvin
Secretary of the Commonwealth
One Ashburton Place, Boston, Massachusetts 02108-1512

042
045

RESTATED ARTICLES OF ORGANIZATION
(General Laws, Chapter 180, Section 7)

We, John T. Szum, *President/*Vice President,

and J. Mark Waxman, *Clerk/*Assistant Clerk,

of CareGroup. Inc.,
(Exact name of corporation)

located at 109 Brookline Ave., Suite 300, Boston, MA 02215,
(Street address of corporation in Massachusetts)

do hereby certify that the following Restatement of the Articles of Organization was duly adopted at a meeting

held on and September 7, 20 06, by a vote of: _____ members,

X 13 directors, or _____ shareholders**,

☐ Being at least two-thirds of the members or directors legally qualified to vote in meetings of the corporation where there is no amendment to the Articles of Organization; OR

☐ Being at least two-thirds of its members legally qualified to vote in meetings of the corporation where there is an amendment to the Articles of Organization; OR

☑ Being at least two-thirds of its directors where there are no members pursuant to General Laws, Chapter 180, Section 3 and there is an amendment to the Articles of Organization; OR

☐ In the case of a corporation having capital stock, by the holders of at least two-thirds of the capital stock having the right to vote therein where there is an amendment to the Articles of Organization.

C ☐
P ☐
M ☐
R.A. ☐

P.C.

*Delete the inapplicable words.
**Check only one box that applies.
Note: If the space provided under any article or item on this form is insufficient, additions shall be set forth on one side only of separate 8 1/2 x 11 sheets of paper with a left margin of at least 1 inch. Additions to more than one article may be made on a single sheet as long as each article requiring each addition is clearly indicated.

180res 1/28/04

ARTICLE I

The name of the corporation is:

CareGroup, Inc.

ARTICLE II

The purpose of the corporation is to engage in the following activities:

See Attachment Sheet 1a.

ARTICLE III

A corporation may have one or more classes of members. If it does, the designation of such classes, the manner of election or appointments, the duration of membership and the qualification and rights, including voting rights, of the members of each class, may be set forth in the by-laws of the corporation or may be set forth below:

The corporation shall have no members.

ARTICLE IV

**Other lawful provisions, if any, for the conduct and regulation of the business and affairs of the corporation, for its voluntary dissolution, or for limiting, defining, or regulating the powers of the corporation, or of its directors or members, or of any class of members, are as follows:

See Attachment Sheets 2a - 2c.

***If there are no provisions, state "None".*

Note: The preceding four (4) articles are considered to be permanent and may ONLY be changed by filing appropriate Articles of Amendment.

The Commonwealth of Massachusetts

William Francis Galvin
Secretary of the Commonwealth
One Ashburton Place, Boston, Massachusetts 02108-1512

Attachment Sheet

2. The purpose of the corporation is to engage in the following activities:

(1) To develop and coordinate an integrated health care delivery network of health care providers, including but not limited to a system of health care providers controlled by or under common control with the corporation, for the well-being of those of any race, creed, color, or national or ethnic origin; to support the advancement of the knowledge and practice of, and education and research in, medicine, surgery, nursing and all other subjects relating to the care, treatment and healing of humans; to improve the health and welfare of all persons; to develop, sponsor and promote services and programs that are charitable, scientific or educational and that address the physical and mental needs of the community at large, provided that the corporation shall operate exclusively for the benefit of Beth Israel Deaconess Medical Center, Inc., Beth Israel Deaconess Hospital – Needham, Inc., Mount Auburn Hospital, New England Baptist Hospital, and Harvard Medical Faculty Physicians at Beth Israel Deaconess Medical Center, Inc. and their affiliated hospitals and other affiliated charitable organizations in the conduct of their charitable, educational and scientific functions, and provided further, that the corporation shall not engage in the practice of medicine.

(2) to receive in trust or otherwise and from whatever source, and administer, gifts, legacies and devises, grants and grants-in-aid, whether unrestricted or for specific purposes; to cooperate with, contribute to and support other organizations in promoting the purposes of this corporation, including all corporations affiliated with this corporation that are determined to be exempt from federal income taxation under Section 501(c)(3) of the Code of 1986, as amended (the "Code"); and to do all things incidental to the foregoing;

(3) to conduct any business that may lawfully be carried on by a corporation formed under Chapter 180 of the General Laws of Massachusetts and that is not inconsistent with this corporation's qualification as an organization described in Section 501(c)(3) of the Code or expressly prohibited hereinabove.

The Commonwealth of Massachusetts

William Francis Galvin
Secretary of the Commonwealth
One Ashburton Place, Boston, Massachusetts 02108-1512

Attachment Sheet

4. Other lawful provisions, if any, for the conduct and regulation of the business and affairs of the corporation, for its voluntary dissolution, or for limiting, defining, or regulating the powers of the corporation, or of its directors or members, or any class of members, are as follows:

(1) The corporation shall have in furtherance of its corporate purposes all of the powers specified in Section 6 of Chapter 180 and in Sections 9 and 9A of Chapter 156B of the Massachusetts General Laws (except those provided in paragraph (m) of said Section 9) as now in force or as hereafter amended, and may carry on any operation or activity referred to in Article 2 hereof to the same extent as might an individual, either alone or in a joint venture or other arrangement with others, or through a wholly or partly owned or controlled corporation; provided, however, that no such power shall be exercised in a manner inconsistent with said Chapter 180 or any other chapter of the Massachusetts General Laws or inconsistent with the exemption from federal income tax to which the corporation shall be entitled under Section 501(c)(3) of the Code.

(2) No director or officer of the corporation shall be personally liable to the corporation for monetary damages for breach of fiduciary duty as such director or officer notwithstanding any provision of law imposing such liability, except to the extent that such exemption from liability is not permitted under Chapter 180 of the Massachusetts General Laws. No director or officer of the corporation shall be personally liable for any debt, liability or obligation of the corporation. All persons, corporations or other entities extending credit to, contracting with, or having any claim against, the corporation, may look only to the funds and property of the corporation for the payment of any such contract or claim, or for the payment of any debt, damages, judgment or decree, or of any money that may otherwise become due or payable to them from the corporation.

Attachment Sheet

(3) No part of the assets or net earnings of the corporation shall inure to the benefit of any officer or director of the corporation or any individual; no substantial part of the activities of the corporation shall be the carrying on of propaganda, or otherwise attempting, to influence legislation except to the extent permitted by Section 501(h) of the Code; and the corporation shall not participate in, or intervene in (including the publishing or distributing of statements), any political campaign on behalf of (or in opposition to) any candidate for public office. It is intended that the corporation shall be entitled to exemption from federal income tax under Section 501(c)(3) of the Code and shall not be a private foundation under Section 509(a) of the Code.

(4) If and so long as the corporation is a private foundation (as that term is defined in Section 509 of the Code), then notwithstanding any other provisions of the articles of organization or the by-laws of the corporation, the following provisions shall apply:

(a) the income of the corporation for each taxable year shall be distributed at such time and in such manner as not to subject the corporation to the tax on undistributed income imposed by Section 4942 of the Code, and

(b) the corporation shall not engage in any act of self dealing (as defined in Section 4941(d) of the Code), nor retain any excess business holdings (as defined in Section 4943(c) of the Code), nor make any investments in such manner as to subject the corporation to tax under Section 4944 of the Code, nor make any taxable expenditures (as defined in Section 4945(d) of the Code).

(5) Upon liquidation or dissolution of the corporation, after payment of all of the liabilities of the corporation or due provision therefor, all of the assets of the corporation shall be disposed of to one or more corporations exempt from federal income tax under Section 501(c)(3) of the Code selected by a majority of the then serving members of the Board of Directors of the corporation.

(6) The corporation shall not discriminate in administering its policies and programs or in the employment of its personnel on the basis of race, creed, color, national or ethnic origin, sex or handicap.

Attachment Sheet

(7) All references herein: (i) to the Code shall be deemed to refer to the Internal Revenue Code of 1986, as now in force or hereafter amended; (ii) to the General Laws of The Commonwealth of Massachusetts, or any chapter thereof, shall be deemed to refer to said General Laws or chapter as now in force or hereafter amended; and (iii) to particular sections of the Code or said General Laws shall be deemed to refer to similar or successor provisions hereafter adopted.

ARTICLE V

The effective date of the Restated Articles of Organization of the corporation shall be the date approved and filed by the Secretary of the Commonwealth. If a *later* effective date is desired, specify such date which shall not be more than thirty days after the date of filing.

October 1, 2006

ARTICLE VI

The information contained in Article VI is not a permanent part of the Articles of Organization.

a. The street address (post office boxes are not acceptable) of the principal office of the corporation *in Massachusetts* is:

109 Brookline Avenue, Suite 300, Boston, Massachusetts 02215

b. The name, residential address and post office address of each director and officer of the corporation is as follows:

	NAME	RESIDENTIAL ADDRESS	POST OFFICE ADDRESS
President:	See Attachment Sheets 3a-3c		
Treasurer:			
Clerk:			
Directors: (or officers having the powers of directors)			

c. The fiscal year of the corporation shall end on the last day of the month of: September

d. The name and business address of the resident agent, if any, of the corporation is:

John T. Szum, 109 Brookline Avenue, Suite 300, Boston, Massachusetts 02215

****We further certify that the foregoing Restated Articles of Organization affect no amendments to the Articles of Organization of the corporation as heretofore amended, except amendments to the following articles. Briefly describe amendments below:**

Article II, Section2(1) (see Attachment Page 1a) was amended to include the phrase "Beth Israel Deaconess Medical Center, Inc., Beth Israel Deaconess Hospital - Needham, Inc., Mount Auburn Hospital, and New England Baptist Hospital", in order to update the list of organizations for which the corporation serves as a "supporting organization" pursuant to 509(a)(3) of the Internal Revenue Code.

SIGNED UNDER THE PENALTIES OF PERJURY, this 28th day of September, 20 006.

John T. Szum, *President / ~~*Vice President~~,

J. Mark Waxman, ~~*Clerk~~ / *Assistant Clerk.

**Delete the inapplicable words.* ***If there are no such amendments, state "None".*

The Commonwealth of Massachusetts

William Francis Galvin
Secretary of the Commonwealth
One Ashburton Place, Boston, Massachusetts 02108-1512

Attachment Sheet

OFFICERS OF CAREGROUP, INC.

	Name	Residential Address	Post Office Address
President	Vacant		
Vice President	John Szum	3 Windsor Road East Walpole, MA 02032	
Treasurer:	Professor F. Warren McFarlan	37 Beatrice Circle Belmont, MA 02178	
Clerk:	J. Mark Waxman	56 Laurel Road Weston, MA 02493	

The Commonwealth of Massachusetts

William Francis Galvin
Secretary of the Commonwealth
One Ashburton Place, Boston, Massachusetts 02108-1512

Attachment Sheet

BOARD OF DIRECTORS OF CAREGROUP, INC.

Name	Residential Address	Post Office Address
D. Barr Clayson	60 Hidden Road Weston, MA 02493	
John H. Cogswell	1479 Great Plain Avenue Needham, MA 02492	
Samuel C. Fleming	61 Meadowbrook Road Weston, MA 02193	
Mark C. Gebhardt, M.D.	44 Willow Crescent Brookline, MA 02445	
Harold Hestnes, Esq.	2 Sudbury Road Weston, MA 02193	
Robert J. Lepofsky	47 Southwood Lane Needham, MA 02492	
Robert M. Melzer	61 Monmouth Street Brookline, MA 02446	
Professor F. Warren McFarlan	37 Beatrice Circle Belmont, MA 02178	
Thomas P. O'Neill, III	One Exeter Street Boston, MA 02116	
A. Kim Saal, M.D.	35 Shattuck Road Watertown, MA 02472	
Lois E. Silverman	One Commonwealth Avenue Boston, MA 02116	

The Commonwealth of Massachusetts

William Francis Galvin
Secretary of the Commonwealth
One Ashburton Place, Boston, Massachusetts 02108-1512

Attachment Sheet

BOARD OF DIRECTORS OF CAREGROUP, INC. (cont'd.)

Name	Residential Address	Post Office Address
Helen R. Strieder	83 Penniman Place Brookline, MA 02445	
John P. Wilkins	36 Amherst Road Wellesley, MA 02482	

THE COMMONWEALTH OF MASSACHUSETTS

RESTATED ARTICLES OF ORGANIZATION

(General Laws, Chapter 180, Section 7)

I hereby approve the within Restated Articles of Organization and, the filing fee in the amount of $ 35 having been paid, said articles are deemed to have been filed with me this 28th day of September, 2006.

Effective Date: _____

WILLIAM FRANCIS GALVIN
Secretary of the Commonwealth

0994187

2006 SEP 28 P1:04

TO BE FILLED IN BY CORPORATION
Contact information:

Linda Sleeper, CareGroup, Inc.

109 Brookline Avenue, Suite 300

Boston, Massachusetts 02215

Telephone: (617) 667-1722

Email: lsleeper@caregroup.harvard.edu

A copy this filing will be available on-line at www.state.ma.us/sec/cor once the document is filed.

I. Factor 6 Supplemental Materials

Attachments to the Application
Attachment I.1

1. Summary of BIDMC Community-Based Health Initiatives and Community Engagement

Summary of BIDMC Community-Based Health Initiatives and Community Engagement

Below is a summary of BIDMC's CHI approach:

BIDMC NIB Community Advisory Committee (NIB-CAC): BIDMC will create an advisory committee representing a broad range of organizations and individuals to meet Massachusetts Department of Public Health (DPH) Determination of Need (DON) requirements. The NIB-CAC will focus on BIDMC's Community Benefits Service Area (CBSA) which includes the Boston neighborhoods of Allston/Brighton, Bowdoin/Geneva, Chinatown, Fenway/Kenmore, and Roxbury. Priorities will build on BIDMC's Community Health Needs Assessment (CHNA) and NIB-CAC efforts will align with and/or be informed by BIDMC initiatives related to the Boston Planning and Development Agency's process and associated benefits and mitigation (e.g., Neighborhood Housing and Jobs Trust Funds).

Facilitation: Through a competitive RFP process, using CHI funds BIDMC will hire an independent facilitator for NIB-CAC meetings, the community forums and the annual public meetings.

Evaluation: Through a competitive bidding process, using CHI funds BIDMC will hire an independent evaluator. The evaluator will be required to evaluate all components of the CHI process including engagement outcomes, the planning process, the RFP process, and the impact of awarded grants.

Community Engagement: Using input from the NIB-CAC, BIDMC will conduct five community forums focused on the neighborhoods and/or specific cohorts or needs highlighted in BIDMC's FY 16 CHNA and CBSA. Community forums will be facilitated by an independent facilitator to ensure engaged participation. Additionally, BIDMC will host an annual public meeting at which grant recipients will share progress.

Communication: In addition to the annual public meetings, BIDMC will maintain an up-to-date CHI web-page which will offer the option for interested individuals to receive updates via email.

Allocation Committee: BIDMC will establish an Allocation Committee comprised of individuals who do not have a conflict of interest in regard to the CHI funding. The Allocation Committee will oversee a transparent and competitive process for awarding funds for priorities identified through the community engagement process with input from the NIB-CAC.

Grant awards: BIDMC expects to offer two sequential RFP cycles, incorporating lessons learned and best practices from the first cycle into the second cycle. BIDMC requests an eight year period to maximize the impact of the awarded funds.

Transparency: The schedule, location, minutes and attendance from all NIB-AC meetings will be posted on the BIDMC NIB Web-site. Meetings will be open to the public and members of the public may provide written or oral comments during public comment periods. Annually, BIDMC will host a forum where grant recipients will present on their projects sharing progress to date.

2. Community Engagement Plan Form (with Supplemental Information)

Massachusetts Department of Public Health
Determination of Need
Community Health Initiative
Community Engagement Plan

Version: 8-1-2017

The Community Engagement Plan is intended for those Applicants with CHIs that require further engagement above and beyond the regular and routine CHNA/CHIP processes. For further guidance, please see the *Community Engagement Standards for Community Health Planning Guidelines* and its appendices for clarification around any of the following terms and questions.

All questions in the form, unless otherwise stated, must be completed.

Approximate DoN Application Date: 07/27/2018

DoN Application Type: Hospital/Clinic Substantial Capital Expenditure

Applicant Name: CareGroup, Inc.

What CHI Tier is the project? ○ Tier 1 ○ Tier 2 ◉ Tier 3

1. Community Engagement Contact Person

Contact Person: Nancy Kasen

Title: Director, Community Benefits

Mailing Address: Beth Israel Deaconess Medical Center, 109 Brookline Avenue, BR 270

City: Boston

State: Massachusetts

Zip Code: 02215

Phone: 6176672602

Ext:

E-mail: nikasen@bidmc.harvard.edu

2. Name of CHI Engagement Process

Please indicate what community engagement process (e.g. the name DoN CHI Initiative associated with the CHI amount) the following form relates to. This will be use as a point of reference for the following questions.
(please limit the name to the following field length as this will be used throughout this form):

BIDMC New Inpatient Building

3. CHI Engagement Process Overview and Synergies with Broader CHNA /CHIP

Please briefly describe your overall plans for the CHI engagement process and specific how this effort that will build off of the CHNA / CHIP community engagement process as is stated in the *DoN Community-Based Health Initiative Planning Guideline.*

Beth Israel Deaconess Medical Center (BIDMC) maintains a steadfast and long-standing commitment to the health and well-being of our community. BIDMC founded and supports the Community Care Alliance (CCA), a health center network that includes five Boston health centers (Bowdoin Street Health Center, Charles River Community Health, The Dimock Center, Fenway Health, and South Cove Community Health Center) serving over 100,000 low-resource, diverse patients annually. Since first partnering with The Dimock Center in 1968, and Fenway Health in 1974, Beth Israel and the Deaconess hospitals, respectively, have supported collaborative and/or delegated community-based health programming for decades. BIDMC continues this legacy with robust Community Benefits programming to address social determinants of health, health risk factors and other barriers to optimizing health and well-being. This DON/CHI will be no exception.

The CHI engagement will build upon on secondary and primary data collection and community engagement that occurred during BIDMC's FY 16 community health needs assessment (CHNA) in five neighborhoods - one in each of BIDMC's community benefit service area (CBSA) neighborhoods (Bowdoin/Geneva, Allston/Brighton, Fenway/Kenmore, Chinatown and Roxbury). BIDMC's CHNA priority cohorts include older adults, racially/ethnically/linguistically diverse populations, low-resources individuals and those who identify as lesbian, gay, bisexual or transgender. The FY 16 CHNA community engagement included broad community and public health participation and extensive engagement including key informant interviews, public/community forums and oversight by a diverse and knowledgeable Community Benefits Committee, a sub-committee of BIDMC"s Board of Directors. [see Appendix for list of key informant interviews and forums].

Using input from BIDMC's New Inpatient Building (NIB) Community Advisory Committee, BIDMC will conduct up to five community forums focused on the neighborhoods and/or specific cohorts or needs highlighted in BIDMC's FY 16 CHNA and CBSA. Community forums will be facilitated by an independent facilitator to ensure engaged participation to help make sure BIDMC pursues a community-engaged strategy for the selected CHI priority/ies.

4. CHI Advisory Committee

In the CHNA/CHIP Self Assessment, you listed (or will list) the community partners that will be involved in the CHI Advisory Committee to guide the BIDMC New Inpatient Building . As a reminder:

For Tier 2 DON CHI Applicants: The CHI Advisory Committee is tasked with helping select DoN Health Priorities based on the CHNA / CHIP unless the Applicant is directed by DPH to conduct additional community engagement. If so, the advisory committee's role is to guide that additional work.

For Tier 3 DON CHI Applicants: The CHI Advisory Committee is to select DoN Health Priorities based on**, but not exclusive to,** the CHNA / CHIP. This includes the additional community engagement that must occur to develop the issue priorities.

5. Focus Communities for CHI Engagement

Within the BIDMC New Inpatient Building , please specify the target community(ies), please consider the community(ies) represented in the CHNA / CHIP processes where the Applicant is involved.

Add/Del Rows	Municipality	If engagement occurs in specific neighborhoods, please list those specific neighborhoods:
+ -	Boston	Specific neighborhoods include Bowdoin Geneva, Roxbury, Fenway/Kenmore, Chinatown and Allston/Brighton

6. Reducing Barriers

Identify the resources needed to reduce participation barriers (e.g., translation, interpreters, child care, transportation, stipend). For more information on participation barriers that could exist, please see Appendix A from the *Community Engagement Standards for Community Health Planning Guidelines* http://www.mass.gov/eohhs/docs/dph/quality/don/guidelines-community-engagement.pdf

As with prior community engagement and community forums, BIDMC will hold the forums in locations, preferably in the community, that are accessible, near/reachable via public transportation and also offer parking (complimentary). BIDMC will provide food and interpretation. We will also provide quiet activities (coloring books, crayons, puzzles, etc.) to occupy children who accompany their parents.

7. Communication

Identify the communication channels that will be used to increase awareness of this project or activity:

BIDMC will post all forums and updates on the BIDMC New Inpatient Building web-site. The web-site will allow individuals to register to receive notices of upcoming events, meetings, etc. NIB CHI page will also contain BIDMC NIB-CAC minutes, attendance and meeting dates/times. Meetings will be open to the public, with time reserved for written or oral public input.

Additionally, BIDMC will advertise community forums via flyers (in prevalent languages) distributed to community-based organizations, community partners and others identified by the BIDMC NIB CAC.

8. Build Leadership Capacity

Are there opportunities with this project or activity to build community leadership capacity? (●) Yes ( ) No

If yes, please describe how.

Working with the BIDMC NIB CAC, depending on priorities selected, BIDMC is open to exploring opportunities to foster community leadership.

9. Evaluation

Identify the mechanisms that will be used to evaluate the planning process, engagement outcome, and partner perception and experience:

BIDMC will hire an independent evaluator through a competitive request for proposal process. Effort will be made to select a qualified evaluator from and/or knowledgeable about Boston and BIDMC's CBSA neighborhoods and cohorts. The evaluator will conduct rigorous evaluation that will measure engagement outcomes, assess the planning process, inform the CHI RFP process, and determine the impact of the awarded funds. BIDMC anticipates that the evaluation will occur over the full length of the CHI.

10. Reporting

Identify the mechanisms that will be used for reporting the outcomes of this project or activity to different groups within the community:

Residents of Color

BIDMC NIB Annual Public Meeting in collaboration with the NIB BIDMC Community Advisory Committee; on-going update via the CHI page on the BIDMC NIB web-site; updates/highlights shared in the community by members of the NIB BIDMC Community Advisory Committee; NIB BIDMC Community Advisory Committee meetings will be open to the public

Residents who speak a primary language other than English

Availability of interpreters at the community forums, the BIDMC NIB Annual Public Meeting and BIDMC NIB Community Advisory Committee meetings; annual updates translated into languages determined by BIDMC and the NIB BIDMC Community Advisory Committee

Aging population

BIDMC NIB Annual Public Meeting in collaboration with the NIB BIDMC Community Advisory Committee; on-going update via the CHI page on the BIDMC NIB web-site; updates/highlights shared in the community by members of the NIB BIDMC Community Advisory Committee; NIB BIDMC Community Advisory Committee meetings will be open to the public

Youth

BIDMC NIB Annual Public Meeting in collaboration with the NIB BIDMC Community Advisory Committee; on-going update via the CHI page on the BIDMC NIB web-site; updates/highlights shared in the community by members of the NIB BIDMC Community Advisory Committee; NIB BIDMC Community Advisory Committee meetings will be open to the public

Residents Living with Disabilities

BIDMC NIB Annual Public Meeting in collaboration with the NIB BIDMC Community Advisory Committee; on-going update via the CHI page on the BIDMC NIB web-site; updates/highlights shared in the community by members of the NIB BIDMC Community Advisory Committee; NIB BIDMC Community Advisory Committee meetings will be open to the public

GLBTQ Community

BIDMC NIB Annual Public Meeting in collaboration with the NIB BIDMC Community Advisory Committee; on-going update via

the CHI page on the BIDMC NIB web-site; updates/highlights shared in the community by members of the NIB BIDMC Community Advisory Committee; NIB BIDMC Community Advisory Committee meetings will be open to the public

Residents with Low Incomes

BIDMC NIB Annual Public Meeting in collaboration with the NIB BIDMC Community Advisory Committee; on-going update via the CHI page on the BIDMC NIB web-site; updates/highlights shared in the community by members of the NIB BIDMC Community Advisory Committee; NIB BIDMC Community Advisory Committee meetings will be open to the public

Other Residents

BIDMC NIB Annual Public Meeting in collaboration with the NIB BIDMC Community Advisory Committee; on-going update via the CHI page on the BIDMC NIB web-site; updates/highlights shared in the community by members of the NIB BIDMC Community Advisory Committee; NIB BIDMC Community Advisory Committee meetings will be open to the public

11. Engaging the Community At Large

Which of the stages of a CHNA/CHIP process will the BIDMC New Inpatient Building focus on? Please describe specific activities within each stage and what level the community will be engaged during the BIDMC New Inpatient Building . While the step(s) you focus on are dependent upon your specific community engagement needs as a result of your previous CHNA/CHIP work, for tier 3 applicants the CHI community engagement process must at a minimum include the "Focus on What's Important," "Choose Effective Policies and Programs" and "Act on What's Important" stages. (For definitions of each step, please see pages 12-14 in the *Community Engagement Standards for Community Health Planning Guidelines* http://www.mass.gov/eohhs/docs/dph/quality/don/guidelines-community-engagement.pdf).

	Inform	Consult	Involve	Collaborate	Delegate	Community - Driven / -Led
☒ Assess Needs and Resources	○	○	◉	○	○	○

	Inform	Consult	Involve	Collaborate	Delegate	Community - Driven / -Led
Please describe the engagement process employed during the "Assess Needs and Resources" phase.	The BIDMC Patient Family Advisory Council (PFAC) is engaged in and participates on the New Inpatient Building planning committee as well as user group panels. PFAC input is being incorporated into the New Inpatient Building design process and the decision for single-bedded rooms was informed by a 2016 survey conducted by the PFAC, which indicated that privacy is especially important to address several patient panel needs. Similarly, the Universal Access ADA Staff and Advisory Council have been involved in the planning for the new building. As BIDMC serves a large deaf/hard-of-hearing and Limited English Proficient patient population, BIDMC's Interpreter Services department has been involved in the technology visioning Shari Gold Gomez has been included in the technology visioning processes, aiming to leverage technology in the design of the NIB to best meet the needs of these patients. In addition to the engaging the PFAC, BIDMC is committed to open, transparent communication and collaboration with community groups, neighbors, state and local officials and agencies, and neighboring institutions. As such, BIDMC met with the Roxbury Tenants of Harvard, MASCO, and the Longwood Medical Area Taskforce to discuss the design of the building and understand neighborhood concerns. Related to concerns expressed, BIDMC is working to conduct a noise study, options for ensuring that the building is bird-friendly and does not adversely impact the Riverway. BIDMC has also consulted with the CEO's of the Community Care Alliance, the five Boston health centers - Bowdoin Street Health Center, Charles River Community Health, The Dimock Center, Fenway Health and South Cove Community Health Center - on the plans for the NIB. The health centers raised concerns about signage during construction, particularly for limited English proficient patients. BIDMC is working with the health centers to address this issue. BIDMC also consulted with its Community Benefits Committee.					
☒ Focus on What's Important	○	○	○	◉	○	○
Please describe the engagement process employed during the "Focus on What's Important" phase.	BIDMC will establish diverse stakeholder group to guide identification and prioritization of expanded health priority selection. BIDMC anticipates conducting five community forums – determined with input from BIDMC NIB-CAC (see below). BIDMC will reduce barriers to participation by providing food, interpretation, parking and/or selecting locations that are T-accessible. All NIB-CAC and community forums will be facilitated by an independent facilitator that BIDMC will hire. BIDMC will create an advisory committee (NIB-CAC) that represents a broad range of organizations to meet Massachusetts Department of Public Health (DPH) Determination of Need (DON) requirements while also meeting BIDMC's Community Health Needs Assessment (CHNA) identified priority areas: access to care, behavioral health, chronic disease management and prevention, and social determinants of health and health risk factors. The identified members have knowledge of and expertise in the service needs of the community/City with an emphasis on the identified priority areas. Please refer to Supplemental Information for the CHI/Community Engagement Form for additional information.					
☒ Choose Effective Policies and Programs	○	○	◉	○	○	○

	Inform	Consult	Involve	Collaborate	Delegate	Community - Driven / -Led
Please describe the engagement process employed during the "Choose Effective Policies and Programs" phase.	BIDMC NIB-CAC Transparency The schedule, location, minutes and attendance from all NIB-AC meetings will be posted on the BIDMC NIB Web-site. Monthly and quarterly meetings will be open to the public and members of the public may provide written or oral comments during public comment periods. Annually, BIDMC will host a forum where grant recipients will present on their projects sharing progress to date. Subsequent to submitting and receiving approval from the DPH on the Allocation Plan, BIDMC will issue a request for proposals for funding opportunities based on the priorities established through the NIB-CAC process. BIDMC anticipates offering two RFP cycles. Please refer to Supplemental Information for the CHI/Community Engagement Form for additional information.					
☒ Act on What's Important	○	◉	○	○	○	○
Please describe the engagement process employed during the "Act on What's Important" phase.	BIDMC will administer a transparent and widely publicized request for proposal process based on priorities and strategies identified with input from the BIDMC NIB CAC. BIDMC expect to offer multi-year grants but will explore "seed" grants or technical assistance options to build the evaluation and infrastructure capacity of prospective applicants and/or grant recipients. All grants will be overseen by BIDMC staff and will be included in and/or subject to the evaluation process and metrics. Likewise, grantees will share/present at the annual public meetings.					
☒ Evaluate Actions	○	◉	○	○	○	○
Please describe the engagement process employed during the "Evaluate Actions" phase.	BIDMC will hire an independent evaluator to conduct independent and rigorous evaluation. The evaluation will measure engagement outcomes assess the planning process, be used to inform the RFP process(es), and determine impact of awarded grants. Please refer to Supplemental Information for the CHI/Community Engagement Form for additional information.					

12. Document Ready for Filing

When the document is complete, click on "document is ready to file". This will lock in the responses, and Date/Time stamp the form. To make changes to the document, un-check the "document is ready to file" box. Edit the document, then lock file and submit. Keep a copy for your records. Click on the "Save" button at the bottom of the page.

To submit the application electronically, click on the"E-mail submission to DPH" button.

This document is ready to file: ☒

E-mail submission to DPH

Date/Time Stamp: 07/27/2018 12:47 pm

BIDMC Supplemental Information to the
Community Health Initiative Community Engagement Plan Form

This narrative is to supplement information contained in the *Community Health Initiative Community Engagement Plan Form*.

As outlined in the Community Engagement Form, BIDMC proposes a community engagement process that adheres to the specifications in the Department's *Community Engagement Standards for Community Health Planning Guidelines.* BIDMC met with the Director and staff of the Department's Office of Community Health Planning and Engagement to review and discuss the proposed engagement process. (Refer to Appendix A.)

Community Engagement for the Community Health Initiative ("CHI") encompasses additional activity required by the Determination of Need ("DoN") process that will build upon BIDMC's most recent Community Health Needs Assessment ("CHNA") (See Supplemental Information on Community Health Needs Assessment). This effort will begin with the appointment of the BIDMC New Inpatient Building ("NIB") Community Advisory Committee ("NIB-CAC").

I. New Inpatient Building Community Advisory Committee:

The NIB-CAC will advise and assist BIDMC on the community engagement process for the New Inpatient Building, supplementing BIDMC's community engagement, CHNA and existing programming. The NIB-CAC will provide recommendations to BIDMC's NIB Allocation Committee ("NIB-ALLC") on CHI priorities and categorical allocation of funds in order to best support the community. NIB-CAC efforts will align with and/or be informed by BIDMC initiatives related to the Boston Planning and Development Agency's process and associated benefits and mitigation, such as Neighborhood Housing and Jobs Trust Funds.

Upon receipt of approval of the NIB Determinatin of Need , the NIB-CAC will begin meeting. Timelines and agendas for NIB-CAC meetings are proposed as follows:

Proposed Initial 6-months Timeline

NIB-CAC members will attend six monthly two-hour in-person meetings, reviewing agendas and materials prior to each meeting. Meetings will commence immediately following award of DoN approval and will be held at BIDMC. Members will assist BIDMC with framing and engaging the community for community forums by brainstorming relevant topics, drafting a list of questions, and proposing meeting locationspublicizing and assisting with recruitment for these forums. Members will also attend at least one community forum.

Proposed Initial 6-months Agendas

Month 1: Review purpose of the CHNA/CHIP and DPH priorities; begin discussion of additional community engagement (locations, cohorts, questions)

Month 2: Review proposed plan for CE - discuss marketing, recruitment, and questions

Month 3: Conduct CE - provide update and receive input/feedback

Month 4: Conduct CE - provide update and receive input/feedback

Month 5: Summarize findings of CE and begin prioritization process

Month 6: Finalize prioritization process; Review draft funding plan for submission to DPH; discuss dissemination/CE for RFP; via email obtain input/update from NIB-CAC on any additional feedback received from DPH on proposed allocation plan; note - following submission of the Allocation Plan to DPH, NIB-CAC members may be required to attend a seventh meeting to advise on changes, if necessary.

Proposed Post-Initial 6-month Timeline (Quarterly - through March 2020):

Subsequent to the DPH's approval of the Allocation Plan, members will attend four quarterly in-person meetings (1.5 hours) at BIDMC to obtain information on the CHI process and continue to educate and engage their community/cohort in the CHI process. During the meetings, the NIB-CAC will discuss dissemination of community engagement for requests for proposals ("RFP") and provide updates on continued engagement of the community, such as funding awards and the RFP process. The NIB-CAC will continue to meet semi-annually for the duration of the CHI, of which one meeting will be a public forum at which grant recipients will present on the progress of their project.

In summary:

Month:	Frequency of Meeting:
1 – 6 or 7	Monthly
7- 18	Quarterly
18 – 72	Semi-annually (includes annual public forum)

BIDMC will hire, through a competitive RFP process, an independent facilitator to facilitate all NIB-CAC meetings, annual forums and community forums. BIDMC is seeking to use 2% ($469,625) of all CHI funding ($26,718,412) to ensure transparent and engaged facilitation at approximately 27 meetings (over 8 years) that will be open to the public.

II. CHI Timing

Given the breath and scope of the CHI and the desire to maximize the impact of the CHI fund, BIDMC requests an extension of six months to enable an engaged, meaningful, and transparent RFP process. BIDMC proposes to place initial funding amounts, within 12 months of notice of approval, in escrow and undertake a competitive RFP process to be completed 18 months from notice of approval.

BIDMC expects to offer two sequential RFP cycles and anticipates awarding multi-year grants. This will allow the second cycle to incorporate lessons learned and best practices obtained during the first cycle. Thus, BIDMC requests additional time to carry out the total disbursement of funds for the CHI. BIDMC requests an eight year period to maximize the impact of the awarded funds.

III. Allocation Committee

BIDMC will establish an Allocation Committee comprised of individuals who do not have a conflict of interest in regard to the CHI funding. The Allocation Committee will oversee a transparent and

competitive process for awarding funds for priorities identified through the community engagement process with input from the NIB-CAC.

The Allocation Committee will be comprised of BIDMC staff - Community Benefits staff (Director as Chair), Community Relations staff, Social Work staff, BIDMC Community Benefits Committee members, a CDC member, a resident, and representatives from the City of Boston. Additionally, we will compile a list of subject matter experts to serve as consultants to the Allocation Committee.

As stated above, BIDMC anticipates offering multi-year grants with two RFP cycles. BIDMC requests to use 3% of all CHI funds ($875,000) for administering the transparent RFP process, technical assistance to grantees, tracking and monitoring progress of grants, and overall coordination of grant awards.

IV. Logistics and Communication:

BIDMC was founded to serve the underserved and, as such, is rooted in community. Therefore, it proposes engaging in an on-going dialogue with the community and an annual meeting at an accessible location that will be professionally facilitated and will provide updates on the status of our DON and CHI. The BIDMC communication plan includes:

a. A regularly updated web-site hosted by BIDMC,
b. Pushed email updates (collecting participants' contact information during Community Engagement) and
c. An annual forum, independently/professionally facilitated, at which grant recipients will share progress (including CHI fund recipients presentations, Q&A, etc.) on the CHI.

BIDMC requests to use 2% ($510,000) for CHI logistical and communication support to ensure widespread information sharing and transparency about priorities and processes; and to cover miscellaneous expenses such as parking for the NIB-CAC or the public forums, AV, food, etc.

V. Evaluation:

BIDMC will undertake a competitive bidding process for an independent evaluator which will be responsible for evaluating all components of the CHI process including engagement outcomes, the planning process, the RFP process, and the impact of awarded grants. BIDMC is seeking to use 6% ($1.6M) for evaluation.

3. Current CHNA/CHIP Submitted to Massachusetts AGO's Office

Beth Israel Deaconess Medical Center

COMMUNITY HEALTH NEEDS ASSESSMENT

Final Report

Approved by the
Beth Israel Deaconess Medical Center
Board of Directors

September 20, 2016

2016

Community Health Needs Assessment for Beth Israel Deaconess Medical Center

Produced by John Snow Inc.

Beth Israel Deaconess Medical Center

Executive Summary

Purpose and Background

Beth Israel Deaconess Medical Center (BIDMC) is one of the nation's preeminent academic medical centers. BIDMC is committed to excellence in clinical care, bio-medical research and education and to the health and wellness of its patients and the communities it serves[1].BIDMC is a major teaching hospital of Harvard Medical School and is a fully integrated medical center providing adult services. BIDMC attracts leading clinicians in all medical fields. BIDMC experts not only provide gold standard treatments to help a patient get better, they also help educate the public on disease prevention. BIDMC clinicians feel a responsibility to do more than make patients better when they are sick — they want to help the community stay healthy.

This Community Health Needs Assessment (CHNA) report along with the associated Community Health Implementation Plan (CHIP) is the culmination of nine months of work. BIDMC conducted the assessment to better understand and address the health-related needs of those living in its Community Benefits Service Area (CBSA), with an emphasis on those who are most vulnerable. This project also fulfills Massachusetts Attorney General's Office and Federal Internal Revenue Service (IRS) requirements that dictate that BIDMC assess community health need, engage the community, and identify priority health issues every three years. The Commonwealth and Federal requirements further direct BIDMC to create a community health implementation plan that will guide how BIDMC, in collaboration with the community, their network of health and social service providers, and the local health departments will address the identified needs and priorities.

With respect to community benefits, BIDMC works with these partners and collaborators to increase access to primary and obstetrical care and other needed services, healthy foods, physical activity, and chronic disease management and prevention services. BIDMC also works with partners to reduce the burden of mental illness, substance use, and infectious diseases. This work is done in partnership with an extensive array of health, social service, and other community-based organizations throughout BIDMC's CBSA. BIDMC also collaborates with the Boston Public Health Commission, community coalitions, and the Community Care Alliance (CCA), which is a network of community health centers committed to serving underserved populations in BIDMC's CBSA. Demographically and socio-economically, BIDMC focuses its activities to meet the needs of all segments of the population but it focuses its efforts particularly on those who may face disparities due to race, ethnicity, socioeconomic status, age, sexual orientation or gender identity.

Approach and Methods

The CHNA was conducted in three phases, which allowed BIDMC to: 1) compile an extensive amount of quantitative and qualitative data, 2) engage and involve key stakeholders, BIDMC clinical and administrative staff, and the community at-large, 3) develop a report and detailed strategic plan, and 4) comply with all Commonwealth Attorney General and Federal IRS community benefits

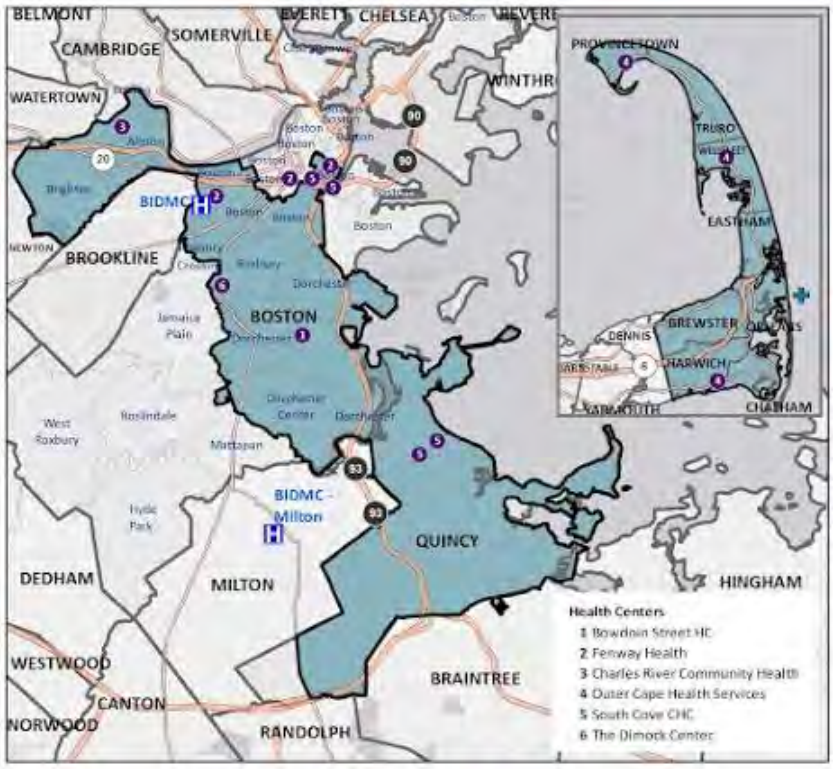
[1] http://www.bidmc.org/About-BIDMC/Protecting-Patients-and-Families/External-Vendors/BIDMC-Mission.aspx

requirements. Data sources included a broad array of publicly available secondary data, key informant interviews, and four community forums.

BIDMC Community Benefits Service Area

BIDMC focuses its community benefits efforts on improving the health status of the diverse and/or low income, vulnerable populations living in many of Boston's most vulnerable neighborhoods as well as the city of Quincy adjacent to Boston. In addition, BIDMC supports the four isolated towns that make up the Outer Cape portion of Cape Cod: Harwich, Wellfleet, Truro, and Provincetown. These neighborhoods, cities, and towns have large proportions of low income, racially and ethnically diverse, foreign born immigrant, and/or geographically isolated residents. The challenges that these cohorts face with respect to social determinants of health and access to care are often intense and are at the root of the poor health outcomes that are seen for these communities.

BIDMC Community Benefits Service Area (CBSA)



BIDMC's support of these neighborhoods, cities, and towns has been funneled through the network of health centers that are part of the Community Care Alliance (CCA).[2] The six health centers that are part of the CCA are all rooted in their communities and are dedicated to serving underserved, vulnerable populations, primarily from the neighborhoods in which they are located.[3] Five of these clinics are federally qualified health centers (FQHCs) and are mandated to serve the low income, underserved populations in BIDMC's CBSA.

[2] More on BIDMC's Community Care Alliance can be found at the following link. http://www.bidmc.org/Medical-Education/DiversityInclusion/~/link.aspx?_id=AC81F6F38EDF47BEBC731B693E29DCC8&_z=z

[3] Fenway Community Health and South Cove Community Health Center serve low income, underserved residents from the communities adjacent to their service sites but because of their unique ability to serve certain population segments well (i.e., Asian populations for South Cove and the LGBT community for Fenway Community Health) draw patients from throughout the Greater Boston Area.

A map showing the locations of the CCA clinics and the specific neighborhoods, cities, and towns that are part of BIDMC's CBSA is included above.

Key Health-Related Findings

This section summarizes the key health-related findings after the comprehensive review of secondary data analysis and primary data collection.

Social Determinants and Health Risk Factors

- **Social Determinants of Health (e.g., economic stability, education, and community/social context) Continue to Have a Tremendous Impact on Many Segments of the Population.** The dominant theme from the assessment's key informant interviews and community forums was the continued impact that the underlying social determinants of health are having on the CBSA's low income, underserved, diverse population cohorts. More specifically, determinants such as poverty, employment opportunities, violence, transportation, racial segregation, literacy, provider linguistic/cultural competency, social support, and community integration limit many people's ability to care for their own and/or their families' health.

- **Disparities in Health Outcomes Exist in BIDMC CBSA by Race/Ethnicity, Foreign Born Status, and Language:** As was established in the 2013 BIDMC Community Benefits CHNA Report, there are major health disparities for residents living in BIDMC's CBSA. This is particularly true for racially/ethnically diverse, foreign born, and non-English speaking residents living in the neighborhoods in Boston that are part of BIDMC's CBSA (i.e., Allston/Brighton, Dorchester, Fenway, Roxbury, and South End/Chinatown). The impact of racism, barriers to care, and disparities in health outcomes that these populations face are widely documented in the literature and are confirmed by numerous national, Commonwealth, and local data sources, including data from the Boston Public Health Commission 2014-15 Health of Boston Report.[4]

  It is crucial that these disparities be addressed and, to this end, BIDMC's CHIP continues to include a myriad of programs, strategic interventions, and services that are carefully targeted to address these disparities. However, it is critical to note that there is a multitude of individual, community and societal factors that work together to create these inequities. The underlying issue is not only race/ethnicity, foreign born status, or language but rather a broad array of inter-related issues including economic opportunity, education, crime, and community cohesion. Arguably, these are the leading determinants of health for all urban communities in the United States, and they are daunting challenges. Many of Boston's major academic and health care institutions, including BIDMC, have been at the heart of this national dialogue for decades. BIDMC is committed to doing what it can to address these factors and every priority area and goal in BIDMC's CHIP is structured to address health disparities and inequities in some way.

[4] http://www.bphc.org/healthdata/health-of-boston-report/Documents/HOB-2014-2015/FullReport_HOB_2014-2015.pdf

- **Limited Access to Primary Care Medical and Specialty Care, Oral Health, and Behavioral Health Services for Low Income, Medicaid Insured, Uninsured, and Other Population Segments Facing Barriers to Care.** Despite the fact that 1) Massachusetts has one of highest rates of health insurance and 2) the communities that make up BIDMC's CBSA have strong, robust safety net systems there are still substantial numbers of low income, Medicaid insured, uninsured, and otherwise vulnerable individuals who face health disparities and are not engaged in essential medical and behavioral health services. Efforts need to be made to expand access, reduce barriers to care, and improve the quality of primary care and specialty medical, oral health, and behavioral health services.

- **High Rates of the Leading Health Risk Factors (e.g., Lack of Nutritional Food and Physical Activity, Alcohol/Illicit Drug Abuse, and Tobacco Use).** One of the leading findings from the assessment is that many communities and/or population segments in BIDMC's CBSA have high rates of chronic physical and behavioral health conditions. In some people these conditions have underlying genetic roots that are hard to counter. However, for most people these conditions are widely considered to be preventable or manageable. Addressing the leading risk factors is at the root of a sound chronic disease prevention and management strategy.

Behavioral Health

- **High rates of Substance Abuse (e.g., Alcohol, Prescription Drug/Opioids, Marijuana) and Mental Health Issues (e.g., Depression, Anxiety, and Stress).** If the impact of social determinants was the leading finding, a close second was the profound impact that behavioral health issues (i.e., substance abuse and mental health) are having on individuals, families and communities in every geographic region and every population segment in BIDMC's CBSA. Depression/anxiety, suicide, alcohol abuse, opioid and prescription drug abuse, and marijuana use, particularly in youth, are major health issues and are having a tremendous impact on the population as well as a burden on the service system. The fact that physical and behavioral health are so intertwined compounds the impact of these issues. Of particular concern are the increasing rates of opioid abuse.

- **Limited Access to Behavioral Health Services, Particularly for Low Income, Medicaid Insured, Uninsured, and those with Complex. Multi-faceted Issues.** Despite the burden of mental health and substance abuse on all segments of the population, there is an extremely limited service system available to meet the needs that exist for those with all mild to moderate episodic issues or those with more serious and complex, chronic conditions. Efforts need to be made to expand access, reduce barriers to care (including stigma), and improve the quality of primary care and specialized behavioral health services.

Chronic Disease Management

- **High Rates of Chronic and Acute Physical Health Conditions (e.g., heart disease, hypertension, cancer, and asthma).** The assessment's quantitative data clearly shows that many communities in BIDMC's CBSA have high rates for many of the leading physical health conditions (e.g., heart disease, hypertension, cancer, and asthma). In many communities these rates are statistically higher than Commonwealth rates, indicating a particularly significant problem. However, even for

those communities where the rates are not statistically higher, these conditions are still the leading causes of premature death.

- **Limited Access to Cancer Screening for Racial/Ethnic Diversity and Other At-risk Populations.** Many of the communities that are part of BIDMC's CBSA have high cancer mortality rates. This is particularly true for certain cancers in specific communities in specific Boston neighborhoods, such as Roxbury, Dorchester, and South End/Chinatown that have a high proportion of racial/ethnic diversity. At the root of addressing high mortality is screening, early detection and access to timely treatment.

- **High Rates of HIV/AIDS Particularly on the Outer Portion of Cape Cod and in a Number of Boston Neighborhoods that are Part of BIDMC's CBSA.** Great strides have been made in controlling and managing HIV/AIDS, and for many it is managed as a chronic condition with medications. Rates of illness, death, and HIV transmission declined overall in the past decade. However, HIV/AIDS still has a major impact on certain segments of the population, including men who have sex with men and injection drug users. In BIDMC's CBSA, rates of HIV/AIDS are particularly high in the outer portion of Cape Cod and a number of Boston's neighborhoods.

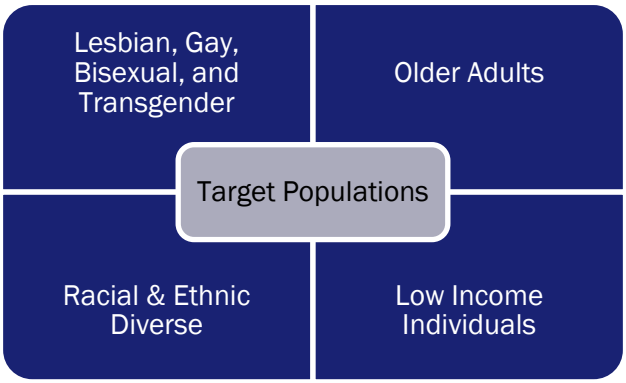
Access to Care

- **Limited Access to Primary Care Medical, Medical Specialty, and Oral Health Care Services for Low Income, Medicaid Insured, Uninsured, and Other Vulnerable Populations Facing Health Care Disparities and Barriers to Care.** Despite the fact that 1) Massachusetts has one of highest rates of health insurance and 2) the communities that make up BIDMC's CBSA have strong, robust safety net systems there are still substantial numbers of low income, Medicaid insured, uninsured, and otherwise vulnerable individuals who face health disparities and are not engaged in essential medical and oral health services. Efforts need to be made to expand access, reduce barriers to care, and improve the quality of primary care medical, medical specialty, and oral health services.

- **Barriers to Access and Disparities in Health Outcomes Continue to Challenge Three Special Populations (Infants/Mothers/Fathers, Frail Older Adults, and Lesbian, Gay, Bi-sexual, and Transgender (LGBT) Populations.** Based on information gathered primarily from the interviews and community forums, the assessment identified a number of special populations that face barriers to care and disparities in access. More specifically, infants/mothers/fathers, frail older adults, and the lesbian, gay, bi-sexual, and transgender (LGBT) populations face disparities in access and outcome and are particularly at-risk. If these disparities are going to be addressed then care needs to be taken to tailor identification/screening and preventive services as well as acute and chronic disease management services for these special populations.

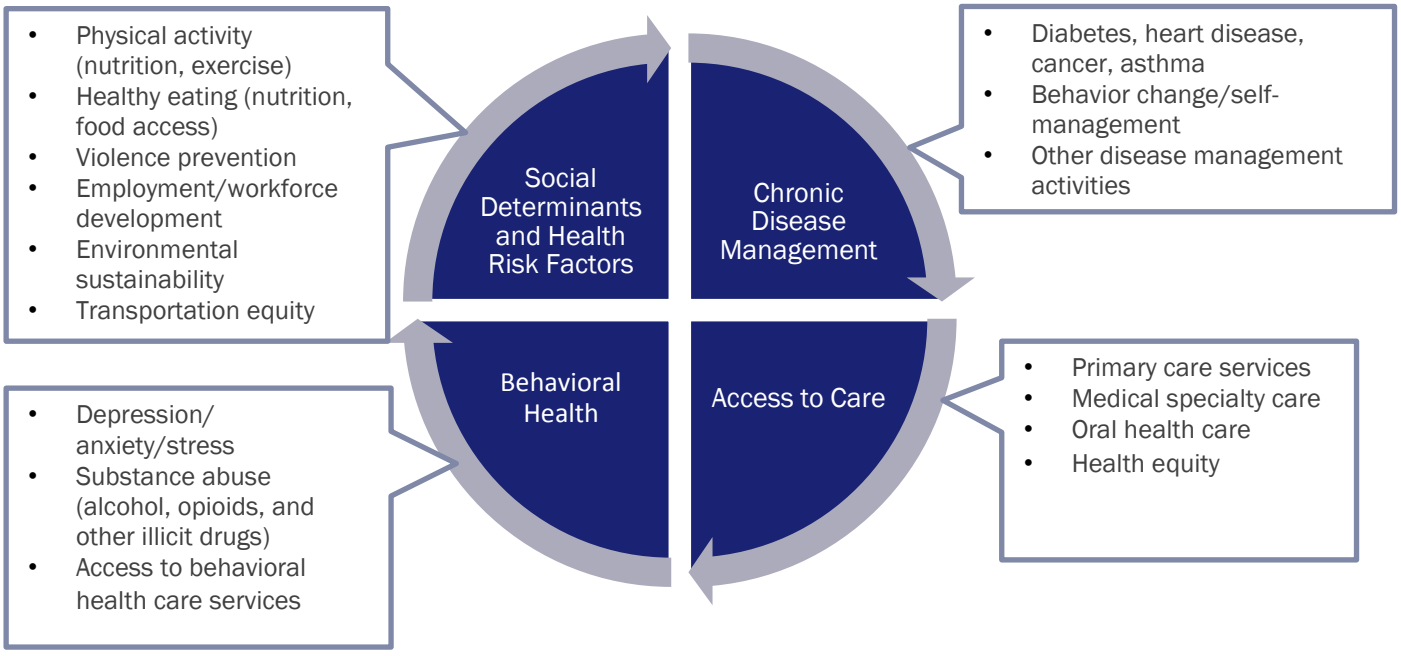
Priority Target Populations

BIDMC focuses its activities to meet the needs of all segments of the population with respect to age, race, ethnicity, income, gender identity and sexual orientation to ensure that all residents have the opportunity to live healthy lives. However, its community benefits activities are focused particularly on low income, racially/ethnically diverse, and older adult populations as well as the lesbian, gay, bi-sexual, and transgender population that are more likely than other cohorts to face disparities in access and health outcomes.



Community Health Priorities

BIDMC's CHNA approach and process provided ample opportunity to vet the quantitative and qualitative data compiled during the assessment. BIDMC has framed the community health needs in four priority areas, which together encompass the broad range of health issues and social determinants of health facing BIDMC's CBSA. These four areas are: 1) Social Determinants, Health Risk Factors and Equity, 2) Chronic Disease Management and Prevention, 3) Access to Care, and 4) Behavioral Health (mental health and substance abuse). BIDMC already has a robust community health implementation plan that has been addressing all of the issues identified. However, this CHNA has provided new guidance and invaluable insight on quantitative trends and community perceptions that can be used to inform and refine BIDMC's efforts. The following are the core elements of BIDMC's updated Community Health Implementation Plan (CHIP).



Summary Community Health Implementation Plan (CHIP)

The following outlines BIDMCs goals for addressing the target populations and community health priorities identified above.

Priority Area 1: Social Risk Factors and Health Equity
Goal 1: Increase Physical Activity
Goal 2: Promote Healthy Eating (Nutrition and Food Access)
Goal 3: Promote Violence Prevention (Safe Neighborhoods and Community Cohesion)
Goal 4: Support Workforce Development and Creation of Employment Opportunities
Goal 5: Promote Environmental Sustainability
Goal 6: Promote Transportation Equity
Priority Area 2: Chronic Disease Management
Goal 1: Improve Chronic Disease Management
Goal 2: Improve Care Transitions for Those with Chronic Health Conditions
Goal 3: Increase Cancer Screening
Goal 4: Support Cancer Patients and Caregivers
Goal 5: Support Older Adults to Age in Place
Priority Area 3: Access to Care
Goal 1: Increase Access to Quality Medical Services (Inc. PC, OB/GYN, & Medical Specialty Care)
Goal 2: Increase Access to Quality Oral Health Services
Goal 3: Increase Quality and Efficiency of Clinical Services at CCA Clinics
Goal 4: Promote Equitable Care and Support for those with Limited English proficiency
Priority Area 4: Behavioral Health
Goal 1: Promote behavioral health (BH)/ primary care integration
Goal 2: Reduce burden of opioid use
Goal 3: Increase Access to Quality Behavioral Health Care Services
Goal 4: Identify those at risk for BH condition and provide enhanced care management

Acknowledgements

This community health needs assessment (CHNA) was developed through a collaborative assessment process with the four affiliated Beth Israel Deaconess hospitals – Beth Israel Deaconess Medical Center, Beth Israel Deaconess Hospital-Milton, Beth Israel Deaconess Hospital-Needham, and Beth Israel Deaconess Hospital-Plymouth.

Beth Israel Deaconess Medical Center (BIDMC) would like to acknowledge the great work, support, and commitment of the Beth Israel Deaconess (BID) Hospital CHNA Advisory Committee, with representation from each of BID's hospitals including BIDMC. The Advisory Committee met periodically throughout the assessment in order to keep abreast of the assessment's progress and to provide feedback on the process.

The assessment was also greatly informed and supported by staff and clinicians at the health centers that are part of BIDMC's Community Care Alliance (CCA). These health centers are a major part of Boston's health care safety net and do tremendous work on behalf of some of Boston's most vulnerable populations. The administrative and clinical staff from the health centers provided valuable insights on community need and helped to organize the community forums. Special thanks particularly to Adela Margules from Bowdoin Street Health Center who was interviewed, helped to organize a community forum, and participated on BIDMC's Community Benefits Retreat. JSI would also like to thank Sherman Zemler Wu, BIDMC's Senior Director of Clinical Program Planning and Strategy. Mr. Wu supported the assessment by compiling and analyzing hospital utilization data provided by the Massachusetts Center for Health Information and Analysis.

Since the beginning of the assessment in early October 2015, dozens of individuals participated in interviews and community forums. These participants included representatives from health and social service organizations, public health departments, community advocacy groups, and community businesses, as well as from the community at-large. The information gathered as part of these efforts allowed BIDMC to engage the community and gain a better understanding of community capacity, strengths, and challenges as well as community health status, barriers to care, service gaps, underlying determinants of health, and overall community need.

BIDMC would like to thank everyone that was involved in this assessment, but particularly the region's service providers, health departments, advocacy groups, and community members who invested their time, effort, and expertise through interviews and community forums to ensure the development of a comprehensive, thoughtful, and quality assessment. While it was not possible for this assessment to involve all of the community's stakeholders, care was taken to ensure that a representative sample of key stakeholders was engaged through the interviews and community forums. Those involved showed a real commitment to strengthening the region's system of care, particularly for those segments of the population who are most at-risk. This assessment would not have been possible or nearly as successful without the support of all those who were involved. Please accept our heartfelt appreciation and thanks for your participation in this assessment.

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Purpose, Background, and Community Benefits Service Area

Beth Israel Deaconess Medical Center (BIDMC) is one of the nation's preeminent academic medical centers and is nationally recognized for its world-class clinical expertise, education and research. BIDMC prides itself on its ability to combine exceptional, compassionate patient care with advanced medical knowledge, research, and technology in ways that allow it to achieve the best outcomes for its patients. In addition to its commitment to clinical excellence, BIDMC is committed to being active in its community. Community service is at the core of the religious traditions of both of its founding hospitals and is still an important part of its mission today. The Medical Center has a covenant to care for the underserved and works to address disparities in health care access and outcomes across the communities and population segments its serves.

BIDMC recognizes its role as a tertiary/academic resource in a larger health system and knows that to be successful it needs to collaborate with its community partners and those it serves. This Community Health Needs Assessment (CHNA) and the associated Community Health Implementation Plan (CHIP) was completed in close collaboration with BIDMC's staff, its health and social service partners, and the community at-large. This assessment, including the process that was applied to develop the CHIP, exemplifies the spirit of collaboration that is such a vital part of BIDMC's mission.

BIDMC provides services to residents throughout Greater Boston and beyond. However, in recognition of its long-standing ties to specific Boston neighborhoods and the health disparities that exist for these communities, BIDMC focuses its community benefits efforts on improving the health status of the low income, underserved populations living in Allston/Brighton, Chinatown, Dorchester, Fenway/Kenmore, and Roxbury. BIDMC also has historical ties to working with the Greater Boston's LGBT population and underserved communities in Quincy, as well as with some of the most isolated, vulnerable areas of Cape Cod, specifically the Outer Cape (Harwich, Wellfleet, Truro, and Provincetown). These communities make up BIDMC's Community Benefits Service Area (CBSA) and target population.

BIDMC currently supports numerous educational, outreach, and community-strengthening initiatives targeting those living in its CBSA. In the course of these efforts BIDMC collaborates with many of Boston's leading healthcare, public health, and social service organizations. BIDMC has particularly strong relationships with many of the primary care clinics that operate in its CBSA, many of which are affiliated with BIDMC's Community Care Alliance (CCA). These health centers are ideal community benefits partners as they are rooted in their communities and are dedicated to serving low income, underserved populations. These clinic partners have been a vital part of BIDMC's community health strategy since 1968, when Beth Israel Hospital first joined forces with The Dimock Center to address maternal and child health issues.

Over the past year, BIDMC has contributed $13,640,537 in in-kind and grant funding to support community initiatives operated by BIDMC and its partners to improve the health of some of Boston's most underserved, vulnerable communities. Additionally, BIDMC has leveraged $6,088,585 in grant and other funds to address health disparities and health inequities, and provided more than

$16,113,439 in charity care to low income individuals who were unable to pay for care and services at BIDMC.

Purpose and Background

Tax-exempt hospitals like BIDMC play essential roles in the delivery of health care services and as a result are afforded a range of benefits, including State and Federal tax-exempt status. With this status come certain fiduciary and public obligations. The primary obligation of tax-exempt hospitals is that they provide charity care to all qualifying individuals. Another obligation is that they are expected to conduct periodic community health needs assessments and to support the implementation of community-based programs geared to improving health status and strengthening the health care systems in which they operate. More specifically the IRS requires tax-exempt hospitals to conduct a community health needs assessment (CHNA) and to develop an associated community health implementation plan (CHIP) every three years. Finally, it is expected that these activities be done in close collaboration with the area's health and social service providers, the local public health departments, other key stakeholders, and the public at-large.

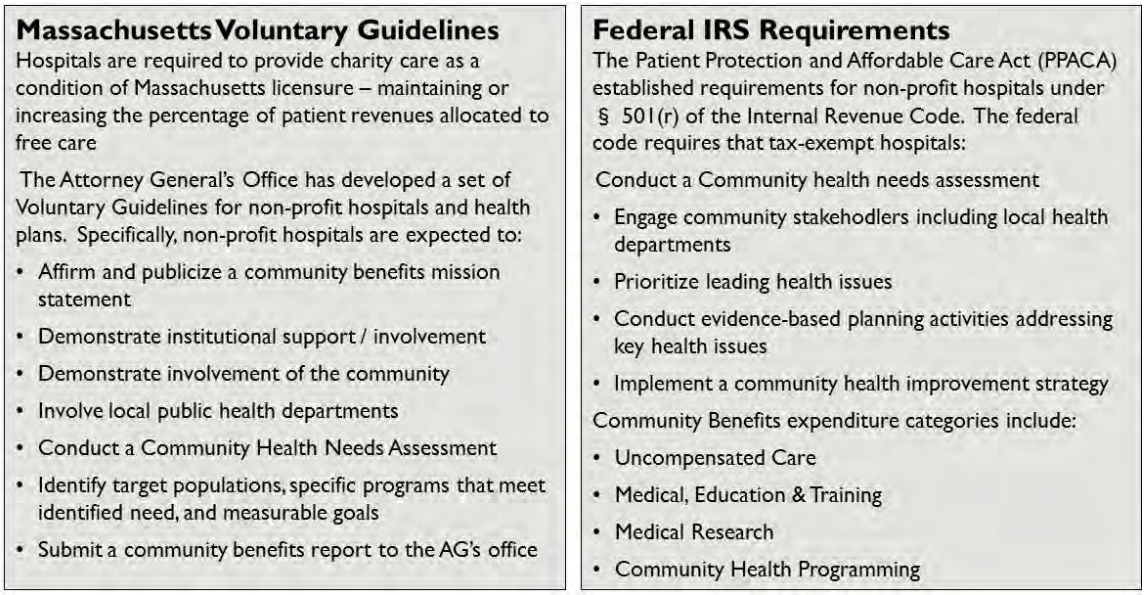


Figure 1. Commonwealth and Federal Community Benefits Requirements

BIDMC recognizes the merit and importance of these activities and as such, BIDMC's efforts over the past year extend far beyond meeting Commonwealth expectations or federal regulatory requirements. A robust, comprehensive, and objective assessment of community health need and service capacity, conducted collaboratively with key stakeholders, not only allows BIDMC to fulfill its public requirements, but also allows BIDMC to explore ways to more effectively leverage its community benefits activities and resources and align these with the organization's broader business and strategic objectives. The CHNA process facilitates community partnerships and fosters broad community engagement. These efforts can promote the development of more targeted, integrated, and sustainable community benefits activities.

This report along with the associated CHIP is the culmination of nearly a year of work. It summarizes the findings from BIDMC's CHNA and provides the core elements of BIDMC's CHIP, including the major goals, objectives, community health strategies, key action steps, and evaluation metrics that will guide the plan. BIDMC's Community Benefits Department, with the full support of BIDMC's Board of Directors, looks forward to working with the CCA and other community partners, the Boston Public Health Commission (BPHC), and with Boston residents to address the issues that arose from the CHNA and to implement the CHIP.

Included below are further details regarding BIDMC's CBSA and target population as well as detailed descriptions of how the CHNA was completed and CHIP developed.

Overview of Community Benefits Services Area and Target Population

Decades before Beth Israel and Deaconess Hospitals came together as Beth Israel Deaconess Medical Center, each was a leader in health care with a long history of personalized patient care and community service. In 1896, as part of their missionary charter, Methodist deaconesses founded Deaconess Hospital to care for the city's residents. In 1916, Beth Israel Hospital was established by the Boston Jewish community to meet the needs of the growing immigrant population.

In 1996, these two great institutions, neighbors for more than 50 years, merged to form Beth Israel Deaconess Medical Center. The new organization maintains and strengthens excellence in patient care, education and research in today's rapidly changing health care environment.

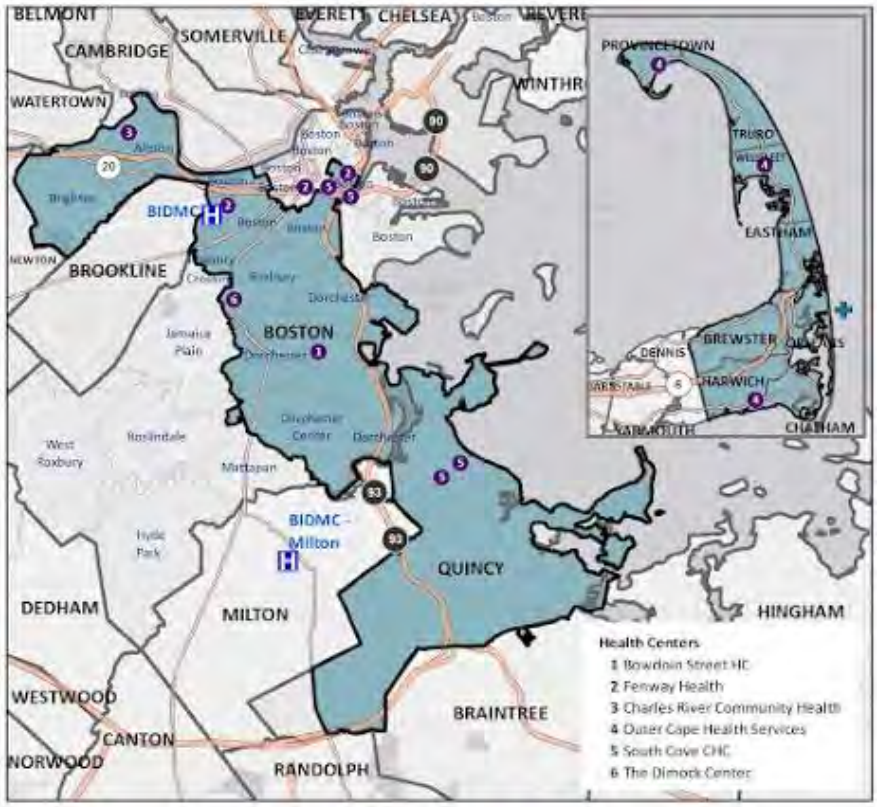


Figure 2. BIDMC Community Benefits Service Area

Today, with nearly three quarters of a million patient visits annually in and around Boston, Beth Israel Deaconess Medical Center is rated as one of the top hospitals in the country. Through its affiliates, Beth Israel Deaconess Hospital-Milton, Beth Israel

Deaconess Hospital-Needham, and Beth Israel Deaconess-Plymouth, it also serves a growing number of patients in Boston's western and southern suburbs. In addition to these four hospital campuses, BIDMC offers outpatient services through multi-practice, multi-specialty centers in Lexington and Chelsea as well as several primary care practices in the greater Boston area. BIDMC is also affiliated with community health centers in downtown Boston, Dorchester, Roxbury, Allston/Brighton, Quincy and the outer portion of Cape Cod.

BIDMC focuses its community benefits efforts on improving the health status of low income, underserved, or otherwise vulnerable populations living in specific Boston neighborhoods as well as the city of Quincy adjacent to Boston. In addition, BIDMC's Community Benefits program supports the four isolated towns that make up the outer portion of Cape Cod: Harwich, Wellfleet, Truro, and Provincetown. All of these neighborhoods, cities, and towns have large proportions of low income, racially/ethnically diverse, foreign born, immigrant, older adult, geographically isolated, or LGBT residents. The disparities that these population segments face with respect to social determinants of health, access to care, gender identity, sexual orientation, and health outcomes are often intense and are at the root of the poor health outcomes that are seen in these communities. With respect to LGBT segments of the population, merely capturing valid information on gender identity and sexual orientation in patient records could have an impact.

Historically, BIDMC's support of these neighborhoods, cities, and towns has been largely funneled through the network of independent primary care clinics that are part of the Community Care Alliance (CCA).[5] The six clinics that are part of the CCA are all rooted in their communities and are dedicated to serving underserved, vulnerable populations, primarily from the neighborhoods in which they are located.[6] Five of these clinics are federally qualified health centers (FQHCs) and are mandated to serve the low income, underserved populations in their communities.

A map showing the locations of the CCA clinics and the specific neighborhoods, cities, and towns that are part of BIDMC's CBSA is included above in Figure 2.

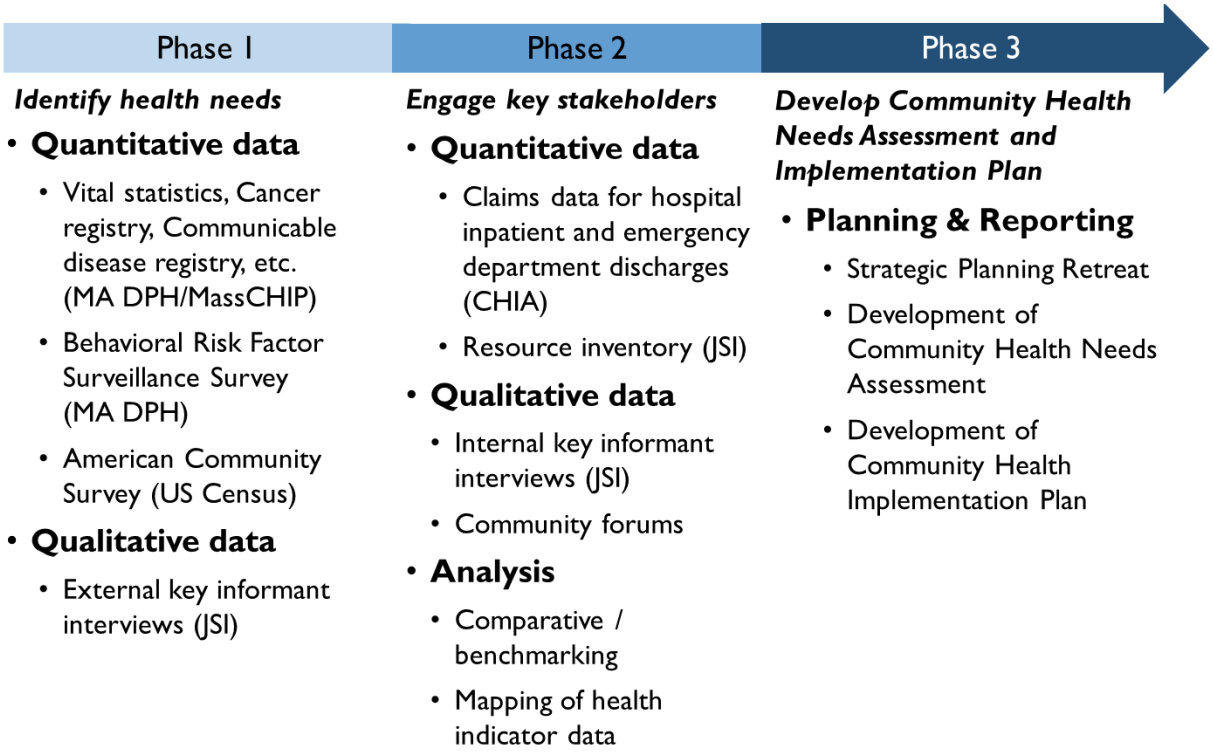
[5] More on BIDMC's Community Care Alliance can be found at the following link. http://www.bidmc.org/Medical-Education/DiversityInclusion/~/link.aspx?_id=AC81F6F38EDF47BEBC731B693E29DCC8&_z=z

[6] Fenway Health and South Cove Community Health Center serve low income, underserved residents from the communities adjacent to their service sites but because of their unique ability to serve certain population segments well (i.e., Asian populations for South Cove and the LGBT community for Fenway Health) draw patients from throughout the Greater Boston Area.

Assessment Approach/Methods and Data Limitations

The CHNA was conducted in a three-phased process. Phase I involved a rigorous and comprehensive review of existing quantitative data along with a series of interviews with community stakeholders. Phase II involved a more targeted assessment of need and broader community engagement activities that included listening sessions with health, social service, and public health service providers as well as forums that included the community at-large. Phase III involved a series of strategic planning and reporting activities that involved a broad range of internal and external stakeholders. This phase also included a range of community forums, whereby BIDMC communicated the results of the CHNA and outlined the core elements of its current and revised CHIP (Figure 3). Following below is a more detailed discussion of these components.

Figure 3. CHNA Approach and Methods



Characterize Population and Community Need

The goal of Phase I and Phase II was to gain an understanding of health-related characteristics of the region's population, including demographic, socio-economic, geographic, health status, care seeking, and access to care characteristics. This involved quantitative and qualitative data analysis, including, to the extent possible, an analysis of changes over time.

Community-specific health data analysis. JSI characterized health status and need at the town, or zip-code level. JSI collected data from a number of sources to ensure a comprehensive understanding of the issues and produced a series of Geographic Information System (GIS) maps which are included in this report. The primary source of secondary data was through the

Massachusetts Community Health Information Profile (MassCHIP) data system. Tests of significance were performed, and statistically significant differences between BIDMC's CBSA and the Commonwealth overall are noted when applicable. The list of secondary data sources included:

- U.S. Census Bureau, American Community Survey 5-Year Estimates (2009-2013)
- Behavioral Risk Factor Surveillance System (BRFSS), (2013-2014 aggregate)
- CHIA inpatient discharges (2011-2013)
- MA Hospital Inpatient Discharges (2008-2012)
- MA Hospital ED Discharges (2008-2012)
- MA Cancer Registry (2007-2011)
- MA Communicable Disease Program (2011, 2012, 2013)
- Massachusetts Vital Records (2008-2012)
- Massachusetts Bureau of Substance Abuse Services (BSAS) (2013)

Key informant interviews with internal and external stakeholders. JSI conducted internal stakeholder interviews with seven senior leaders and key staff at BIDMC. JSI also conducted 13 lengthy interviews with a representative group of community leaders with experience and insight on the health of the communities in BIDMC's CBSA. Interviews were conducted using a standard interview guide. Interviews focused on pressing health concerns, as well as possible strategies to address those concerns.

Resource Inventory. To understand community need and underlying risks as well as to appropriately target strategies, JSI inventoried existing resources in BIDMC's CBSA. JSI reviewed the hospital's prior annual report of community benefits activities to the MA Attorney General, which included a listing of partners, as well as publicly available lists of providers (primary care, behavioral health, councils on aging etc.) to complete this inventory. The goal of this process was to identify key partners who may or may not be already partnering with the hospital.

Capture Community Input

JSI conducted a series of five community and provider forums in BIDMC's CBSA to gather critical community input from service providers, community leaders and residents from BIDMC's CBSA. These forums were organized in collaboration with BIDMC's CCA health centers in order to leverage their community connections and help to ensure the strongest community participation. One of the forums was conducted in collaboration with BID Hospital–Milton as BIDMC and BID Hospital -Milton both serve the town of Quincy. The community forums were also conducted in partnership with the Conference of Boston Teaching Hospitals (COBTH), under the auspices of COBTH's Community Benefits Committee.[7] COBTH is a coalition of fourteen Boston-area teaching hospitals that work collectively to ensure quality care, advocate for advances in medical education and research, and foster economic development. COBTH's partners are all obligated to conduct community

[7] The mission of the COBTH's Community Benefits Committee is to enhance the ability of COBTH member hospitals individually, and collectively, to: 1) improve access to care for underserved populations and eliminate healthcare disparities, 2) achieve systemic change in core health issues, 3) using evidence based practices, promote the health and wellness of communities they serve; and 4) address the social determinants of health.

engagement efforts as part of their individual CHNA activities. With this in mind, two of BIDMC's forums were jointly sponsored by BIDMC, Dana Farber Cancer Institute, Brigham and Women's Hospital and Boston Children's Hospital. This was done in large part due to the efforts of Nancy Kasen who, in addition to being Director of BIDMC's Community Benefits Department, is Vice Chair of COBTH's Community Benefits Committee.

During the community forums, JSI discussed findings of the data and posed a range of questions developed by the COBTH Community Benefits Committee that solicited input on community ideas, perceptions and attitudes, including: 1) Does the data reflect what you see as the major needs and health issues in your community? Are the identified gaps the right ones? What segments of the populations are most at-risk? What are the underlying social determinants of health status? 2) What strategies would be most effective to improving health status and outcomes in these areas? The provider forums captured similar information but more time was dedicated to discussing service gaps and strategies for improving health status and outcomes.

Overall, four forums were conducted, three with the community and one with providers specifically, although providers were also present at community forums (Table 1).

Table 1. Internal Staff/Clinicians and External Community Forums

Event	Audience(s)
BIDMC Community Benefits Committee	BIDMC Internal Staff Community Leaders and Advocates
Bowdoin-Geneva Alliance Community Advisory Committee Meeting	Health and Social Service Providers Community Leaders and Advocates Community Residents
Chinatown/South End Community Forum	Health and Social Service Providers Community Leaders and Advocates Community Residents
Outer Cape Community Forum	Health and Social Service Providers Community Leaders and Advocates Community Residents
Quincy Community Forum	Community Providers and Residents
Roxbury Community Forum	Community Providers and Residents

Use Data to Prioritize Needs and Set Goals

The main objectives of Phase III of the assessment were to: 1) review the assessment's major findings, 2) identify BIDMC's community benefits target populations and community health priorities, 3) review BIDMC's existing community benefits activities, and 4) determine if the current range of community benefits activities needed to be augmented or changed to respond to this year's assessment. The key health issues identified by the assessment are discussed below in the assessment's findings sections (Overview of Geographic Community Benefits Service Area and Major Findings by the Leading Areas of Health-Related Need). The community health priorities that have

been identified are discussed below in the report's final section (Community Benefits Target Populations and Community Health Priorities)

During Phase III, JSI facilitated a Community Benefits Retreat that included senior staff from BIDMC as well as staff from BIDMC's CCA. During this retreat, participants reviewed the findings in depth, identified the leading health-related issues, and determined BIDMC's community benefits priorities. The retreat participants also began to review its existing Community Health Implementation Plan and explored ways in which it could be augmented or changed.

Data Limitations

Assessment activities of this nature nearly always face data limitations with respect to both quantitative and qualitative data collection. With respect to the quantitative data compiled for this project, the most significant limitation is the availability of timely data. Relative to most states and commonwealths throughout the United States, Massachusetts does an exemplary job at making comprehensive data available at the commonwealth-, county- and municipal-level. This data is made available through the Massachusetts Community Health Information Profile (MassCHIP) data system[8], an automated, interactive resource provided by the Massachusetts Department of Public Health (MDPH).[9] MassCHIP makes a broad range of health-related data available to health and social service providers and the public at-large. The data compiled for this assessment represented nearly all of the health-related data that was made available through MassCHIP. The breadth of demographic, socio-economic, and epidemiologic data that was made available was more than adequate to facilitate an assessment of community health need and support the implementation plan development process. One major challenge was that much of the epidemiologic data that is available, particularly at the sub-county, municipal-, neighborhood-, or zip code-level data was at least two years old. The list of data sources included in this report provides the dates for each of the major data sets provided by the Commonwealth. The data was still valuable and allowed the identification of health needs relative to the Commonwealth and specific communities. However, older datasets may not reflect recent trends in health statistics. The age of the data also hindered trend analysis, as trend analysis required the inclusion of data that may have been up to ten years old, which challenged any current analysis.

With respect to qualitative data, information was gathered through stakeholder interviews and community forums, which engaged service providers, community leaders/advocates, and community residents. These interviews and forums provided invaluable insights on major health-related issues, barriers to care, service gaps, and at-risk target populations. However, given the relatively small sample size and the nature of the questioning the results are not necessarily generalizable to the larger population. While every effort was made to promote the community forums to the community at-large and to identify a representative sample of interviewees the selection or inclusion process was not very large, scientific, or random.

[8] Massachusetts Community Health Information Profile (MassCHIP) system. http://www.mass.gov/eohhs/researcher/community-health/masschip/

[9] The MassCHIP portal was down due to technical difficulties at the Massachusetts Department of Public Health but JSI Staff made a formal, comprehensive request in writing, which was met by staff at MDPH. This process limited our ability to do multiple, iterative data draws but the JSI staff still was able to capture ample data through the MassCHIP system.

Overview of Geographic Community Benefits Service Area

Population Characteristics, Determinants of Health, and Health Equity

An understanding of community need and health status in BIDMC's CBSA begins with knowledge of the population's characteristics as well as the underlying social, economic, and environmental factors that impact health and health equity. This information is critical to: 1) recognizing disease burden, health disparities and health inequities; 2) identifying target populations and health-related priorities; and 3) targeting strategic responses. This assessment captured a wide range of quantitative and qualitative data related to age, gender, race/ethnicity, income, poverty, family composition, education, violence, crime, unemployment, access to food and recreational facilities, and other determinants of health. These data provided valuable information that characterized the population as well as provided insights into the leading determinants of health and health inequities.

The following is a summary of key findings of this review. Conclusions were drawn from quantitative data and qualitative information collected through the interviews and community/provider forums. Summary data tables and maps are included below and more expansive data tables are included in the Data Appendices included with this report.

- **Age and Gender:** Understanding the distribution of the population by age is one of the most fundamental factors in determining scope of need and targeting community health interventions. Similar to BIDMC's 2013 assessment, Boston's population is considerably younger than the Commonwealth's population.

  With respect to age, low income or otherwise vulnerable children/youth (0-17 years old) and older adults (65+ years old) across all socio-economic strata are inherently more at-risk. This was a theme from the assessment's interviews and community forums. Interviewees and meeting participants discussed the challenges faced by children and young adults (0-20 years old) in Boston's low income families. Nationally, black/African American, American Indian, and Hispanic/Latino children comprise a disproportionate share of the low income population under age 18. Together, they represent 38 percent of all children but more than one-half (54 percent) of low income children. They are also are more than twice as likely to live in a low income family compared to white, non-Hispanic/Latino and Asian children.[10]

    - Boston's median age in 2014 was 31.7 compared to 39.4 for the Commonwealth.
    - The City of Boston overall has larger proportions of children/youth (0-17 years old) and young adults (18-44 years old), and smaller proportions of middle-aged (45-64 years old) and older adults (65+ years old) that the Commonwealth.
    - In Quincy there are smaller proportions of children/youth (0-17 years old) and young adults (18-44) and larger proportions of middle aged- and older adults (44 years old or older).

[10] Basic Facts About Low income Children, 2010 Children Under Age 18, Sophia Addy | Vanessa R. Wight. National Center for Children in Poverty, Mailman School of Public health, Columbia University. February 2012 http://www.nccp.org/publications/pdf/text_1049.pdf

- Barnstable County had the highest median age of all counties in the Commonwealth of Massachusetts with a median age of 50.8 compared to 39.4 for the Commonwealth. All four of the towns in BIDMC's CBSA on Cape Cod had a proportion of older adults that was statistically higher than the Commonwealth's proportion. See Table 2 for further details.

Table 2. Age Characteristics of BIDMC CBSA

	MA	Boston	Harwich	Provincetown	Quincy	Truro	Wellfleet
Age under 18 (%)	21%	25%	15%	4%	17%	9%	10%
Age over 65 (%)	14%	14%	28%	25%	15%	30%	43%

Orange indicates statistically higher than the state
Source: US Census Bureau, ACS 5-Year Estimates

Interviewees and forum participants also discussed the challenges faced by older adults who are often depressed, anxious, and isolated and are more likely to struggle with chronic physical health conditions. They all face barriers that limit their access to needed services and overall mobility, including lack of public transportation, low income status, cultural/linguistic barriers, and lack of family or community support. Also services for older adults is often fragmented and poorly coordinated. In the urban communities, many of these older adults are also caring for young children, which is often a substantial burden and tends to lead to the children being less active and more house bound.

- **Race/Ethnicity, Foreign Born Status, and Language:** As was established in the 2013 BIDMC Community Benefits CHNA Report, there are major health disparities for residents living in BIDMC's CBSA. This is particularly true for racially/ethnically diverse, foreign-born, and non-English speaking residents in Boston's neighborhoods. The impact of racism, barriers to care, and disparities in health outcomes that these populations face are widely documented in the literature and are confirmed by numerous national, Commonwealth, and local data sources, including data from the Boston Public Health Commission 2014-15 Health of Boston Report.[11]

  It is crucial that these disparities be addressed and, to this end, BIDMC's CHIP continues to include a myriad of programs, strategic interventions, and services that are carefully targeted to address these disparities. However, it is critical to note that there is a multitude of individual, community and societal factors that work together to create these inequities. The underlying issue is not only race/ethnicity, foreign born status, or language but rather a broad array of inter-related issues including economic opportunity, education, crime, and community cohesion. Arguably, these are the leading determinants of health for all urban communities in the United States, and they are daunting challenges. Many of Boston's major academic and health care institutions, including BIDMC, have been at the heart of this national dialogue for decades.

[11] Boston Public Health Commission. *Health of Boston Report 2015* http://www.bphc.org/healthdata/health-of-boston-report/Documents/HOB-2014-2015/FullReport_HOB_2014-2015.pdf Accessed 6/1/16

BIDMC is committed to doing what it can to address these factors and every priority and goal area in BIDMC's CHIP is structured to address health disparities and inequities in some way.

- BIDMC's CBSA is extremely diverse and has large proportions of racially/ethnically diverse populations that often struggle with access and face disparities in health outcomes. In Boston, a majority of Roxbury's, Dorchester's, and South End/Chinatown's populations are either black/African American, Hispanic/Latino, or Asian.

  From 2000 to 2012[12], the largest population increase was among Hispanic/Latino residents, who made up 14.4% of the population in 2000 and 18.6% of the population in 2012. During the same time period, the percentage of Asian residents rose from 7.5% to 9.1%. From 2000 to 2012, the percentage of white, non-Hispanic/Latino residents decreased from 49.5% to 46.0% while the percentage of black/African American residents was relatively stable. In 2012, 63.4% of residents spoke English exclusively, while 15.9% of residents reported speaking Spanish or Spanish Creole. Among other commonly spoken languages, French Creole, Chinese, and Vietnamese figured prominently.[13] It should be noted that a recent article published in the Journal of the American Medical Association (JAMA) studied life expectancy across the United States and identified demographic and socio-economic factors that were correlated more or less strongly with low life expectancy. One of the strongest determinants of low life expectancy is whether you are an immigrant or foreign born. Low income populations were even more likely to face disparities in life expectancy and other indicators, which is discussed in more depth below.[14] Table 3 provides detailed information on race and ethnicity in BIDMC's CBSA.

Table 3. Race and Ethnicity Characteristics of BIDMC CBSA

	MA	Boston	Harwich	Provincetown	Quincy	Truro	Wellfleet
Asian alone (%)	6%	6%	3%	1%	26%	0%	0%
Black alone (%)	6%	13%	2%	3%	5%	0%	1%
White alone (%)	75%	75%	92%	89%	63%	96%	97%
Hispanic / Latino (%)	10%	5%	2%	5%	3%	2%	0%
Foreign Born (%)	15%	27%	7%	7%	29%	10%	4%
Language other than English spoken at home (%)	22%	37%	7%	10%	34%	6%	5%

Orange indicates statistically higher than the state
Source: US Census Bureau, ACS 5-Year Estimates

[12] Many of the key findings with respect to demographic characteristics and social determinants are drawn from the 2015 Health of Boston Report, which drew census data from 2012. While this is quite old, we still feel it provides strong analytic value.
[13] Boston Public Health Commission. *Health of Boston Report 2015* http://www.bphc.org/healthdata/health-of-boston-report/Documents/HOB-2014-2015/FullReport_HOB_2014-2015.pdf Accessed 6/1/16
[14] McGinnis J. Income, Life Expectancy, and Community Health: Underscoring the Opportunity. JAMA. 2016;315(16):1709-1710. doi:10.1001/jama.2016.4729.

- *Income, Education, and Employment:* Socio-economic status, as measured by income, employment status, occupation, education, has long been recognized as a critical determinant of health. Research shows that communities with lower socio-economic status bear a higher disease burden and have lower life expectancy. Residents of these communities are less likely to be insured, less likely to have a usual source of primary care, more likely to use the emergency department for emergent and non-emergent care, and less likely to access health services of all kinds, particularly routine and preventive services. Moreover, children born to low income families are, as they move into adulthood, less likely to be formally educated, less likely to have job security, and less likely to rise and move up to higher socio-economic levels.[15]

  As mentioned above, according to a recent study in JAMA, lower than average life expectancy is highly correlated with low income status. This is true nationally and it is certainly true in Boston. It should be noted that nationally, since 2001, the life expectancy of an average 40-year-old grew by about two years. But the researchers found the growth to be highly uneven, with most of the increases among the wealthiest. Life expectancies for the poor in the United States stayed mostly flat. Poor residents in the Boston area, however, gained about 2.5 years of life expectancy since 2001.[16]

  While Boston has numerous extremely affluent neighborhoods, large portions of the City's population live in poverty, have less than average amounts of formal education, are unemployed, and struggle to afford food and other essential household items.

  - In 2014, 22% of the City of Boston's population was living in poverty, which was twice the Commonwealth's rate of 11%.
  - With respect to education, 15% of Boston's residents had less than a high school diploma or GED equivalency, compared to only 10% for the Commonwealth of Massachusetts.
  - Unemployment rates were lower for the City of Boston overall compared to the Commonwealth but rates were considerably higher for certain demographic segments and neighborhoods living in Boston.
    - According to data collected from the Bureau of Labor Statistics (BLS), in April 2015, Boston's unemployment rate overall was only 3.7%, compared to 4.7% for the Commonwealth overall, which represented the lowest unemployment rate in more than 15 years.[17]
    - Despite Boston's low unemployment rate, additional analyses suggest that certain diverse cohorts face much higher rates of unemployment furthering income and

[15] Alexander, K., Entwistle, D., and Olson, L. *Family Background, Disadvantaged Urban Youth, and the Transition to Adulthood, Russell Sage Foundation. June 2014*
[16] "The Association Between Income and Life Expectancy in the United States, 2001-2014", The Journal of the American Medical Association;healthinequality.org
[17] Data from U.S. Bureau of Labor Statistics. Available at https://www.google.com/url?q=http://www.bls.gov&sa=D&usg=AFQjCNEpzEyRwS9DwMWeSDSBwVhcPF4HKQ Last updated: April 2016

unemployment disparities. According to a study published by the Boston Redevelopment Authority (BRA) in March 2014, the unemployment rate for Boston overall was 9.6% but for the black/African American population the rate was 13.5%, for the Hispanic/Latino population the rate was 11.4%, and for the Asian population it was 10.7%, Additionally the study showed that the rate was nearly double for recent immigrants (20.8%) and more than 50% higher for individuals who did not graduate from high school (16.1%). By neighborhoods, the unemployment rates were highest in Mattapan (17.3%), Roxbury (16.8%) and Dorchester (16.2%).[18]

(Just to clarify, the BLS report and the BRA study used different methodology and definition of unemployment, so one cannot compare the BLS and BRA figures.)

Table 4 provides detailed information on the demographic characteristics of BIDMC's CBSA.

Table 4. Income Characteristics of BIDMC CBSA

	MA	Boston	Harwich	Provincetown	Quincy	Truro	Wellfleet
Below 200% of federal poverty line (%)	25%	38%	20%	43%	26%	25%	38%
Below federal poverty line - all residents (%)	12%	22%	7%	14%	10%	13%	14%
Below federal poverty line - age 65+ (%)	9%	20%	6%	15%	12%	7%	8%
Families below federal poverty line (%)	8%	17%	4%	8%	8%	12%	10%
Families below federal poverty line - female head of household (%)	26%	34%	9%	10%	19%	34%	39%

Orange indicates statistically higher than the state
Source: US Census Bureau, ACS 5-Year Estimates

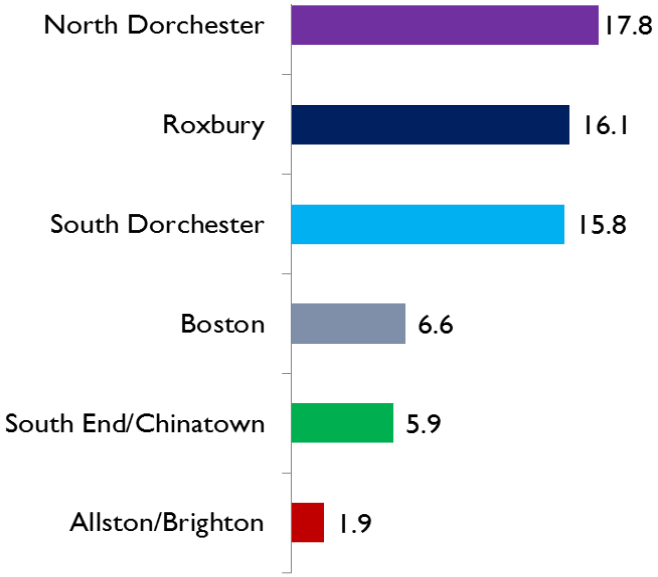
[18] Unemployment in Boston. Boston Redevelopment Authority/Research Division, March 2014. Data drawn from US. Census Bureau, 2012 American Community Survey.

- *Crime, Violence, and Community Cohesion.* Crime and violence are major issues, particularly in Boston, with their impacts being intense and far reaching. The consequences of crime and violence include physical injury and death, but there are also major social and emotional consequences. These issues affect the victims and those who are directly impacted by the crime or violence and also impact the emotional and social well-being of the victims' and perpetrators' families, friends and communities. Post-traumatic stress, social isolation and lack of mobility, lack of physical fitness, academic problems, substance abuse, and other indirect or secondary health or health-related problems are examples of these impacts. These impacts often have a ripple effect that negatively impacts families, schools, and entire communities longitudinally.

  The impact of violence was a major theme in the assessment's interviews and community forums. The discussion revolved primarily around youth violence and the impact that violence had on families. Participants talked at length about how violence limits a community's ability to connect, bind together, and realize the benefits that come from a strong, supportive community.

  While there have been considerable improvements over the past 5-10 years, homicide rates are very high in Roxbury and Dorchester compared to the City overall and the Commonwealth. The homicide rates in Roxbury, North Dorchester, and South Dorchester in 2013 were nearly three times the rate for City of Boston overall.

Figure 4. Homicide by Neighborhood, 2009-2013 (Average annual age-adjusted rate per 100,000; Source American Community Survey 5-Year Estimates)



Note: Fenway <5

- *Lack of Timely and Effective Transportation Services.* Lack of transportation was a major finding from the assessment's key informant interviews and community forums. Lack of transportation has a major impact on access to health care services but also an individual's or family's ability to live a productive, fulfilling life. Transportation equity is a civil and human rights priority. Access to affordable and reliable transportation widens opportunity and is essential to addressing poverty, unemployment, and goals such as access to good schools, healthy foods, and health care services

- *Unstable Housing and Homelessness.* An increasing body of evidence has associated housing quality with poor overall health status and illness due to infectious diseases, chronic illnesses, injuries, poor nutrition, substance abuse, and mental health conditions. These health issues have also proven to be more common in low income (<200% FPL) cohorts of the population who often struggle to decide between paying for safe housing, healthy food, health care services, and

other needs. There are also clear links between poor housing conditions and the illnesses listed above, which confound and exacerbate overall health status and emotional well-being. Lack of affordable housing also has an impact on poverty and the ability of individuals and families to pay for food and other essential household items.

  - In 2010-2012, 67% of Boston residents lived in renter-occupied units. Compared to white, non-Hispanic/Latinos (57.9%), a higher percentage of Asian (75.6%), black/African American (72.4%) and Hispanic/Latino (84.6%) residents lived in renter-occupied units during the same time period
  - For 51% of Boston residents, their rent was 30% or more of their household income
  - After adjusting for differences in age, race/ethnicity and gender, renters were more likely to report asthma, diabetes, hypertension, persistent anxiety and persistent sadness and were more likely to be obese compared to those who own homes.[19]

- *Food Access.* "Food is one of our most basic needs. Along with oxygen, water, and regulated body temperature, it is a basic necessity for human survival. But food is much more than just nutrients. Food is at the core of humans' cultural and social beliefs about what it means to nurture and be nurtured."[20] Issues related to food insecurity, food scarcity, hunger and the prevalence and impact of obesity are at the heart of the public health discourse in urban and rural communities across the United States. While there is not much quantitative data on food access, lack of access to healthy foods was one of the leading findings from the interviews and community forums, particularly for low income individuals and families and those living in Roxbury and Dorchester who often struggled to find stores to buy fresh fruits and vegetables. This finding mirror what was found in BIDMC's 2013 CHNA, which found through a Community Health Survey that blacks/African Americans and Hispanics/Latinos living in Boston neighborhoods were considerably more likely to report having limited access to fresh fruits and vegetables compared to white, non-Hispanic/Latino populations. According to the 2013 survey, 65% of Hispanics/Latinos and 64% of blacks/African Americans reported having limited access to fresh fruits and vegetables compared to only 45% of white, non-Hispanics/Latinos. In FY 2013, on a neighborhood level, 68% of respondents from Roxbury and 69% of respondents from North Dorchester reported limited access.

- Access to Recreational Facilities. As the body of research related to obesity and chronic disease has grown so has the appreciation for the impact that having readily accessible recreation areas or facilities may have on communities. When people have access to safe local playgrounds, pools, and trails, they are more likely to choose physical activity and less likely to be overweight or obese. In Boston, many of the recreational sites, particularly in the communities that make up BIDMC's CBSA, are perceived to be unsafe and are not used. Increasingly, health and public health strategies targeted at decreasing obesity are working to support opening or improving accessibility to recreational sites (e.g., parks, playgrounds, trails) as a way of increasing the rates

[19] Boston Public Health Commission. *Health of Boston Report 2015* http://www.bphc.org/healthdata/health-of-boston-report/Documents/HOB-2014-2015/FullReport_HOB_2014-2015.pdf Accessed 6/1/16
[20] Feeding America: Child Food Insecurity: The Economic Impact on Our Nation. 2009 https://www.nokidhungry.org/sites/default/files/child-economy-study.pdf

of adequate physical activity. For example, opening elementary school playgrounds after school hours, developing bike or walking trails, cleaning up or better maintaining playgrounds, and developing/supporting community recreational centers are common city-wide strategic initiatives.

Mortality and Premature Mortality

In 2012, the life expectancy for a resident in the Commonwealth of Massachusetts was 81 years. In 1950, it was 70 years, and in 1900 it was 45 years.[21] This change is dramatic, and is due largely to improvements in the ability to prevent maternal/child deaths at pregnancy and manage infectious diseases, such as influenza. In 1900, cancer was the known cause of death in only 4-5% of deaths; today nearly 25% of all deaths can be attributed to cancer. See Figure 5 below.

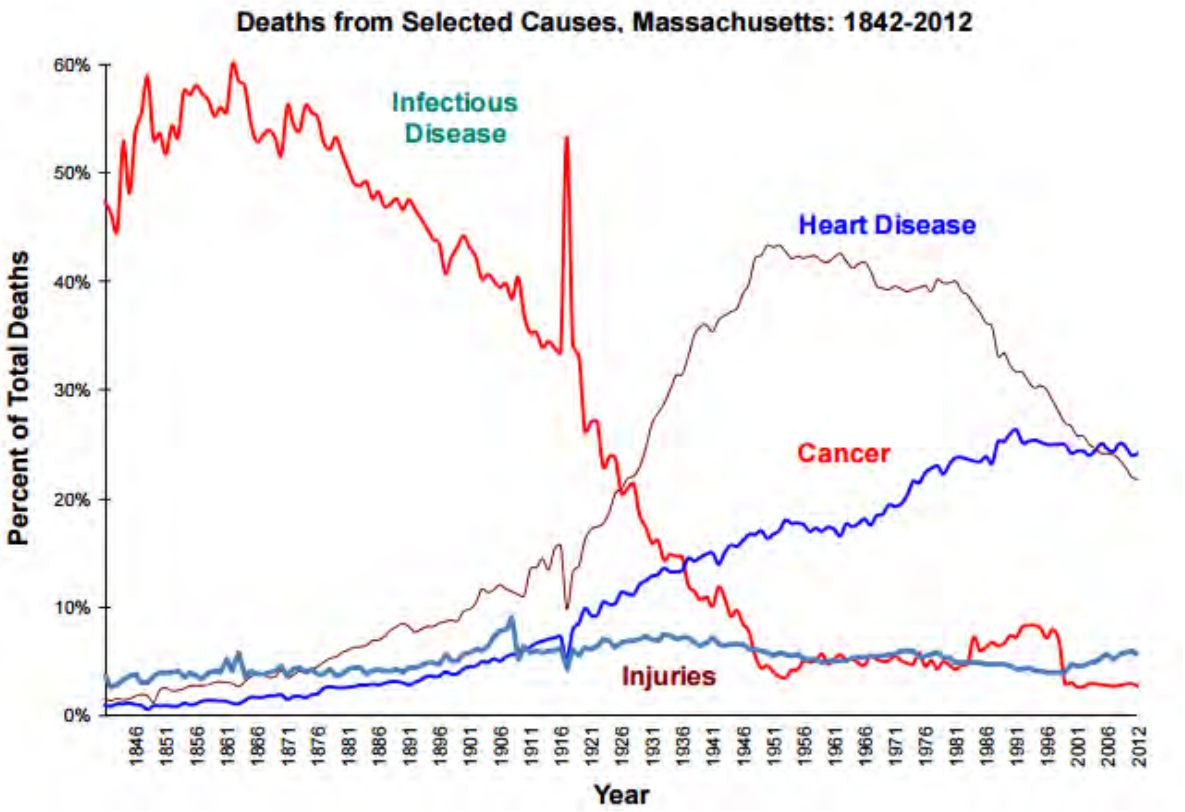


Figure 5. Deaths from Selected Causes in Massachusetts, 1842 – 2012

Source: Massachusetts Department of Public Health. *Massachusetts Deaths 2012: Data Brief.* January 2015. http://www.mass.gov/eohhs/docs/dph/research-epi/death-data/death-databrief-2012.pdf Accessed 5/11/2016)

Since 1950, there have been major improvements in the ability to prevent premature deaths due to heart disease, stroke, and even cancer. However, there is still a great deal of work to do in this area, as these issues are still among the top three leading causes of premature death. Even if city- or

[21] Massachusetts Department of Public Health. *Massachusetts Deaths 2012: Data Brief.* January 2015. http://www.mass.gov/eohhs/docs/dph/research-epi/death-data/death-databrief-2012.pdf Accessed 5/11/2016

neighborhood-level rates of illness are not higher than the county, Commonwealth, or national benchmarks, it is still important that BIDMC and its community health partners address these issues if they are to improve health status and well-being.

According to data from the Massachusetts Department of Public Health, in 2012 cancer, cardiovascular disease (heart disease), cerebrovascular disease (stroke), and chronic lower respiratory disease (COPD) were the leading causes of death in Boston (Table 5). Other leading causes of death include diabetes, influenza/pneumonia, Opioid-related issues, homicide, suicide, and motor vehicle-related deaths.

Table 5. Leading Causes of Death in Boston (2012)

Cause of Death	Number of Boston Deaths, 2012	Death Rate per 100,000
All Cancer	996	186.3
Lung Cancer	238	44.4
Female Breast Cancer	52	9.7
Heart Disease	709	131.1
Stroke/Cerebrovascular Disease	184	34.0
Chronic Lower Respiratory Disease	123	23.4
Diabetes	107	20.0
Influenza and pneumonia	86	16.0
Opioids-related	67	12.5
Homicide	53	9.9
Suicide	34	6.3
Motor vehicle	31	5.8

Source: Massachusetts Department of Public Health. *Massachusetts Deaths 2012: Data Brief.* January 2015. Accessed at http://www.mass.gov/eohhs/docs/dph/research-epi/death-data/death-databrief-2012.pdf

As was discussed above, there is a strong correlation between income and where you live on the one hand and life expectancy, death, and overall health status on the other. According to a study published in April 2016, in the Journal of the American Medical Association, Suffolk County residents, essentially dominated by Boston, living in households less than $100,000 per year are expected to die about 7 years before their wealthier counterparts. That's roughly equivalent to the difference in life expectancy between an average man in the United States and one in Egypt. The report underscores the role of geography and wealth in attaining longevity. The essential point is that if you live in communities with large proportions of low income residents than you have lower health status and a lower life expectancy.[22]

All of these leading causes of death have a major impact on people living in BIDMC's CBSA but cancer, cardiovascular disease (heart disease), chronic lower respiratory disease (COPD), cerebrovascular disease (stroke), and diabetes are the most important for BIDMC to consider as they

[22] The Health Inequality Project. How can we reduce disparities in health? Accessed at https://healthinequality.org Accessed 6/2/16

are the most prevalent conditions and are, to a large extent, preventable. These chronic conditions share health risk factors discussed later in this report - obesity, inactivity, poor nutrition, tobacco use, and alcohol use.

Major Findings by the Leading Areas of Health-Related Need

At the core of the CHNA process is an understanding of access to care issues, the leading causes of illness and death, and the extent that population segments and communities participate in certain risky behaviors. This information is critical to assessing health status, clarifying health-related disparities, and identifying community health priorities. The assessment captured a wide range of quantitative data from Federal, Commonwealth, and local data sources, including from the US Census Bureau, the Massachusetts Department of Public Health, and Center for Disease Control and Prevention. Qualitative information gathered from interviews and community forums greatly informed this section by providing community perceptions on the confounding and contributing factors of illness, health priorities, and strategic responses to the issues identified.

The following are key findings related to health insurance coverage and access to primary care, health risk factors, overall mortality, physical health (including chronic disease, cancer, and infectious disease), behavioral health, and considerations for special populations (youth, older adults, and lesbian, gay, bi-sexual, transgender (LGBT) groups), as well as mothers, fathers, infants, and young families.

Summary data tables/graphs are included below, along with a narrative review of the assessment's qualitative findings. More expansive data tables are included in the Data Appendices.

Health Risk Factors

Insurance Coverage and Usual Source of Care of Primary Care

Access to health insurance that helps to pay for needed preventive, acute, and disease management services, as well as access to comprehensive, timely accessible primary care has shown to have a profound effect on one's ability to prevent disease and disability, increase life expectancy, and perhaps most importantly, increase quality of life.[23] Nationally, disparities in access and health outcomes exist for many population segments, including those in low income brackets, certain racially/ethnically diverse segments, and LGBT populations, just to name a few. Due to a range of mostly social factors, these groups are less likely to have a usual source of primary care, less likely to have a routine check-up, and less likely to be screened for illnesses, such as breast cancer, prostate cancer, or colon cancer. Data also suggests that those that face disparities are more likely to use hospital emergency departments and inpatient services for care that could be avoided or prevented altogether with more accessible primary care services.[24]

[23] Healthy People 2020. Access to Health Services. https://www.healthypeople.gov/2020/leading-health-indicators/2020-lhi-topics/Access-to-Health-Services Accessed 6/2/16
[24] Institute of Medicine. Coverage Matters: Insurance and Health Care. http://iom.edu/~/media/Files/Report%20Files/2003/Coverage-Matters-Insurance-and-Health-Care/Uninsurance8pagerFinal.pdf Accessed 6/2/16

Due to the Patient Protection and Affordable Care Act (Obamacare) and tremendous efforts by Commonwealths/States across the nation, including Massachusetts, tremendous strides have been made with respect to health insurance access. Six years ago, approximately 1 in 5 American children and adults under the age of 65 years old (20%) did not have medical insurance. Today, this ratio has improved to approximately 1 in 8 or 13%. In Massachusetts, the rate of uninsurance is considerably lower. In fact, Massachusetts leads the nation with the lowest commonwealth/state uninsurance rate. In 2013, only approximately 3% of the Commonwealth's population lacked medical health insurance.

With respect to access, according to the Centers for Disease Control and Prevention's Healthy People 2020 Initiative, nearly 1 in 4 Americans (23%) nationally do not have a primary care provider (PCP) or health center where they can receive regular medical services. Increasing access to both routine medical care and medical insurance are vital steps in improving the health of all Americans. Once again, in Massachusetts this rate is better and approximately 1 in 7 residents have a usual source of primary care. In fact, the Greater Boston area continues to have one of the strongest and most comprehensive healthcare systems. This system is particularly strong, relative to other areas, for low income, diverse, and vulnerable population segments who typically struggle to access needed health-related services. The Greater Boston area, including Quincy, has a robust network of federally qualified health centers and other safety net clinics that operate dozens of clinics and practice sites which provide comprehensive medical services. Even on the outer portion of Cape Cod, there are three safety net clinic sites. Access to dental and behavioral health services are more problematic but still, relative to other geographies, the Greater Boston region and Cape Cod is better situated.

It is important to note that this does not mean that everyone in Greater Boston and in BIDMC's CBSA receives the highest quality services where and when they want it. In fact, despite the overall success of the Commonwealth's heath reform efforts, data captured for this assessment shows that large segments of the population, particularly low income, diverse, and vulnerable populations, face significant barriers to care and struggle to access services due to lack of and/or adequacy of insurance, cost, transportation, cultural/linguistic barriers, and shortages of providers willing to serve Medicaid insured or low income, uninsured patients.

According to the 2015 Health of Boston Report, 6% of Boston residents did not have health insurance coverage. Among BIDMC's Community Care Alliance clinics, the uninsured rate ranges from 4% at South Cove Community Health Center to 44% at Charles River Community Health attesting to the burden that still exists for a large number of Boston residents and for the safety net providers that serve these populations.

According to data captured from the Commonwealth's Inpatient Hospital Discharge Database[25] residents of North and South Dorchester, Roxbury, and Chinatown/South End were more likely to receive inpatient services for hypertension, heart failure, asthma, pneumonia, and chronic obstructive pulmonary disease than residents of Boston and Massachusetts overall. Based on a standard analysis developed by the Federal Agency for Healthcare Research and Quality (AHRQ), these services are considered preventable or avoidable with regular, primary care services and

[25] Inpatient hospital discharge database, outpatient emergency department database, and Outpatient hospital observation database, MA Center for Health Information and Analysis (CHIA)

therefore are indicative of poor or limited access to primary care. In some cases residents of these communities were two and three times more likely to receive hospital services for these conditions compared to other residents.

Even among the insured, our qualitative results from the interviews and community forums revealed that individuals across all socio-demographic groups struggle to access essential health care services either due to shortage of providers willing to take certain insurances (particularly Medicaid), high out-of-pocket expenses, lack of evening or weekend hours, or lack of access to culturally appropriate services. These factors limit access and often are at the heart of inappropriate use of the hospital emergency department. According to the assessment's interviews and community forums, this is especially true in the case of residents seeking behavioral health and oral health services. Insurance benefit packages often do not adequately cover oral health and behavioral health services. Also, in these services areas, it is even more difficult to find providers willing to serve Medicaid or uninsured patients. These factors force consumers to go without needed services or pay for services out-of-pocket, which is often impossible for those with limited income.

Health Behaviors

There is a growing appreciation for the effects that certain health risk factors, such as obesity, inactivity, poor nutrition, tobacco use, and other substance use have on health status and the burden of chronic disease and mental/emotional health problems. A discussion and review of available data and information drawn from quantitative and qualitative sources from this assessment is below.

- *Nutrition, Physical Activity, and Overweight/Obesity.* Good nutrition, physical activity, and a healthy body weight are essential parts of a person's overall health and well-being. Together, these can help decrease a person's risk of developing serious health conditions, such as high blood pressure, high cholesterol, diabetes, heart disease, stroke, and cancer. Physical inactivity and poor nutrition are the leading risk factors associated with obesity. Adequate nutrition helps prevent disease and is essential for the healthy growth and development of children and adolescents. Physical inactivity is a risk factor for many chronic conditions, while being active is linked to good emotional health. A healthful diet, regular physical activity, and achieving and maintaining a healthy weight also are paramount to managing health conditions so they do not worsen over time.[26]

  Over the past two decades, obesity rates in the United States have doubled for adults and tripled for children.[27] [28] These trends have spanned all segments of the population, regardless of age, sex, race, ethnicity, education, income, or geographic region.

[26] Healthy People 2020. Nutrition, Physical Activity and Obesity. https://www.healthypeople.gov/2020/leading-health-indicators/2020-lhi-topics/Nutrition-Physical-Activity-and-Obesity Accessed 6/1/16
[27] Fryar DC, Carroll MD, Ogden CL. Prevalence of overweight, obesity, and extreme obesity among adults: United States, 1960-1962 through 2011-2012. National Center for Health Statistics Health E-Stat. 2014.
Odgen CL. Childhood Obesity in the United States: The Magnitude of the Problem. Power Point.
[28] State of Obesity. Obesity Rates and Trends Overview. http://stateofobesity.org/obesity-rates-trends-overview/ Accessed 6/1/16

Obesity/Overweightness

- In 2014, more than half (58%) of Massachusetts adults (18+) and nearly one-quarter (23%) of children and youth (0-18) were either obese or overweight. The percentage of Boston's residents who were overweight or obese was similar to the Commonwealth with more than half of all Boston adults being either overweight or obese.[29] [30]
- There was considerable variation by race/ethnicity and by neighborhood. Thirty-three percent of black/African American adults and 27% of Hispanic/Latino adults were obese compared to only 16% of white, non-Hispanics/Latinos, and 15% of Asians. In Roxbury, 30% of adults were obese and in North and South Dorchester approximately 27% of adults were obese, compared to 22% for the South End/Chinatown and 12% for Allston/Brighton and Fenway/Kenmore.[31]
- Data specifically for Quincy and the Outer Cape were not available but the percentage of adults in Norfolk and Barnstable Counties that were either overweight or obese mirrored the rate for the Commonwealth, 57% (Norfolk County) and 61% (Barnstable County) respectively. The Commonwealth's percentage was 58%.[32]

Physical Activity and Nutrition

Physical inactivity and poor nutrition are the leading risk factors associated with obesity and chronic health issues, such as heart disease, hypertension, diabetes, cancer, and depression. Adequate nutrition helps prevent disease and is essential for the healthy growth and development of children and adolescents. Physical inactivity is a risk factor for many chronic conditions, while being active is linked to good emotional health.

- In 2013, 25% of Boston adults reported consuming vegetables less than once a day. White, non-Hispanics/Latinos were less likely to consume vegetables less than once a day (32%), compared to blacks/African Americans, Hispanics/Latinos, and Asians who were all approximately equally likely to only consume one vegetable a day (42%).[33]
- In 2013, 58% of Boston adults met the CDC recommendation for aerobic physical activity of 150 minutes in the past week. Once again, blacks/African Americans (53%) and Hispanics/Latinos (47%) were less likely to meet the CDC recommendations for adequate physical activity than white, non-Hispanics/Latinos (62%) and Asians (60%).[34]

[29] MA Behavioral Risk Factor Surveillance System, 2013-14 aggregate data
[30] Massachusetts Department of Elementary and Secondary Education & Massachusetts Department of Public Health. Health and Risk Behaviors of Massachusetts Youth, 2013. http://www.doe.mass.edu/cnp/hprograms/yrbs/2013report.pdf Accessed 6/1/16
[31] Boston Public Health Commission. *Health of Boston Report 2015* http://www.bphc.org/healthdata/health-of-boston-report/Documents/HOB-2014-2015/FullReport_HOB_2014-2015.pdf Accessed 6/1/16
[32] MA Behavioral Risk Factor Surveillance System, 2013-14 aggregate data
[33] Boston Public Health Commission. *Health of Boston Report 2015* http://www.bphc.org/healthdata/health-of-boston-report/Documents/HOB-2014-2015/FullReport_HOB_2014-2015.pdf Accessed 6/1/16
[34] Boston Public Health Commission. *Health of Boston Report 2015* http://www.bphc.org/healthdata/health-of-boston-report/Documents/HOB-2014-2015/FullReport_HOB_2014-2015.pdf Accessed 6/1/16

- *Tobacco Use:* Tobacco use is the single most preventable cause of death and disease in the United States. Each year, approximately 450,000 Americans die from tobacco-related illnesses. For every person who dies from tobacco use, 30 more people suffer with at least one serious tobacco-related illness, such as chronic airway obstruction, heart disease, stroke, or cancer.[35] Today, nearly all adults who regularly smoke started before the age of 26, making adolescents and young adults a key demographic in reducing smoking-related disease and death in the future.[36] Nationally, rates of cigarette smoking for youth and adults have slowed or leveled off in the last decade. In fact, in some areas, like Boston, the rates of youth smoking have declined substantially. Just the same, given the magnitude of the risks and implications related to tobacco use and smoking, it still cannot be ignored.
    - Between 2005 and 2013, the percentage of Boston public high school students who smoked cigarettes decreased from 15.9% to 7.9%. During the same period, the percentage of adults that smoked cigarettes essentially remained the same. 19.4% in 2005 and 18.4% in 2013.[37]
    - According to Boston's Youth Risk Behavior Survey (2011 and 2013), white, non-Hispanic/Latino youth were most likely to smoke cigarettes (22%), followed by black/African Americans (10%), Hispanics/Latinos (5%), and Asians (4%).[38]
    - In the adult population (18+), white, non-Hispanics/Latinos, and blacks/African Americans were equally likely to smoke cigarettes (19%), followed by Hispanics/Latinos (16%) and Asians (15%).[39]

Chronic Disease Management

Chronic Disease

Treating people with chronic diseases accounts for 86% of the nation's health care costs.[40] Half of all American adults have at least one chronic condition, and almost one of three have multiple chronic conditions.[41] Chronic diseases are largely preventable, which underscores the need to focus on health risk factors, primary care engagement, and evidence-based chronic disease management.

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[35] Healthy People 2020: Tobacco Use. http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=41#five

[36] U.S. Department of Health and Human Services. Preventing Tobacco Use Among Youth and Young Adults: Fact Sheet. [Online] [Cited: December 30, 2013.] http://www.surgeongeneral.gov/library/reports/preventing-youth-tobacco-use/factsheet.html.

[37] Boston Public Health Commission. *Health of Boston Report 2015* http://www.bphc.org/healthdata/health-of-boston-report/Documents/HOB-2014-2015/FullReport_HOB_2014-2015.pdf Accessed 6/1/16

[38] Boston Public Health Commission. *Health of Boston Report 2015* http://www.bphc.org/healthdata/health-of-boston-report/Documents/HOB-2014-2015/FullReport_HOB_2014-2015.pdf Accessed 6/1/16

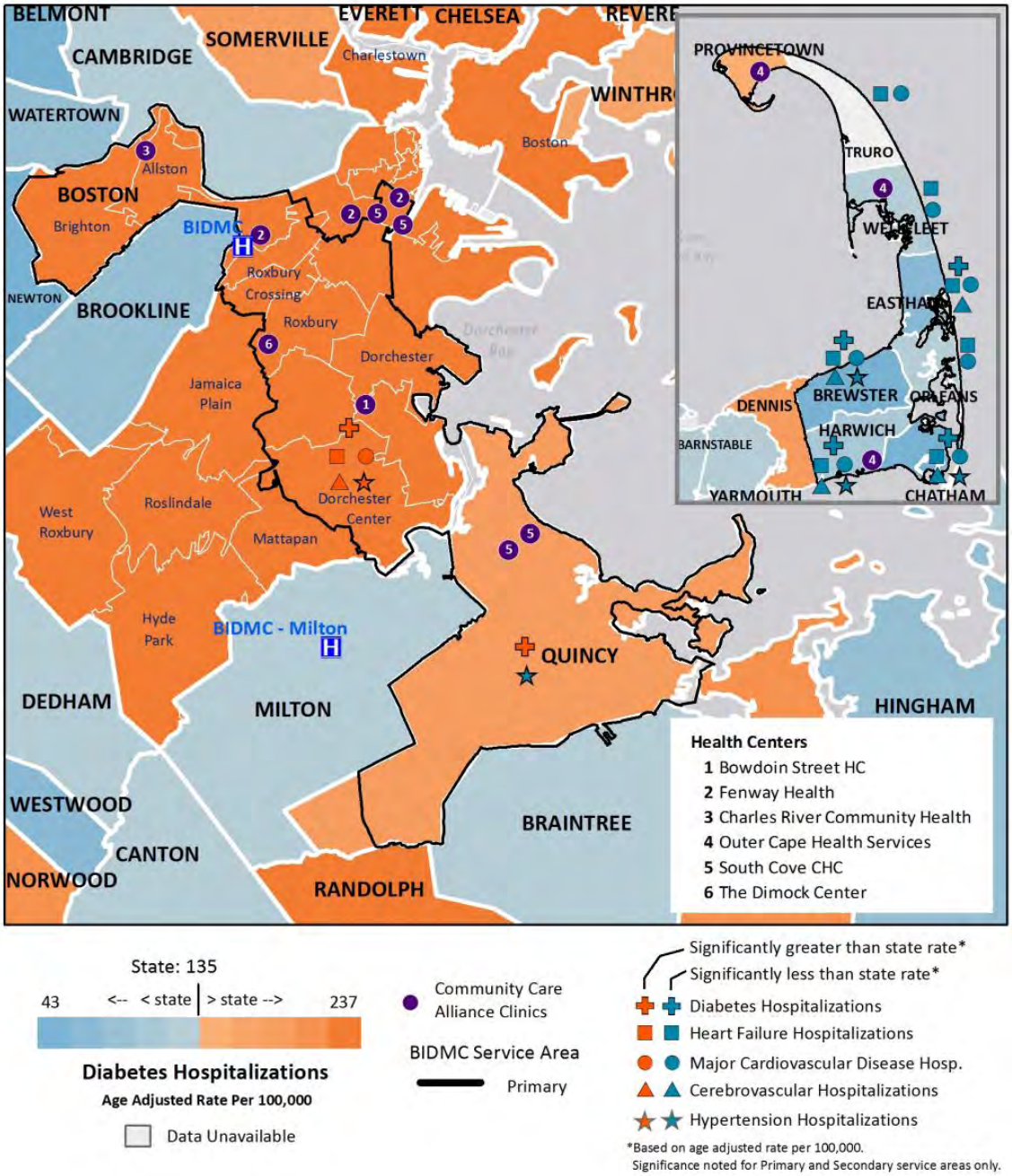
[39] Boston Public Health Commission. *Health of Boston Report 2015* http://www.bphc.org/healthdata/health-of-boston-report/Documents/HOB-2014-2015/FullReport_HOB_2014-2015.pdf Accessed 6/1/16

[40] Centers for Disease Control and Prevention: Chronic Disease Prevention and Health Promotion. http://www.cdc.gov/chronicdisease/ Accessed 5/13/16

[41] A chronic condition is a human health condition or disease that lasts a year or more and requires ongoing medical attention or that limits activities of daily living. http://www.cdc.gov/chronicdisease/overview/. Accessed 5/13/16

Figure 6 summarizes a number of chronic disease indicators in one map of BIDMC's CBSA. The base layer shows the range in diabetes hospitalization rates, with orange indicating rates higher than the Commonwealth and blue indicating rates lower than the Commonwealth. Markers indicate significantly different rates from the Commonwealth on this and other chronic disease measures. Taken together, this map demonstrates that chronic disease is a serious issue across BIDMC's CBSA, especially in the neighborhoods of Boston that are part of BIDMC's CBSA.

Figure 6. Chronic Disease Indicators in BIDMC CBSA
(Source: Massachusetts Hospital Inpatient Discharges (UHDDS), 2008-2012)



Data from the Boston Public Health Commission's 2015 Health of Boston Report underscores the fact that the rates are even higher in Boston neighborhoods of Roxbury, Dorchester, and the South End/Chinatown (Table 6).

- Boston adults have higher rates of diabetes hospitalizations, emergency department visits, and deaths compared to the Commonwealth with the highest rates in Boston being in Roxbury, North Dorchester, and South Dorchester
- In 2013, 24% of Boston residents reported having been told by their doctor that they had hypertension.
- Boston had higher rates of hospital utilization (per 100,000 pop.) for hypertension and higher mortality rates for heart disease compared to the Commonwealth with the highest rates being in Dorchester and Roxbury

Table 6. Hypertension, Heart Disease, and Diabetes Indicators in Boston Neighborhoods, 2013

Area	Percent of Adults with Hypertension	Heart Disease Hospitalizations*	Heart Disease Mortality*	Percent of Adults with Diabetes	Diabetes Hospitalizations, (age-adjusted rate per 1,000)
Boston	**24.0 (22.3-25.6)**	**9.1**	**133.6**	**8.6 (7.7-9.6)**	**1.9**
Allston/Brighton	14.5 (9.9-19.0)	8.1	128.9	3.9 (1.8-6.1)	1.7
Fenway	14.0 (7.8-20.2)	7.2	103.8	‡	0.8
North Dorchester	**28.5 (23.1-33.9)**	**11**	133.2	**12.4 (8.9-15.8)**	**3.0**
Roxbury	**28.3 (22.1-34.5)**	**13.2**	**148.3**	**15.1 (10.3-19.9)**	**3.5**
South Dorchester	**30.3 (25.2-35.3)**	**9.5**	123.1	**10.0 (7.0-12.9)**	**2.8**
South End/Chinatown	23.7 (16.5-30.8)	9.6	98.3	7.7 (3.6-11.9)	2.5

*Age-adjusted rate per 100,000
‡ Insufficient sample
Sources: Boston Behavioral Risk Factor Surveillance Survey, 2013 and Hospital Case Mix Database, MA Center for Health Information and Analysis (CHIA)
Analysis: Boston Public Health Commission Research and Evaluation

Data on respiratory diseases shows similar findings (Table 7).

- 11% of Boston adults have asthma. Asthma prevalence is especially high in North Dorchester.
- There are higher rates of hospitalizations and ED visits due to Asthma in Boston vs. Commonwealth for adults 18 years old or older.
- Adult crude asthma hospitalization (PQI) rates are higher for the BIDMC CBSA with the highest rates coming from: Roxbury, South Dorchester, and North Dorchester

Table 7. Respiratory Disease Indicators in Boston Neighborhoods, 2013

	Percent of Adults with Asthma	Asthma Emergency Department Visits*	Asthma Hospitalizations*
Boston	**11.1 (9.7-12.5)**	**9.0**	**2.6**
Allston/ Brighton	8.3 (3.4-13.2)	5.8	1.3
Fenway	‡	6.5	1.6
North Dorchester	**17.7 (12.4-23.0)**	**14.3**	**3.8**
Roxbury	**13.8 (7.9-19.7)**	**17.5**	**5.9**
South Dorchester	**12.5 (8.3-16.7)**	**14.5**	**3.6**
South End/ Chinatown	6.8 (3.0-10.7)	12.6	2.8

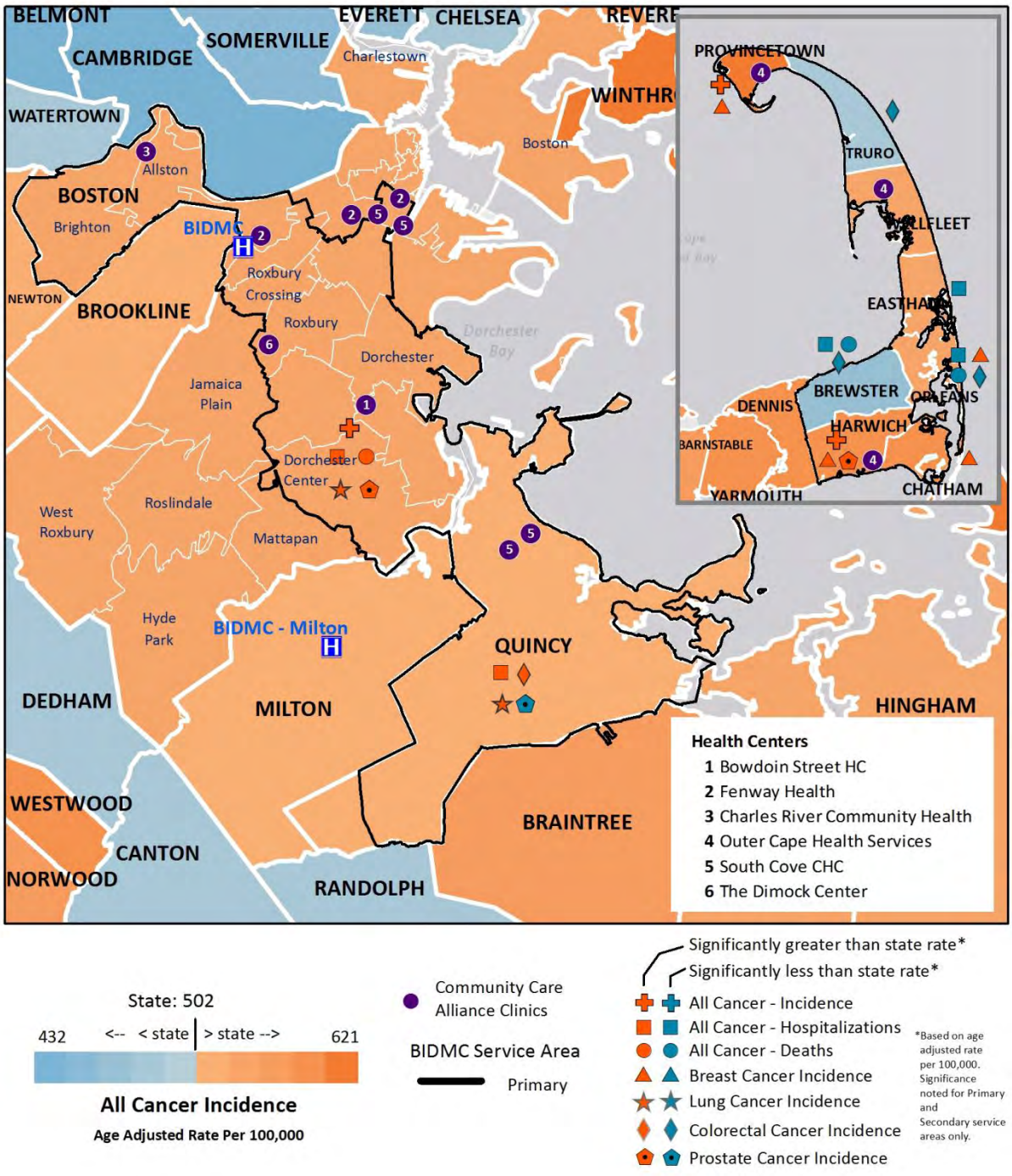
*Age-adjusted rate per 100,000
Sources: Boston Behavioral Risk Factor Surveillance Survey, 2013 and Hospital Case Mix Database, MA Center for Health Information and Analysis (CHIA)
Analysis: Boston Public Health Commission Research and Evaluation

Cancer

Cancer is the second leading cause of death in the United States and the first leading cause of death in the Commonwealth. Quantitative and qualitative data from the assessment corroborate these findings with data showing great disparities on the Outer Cape and in Boston neighborhoods that are part of BIDMC's CBSA. The major known risk factors for cancer are age, family history of cancer, smoking, overweight/obesity, excessive alcohol consumption, lack of exercise, excessive exposure to the sun, unsafe sex, exposure to fumes, second hand cigarette smoke, and other airborne environmental and occupational pollutants. As with other health conditions, there are major disparities in outcomes and death rates across all forms of cancer, which are directly associated with race, ethnicity, income, and whether one has comprehensive medical health insurance coverage.

Figure 7 shows a number of cancer indicators in one map of the CBSA. The base layer shows the range in all-cancer incidence in the BIDMC CBSA with orange indicating rates higher than the Commonwealth and blue indicating rates lower than the Commonwealth. Markers indicate significantly different rates from the Commonwealth on a range of key cancer-related rates, as compared to the Commonwealth overall. Taken together, this map demonstrates that cancer is a serious concern across all geographic segments of BIDMC's CBSA.

Figure 7. Cancer Indicators in BIDMC CBSA
(Source: Massachusetts Hospital Inpatient Discharges (UHDDS), 2008-2012)



Beth Israel Deaconess Medical Center

Once again, it is important to note that there are particular disparities in Roxbury and Dorchester. The table below indicates the death rates for Boston's neighborhoods and the City of Quincy.

Figures in red indicate when the rates are statistically higher than the Commonwealth rates. Most communities (including Quincy) have at least one indicator that is higher than Commonwealth but in the case of Roxbury every indicator is higher than the Commonwealth rate, which highlights the disparities that exist.

Table 8. Cancer Death Rates by Boston Neighborhood

Area	All Cancer, 2013	Colorectal Cancer 2011-2013	Female Breast Cancer 2011-2013	Lung Cancer, 2013	Pancreatic Cancer, 2011-2013	Prostate Cancer, 2011-2013
Boston	176.1	16.4	17.9	45.4	12.1	25.7
Allston/Brighton	133.3	15.6	6.9	45.6	8.3	21.4
Fenway	160.4	8.5	21.0	46.9	15.6	N<5
North Dorchester	147.9	12.6	14.4	25.0	15.1	29.8
Roxbury	170.8	25.5	23.6	64.3	16.1	49.5
South Dorchester	199.6	19.9	17.7	45.9	11.3	32.8
South End/Chinatown	155.6	22.8	10.8	26.5	14.3	N<5
Quincy*	175.8*	11.4*	22.1*	55.4*	10.9*	14.6*

** All age-adjusted rates per 100,000*
Sources: *Boston Resident Deaths, MA DPH // *Source is MA Vital Records 2008-2012*
Analysis: *Boston Public Health Commission Research and Evaluation*

Cancer screening helps to ensure that cancer is caught and treatment is started as early as possible. For instance, those with a history of smoking are encouraged to be screened for lung cancer up to 15 years after they quit smoking. Cancer screening has been especially successful with detecting cancers of the breast, cervix, colon and rectum, and consistent screening has contributed significantly to the decrease in cancer death rates over the past twenty years.

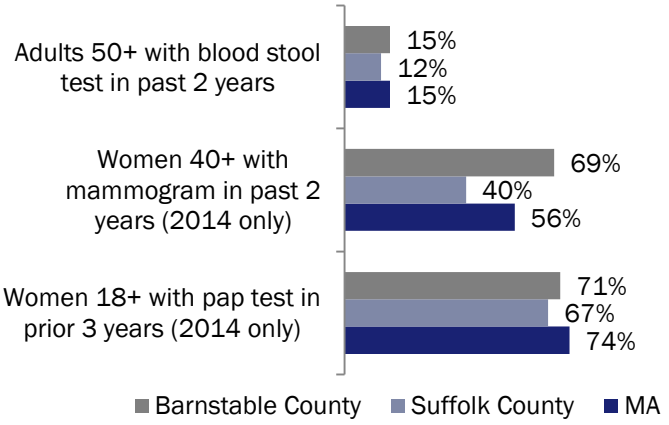
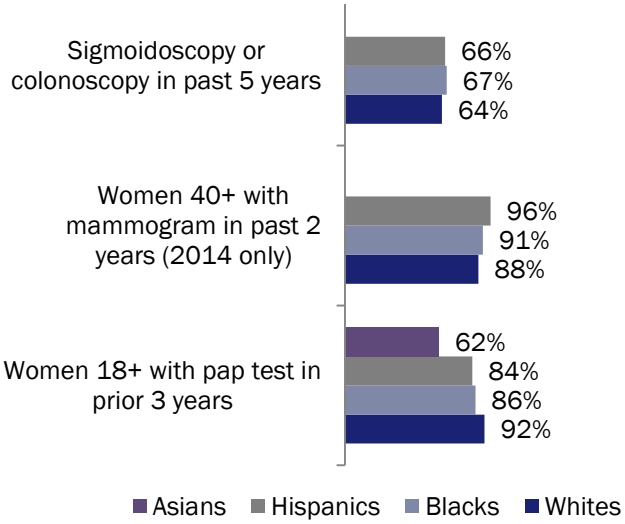


Figure 8. Cancer Screening Rates in Massachusetts and Suffolk and Barnstable Counties (Source: BRFSS, 2013-2014 aggregate data)

Great strides have been made over the past decade with respect to screening rates. For example, according to the 2015 Health of

Figure 9. Cancer Screening Rates in Boston by Race/Ethnicity
(Source: 2015 Health of Boston Report)



Boston Report, 86% of eligible women have received a Pap test to detect cervical cancer in the past three years, 90% of women have had a mammography in the past two years, and 64% of men and women have had a sigmoidoscopy or colonoscopy in the past five years. However, there are opportunities for improvement, as there are significant disparities in screening rates by race/ethnicity, particularly for Asians who have substantially lower rates in the area of Pap tests.

Infectious Disease.

Infectious diseases remain a major cause of illness, disability, and even death. Sexually transmitted diseases, diseases transmitted through needle injection, tick-borne illnesses (Lyme disease), and pneumonia are among the infectious diseases that have an impact on the population. Lyme disease incidence rates are significantly higher in Quincy and a number of the towns on the Outer Cape portion of Cape Cod.[42] It should also be noted that Lyme disease was brought up as a major concern at a community forum on Cape Cod.

Figure 10. Infectious Disease Rates in BIDMC CBSA
(Source: MA Department of Public Health, Vital Statistics Data, 2012 and 2013)

Indicator	MA	Boston	Quincy	Outer Cape Towns				Outer Cape Towns		
				MA	Boston	Quincy				
				Harwich	Provincetown	Truro	Wellfleet	Harwich	Provincetown	Truro	Wellfleet
Sexually Transmitted Diseases											
Chlamydia Incidence (crude rate, 2012)	357	902	360	357	90	902	850	360	NA	90	255	850	NA	255
Gonorrhea Incidence (crude rate, 2012)	40	162	40	40	NA	162	612	40	NA	NA	NA	612	NA	NA
Hepatitis C Incidence (crude rate, 2013)	119	149	122	119	131	149	408	122	NA	131	255	408	NA	255
Tick Bourne Disease											
Lyme Disease Incidence (crude rate, 2013)	62	12	18	62	57	12	NA	18	NA	57	182	NA	NA	182
Pneumonia/Influenza (age-adjusted rate, 2013)											
Deaths	16.9	15.7	22.5	16.9	13.4	15.7	10.7	22.5	12.5	13.4	10.4	10.7	12.5	10.4
HIV/AIDS (2008-2012)											
HIV/AIDS Hospitalizations (age-adjusted rate)	12	40	10	12	NA	40	NA	10	NA	NA	NA	NA	NA	NA
Deaths (crude rate)	1.6	4.6	1.8	1.6	1.0	4.6	7.2	1.8	20.5	1.0	-	7.2	20.5	-

Key
Statistically higher than statew
Statistically lower than statewide rate

[42] Massachusetts Communicable Disease Program (Epidemiology), 2013. (From: Massachusetts Community Health Information Profile (MassCHIP) 2008-2012)

Great strides have been made with respect to HIV/AIDS, and for most it is considered to be more of a chronic condition that can be managed with medications than a terminal condition. Overall, rates of illness, death, and HIV transmission have declined dramatically over the past decade. However, HIV/AIDS still has a major impact on certain communities in BIDMC's CBSA and on certain segments of the population including men who have sex with men and injection drug users. In the Table below, figures in red indicate when the rates are statistically higher than the Commonwealth rates.

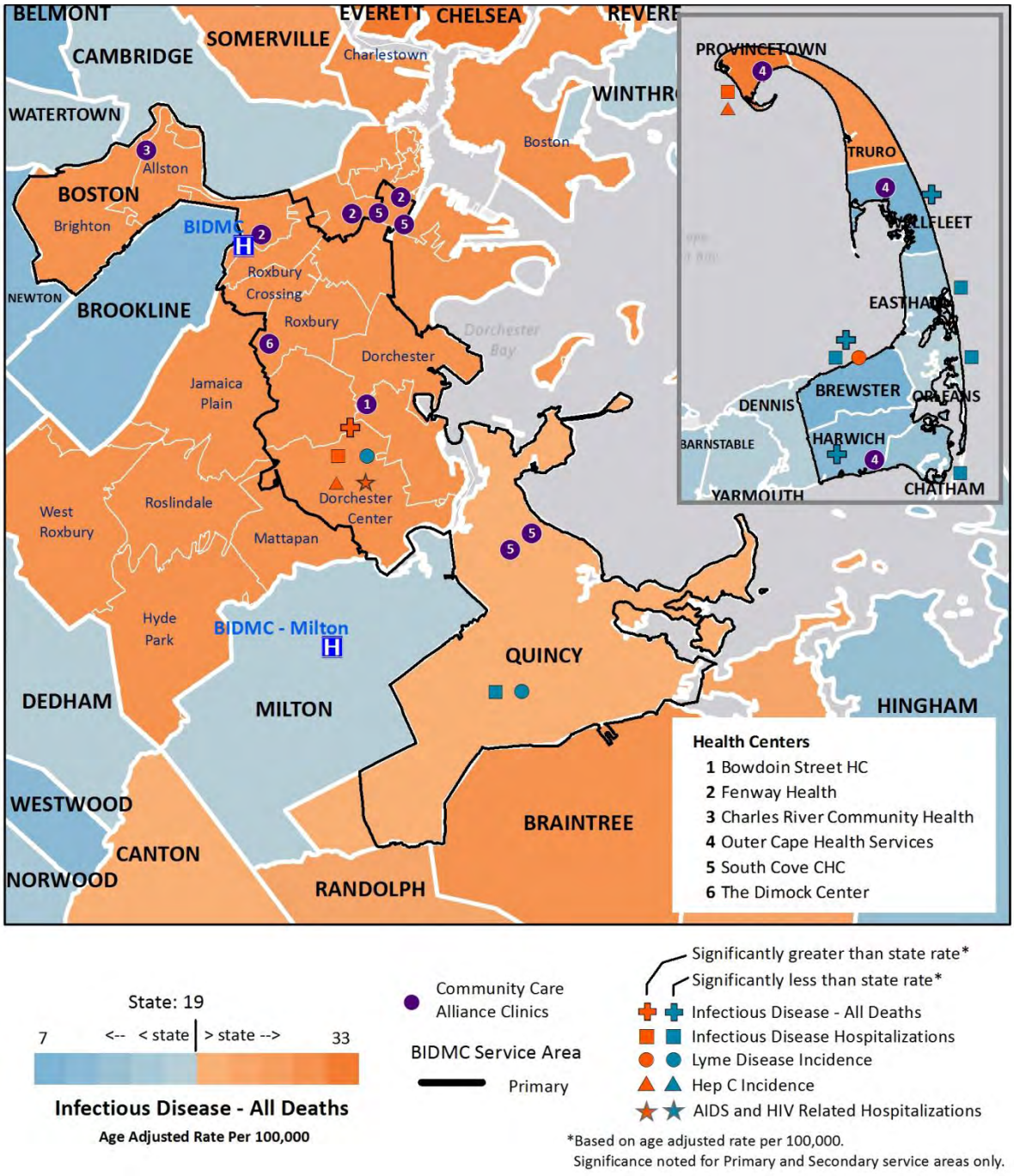
Table 9. HIV/AIDS Hospitalization and Mortality Rates in BIDMC's CBSA
(Source: MA Department of Public Health, Vital Statistics Data, 2012 & 2013)

Area	HIV/AIDS Hospitalizations	HIV/AIDS-Related hospitalizations	HIV/AIDS Deaths
Massachusetts	12.43 (12.05 - 12.81)	42.76 (42.06 - 43.46)	1.58 (1.45 - 1.72)
Boston	40.05 (37.62 - 42.49)	160.56 (155.68 - 165.43)	4.56 (3.74 - 5.38)
Provincetown	NA	232.67 (171.93 - 293.41)	7.20 (0.00 - 17.26)
Truro	NA	99.75 (45.47 - 154.03)	20.54 (0.00 - 43.86)
Wellfleet	NA	NA	0.00
Chatham	NA	NA	0.00
Orleans	0.00	NA	0.00
Eastham	NA	NA	0.00
Quincy	10.05 (7.21 - 12.89)	49.68 (43.46 - 55.90)	1.76 (0.60 - 2.93)

All age-adjusted rates per 100,000
Sources: *MA Hospital Inpatient Discharges 2008-2012, MA Vital Records Mortality 2008-2012*

Figure 11 (following page) shows a number of infectious disease-related indicators in one map of the CBSA. The base layer shows the range in the rate of infectious disease rates in the CBSA, with orange indicating rates higher than the Commonwealth and blue indicating rates lower than the Commonwealth. Markers indicate significantly different rates from the Commonwealth on this and other infectious disease-related measures. Taken together this map demonstrates that the burden of infectious diseases is a major issue in some geographies but not others and in Boston's neighborhoods the aggregated data for Boston as a whole obscures some of the issues that exist.

Figure 11. Infectious Disease Indicators in BIDMC CBSA (Source: Mass CHIP 2008-2012)



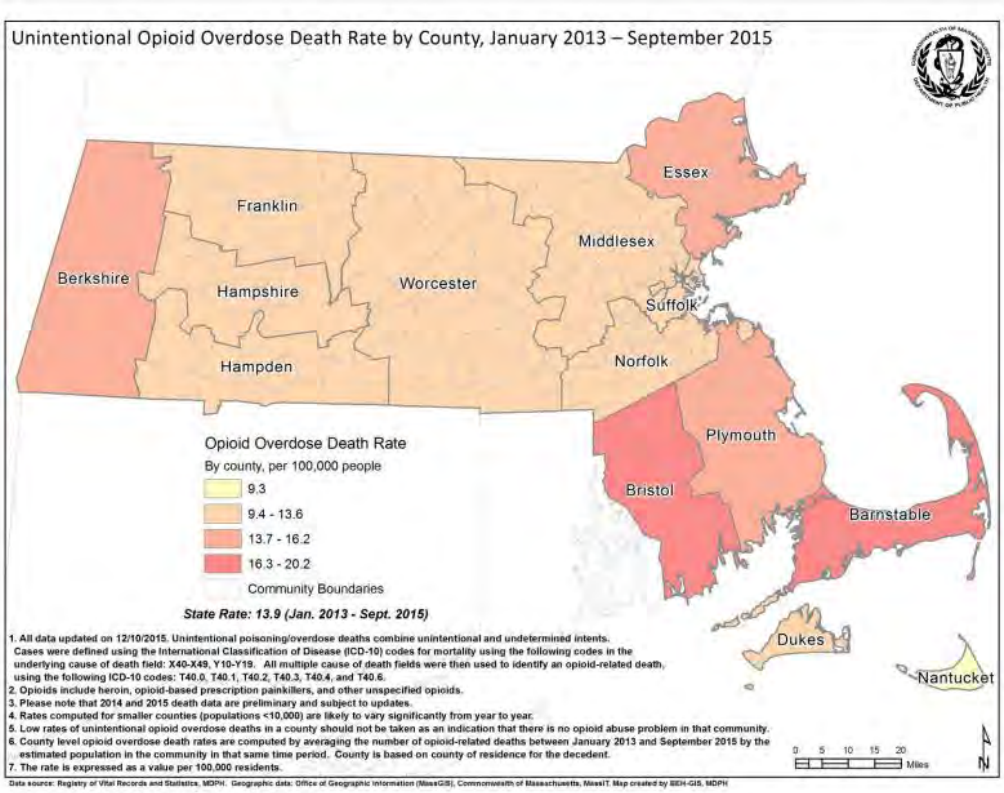
Behavioral Health

Mental illness and substance use have a profound impact on the health of people living throughout the United States. Data from the Centers for Disease Control and Prevention suggests that

approximately one in four (25%) adults in the United States has a mental health disorder[43] and an estimated 22 million Americans struggle with drug or alcohol problems.[44]

According to a study prepared by the Massachusetts DPH in the Fall of 2015, Suffolk, Norfolk, and Barnstable Counties, where BIDMC's CBSA is located experienced over a 100% increase in opioid abuse overdose deaths between 2001 and 2013. Between 2013 and 2015, the increase in Suffolk County was 71%, Norfolk it was 108%, and in Barnstable County the increase was 135%.[45]

Figure 12. Unintentional Opioid Overdose Death Rate by County, Jan. 2013 – Sept. 2015
(Source: MA Department of Public Health)



According to the 2013-2014 BRFSS, one in five adults (20%) in Suffolk County had ever been diagnosed with depression, comparable to the Commonwealth overall (21%).[46] Depression, anxiety, and alcohol abuse are directly associated with chronic disease, and a high proportion of those living with these issues also have a chronic medical condition. The impact of mental health and substance abuse on the residents of BIDMC's CBSA are profound and it was undoubtedly the most significant issue discussed during the interviews and community forums. There is also ample quantitative evidence to show the impact of substance abuse.

[43] National Institute of Mental Health: Statistics. http://www.nimh.nih.gov/health/publications/the-numbers-count-mental-disorders-in-america/index.shtml
[44] Healthy People 2020: Substance Abuse. http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=40
[45] http://www.mass.gov/eohhs/docs/dph/quality/drugcontrol/county-level-pmp/data-brief-aug-2015-overdose-county.pdf
[46] MA Behavioral Risk Factor Surveillance System, 2013-14 aggregate data

Table 10. Mental Health and Substance Abuse Rates in BIDMC's Community Benefits Community Benefits Service Area (Source: MA Department of Public Health, Vital Statistics Data, 2012 & 2013)

Area	Mental Health Hospitalizations, 2013 (age adjusted rate per 1,000)	Alcohol-Related hospital patient encounters* (residents 12+) (age adjusted rate per 1,000)	Drug-related hospital patient encounters* (residents 12+) (age adjusted rate per 1,000)	Persistent Sadness Among Adults (15+ days during past 30 days), 2013	Suicide, 2009-2013 (Avg. annual age adjusted rate per 100,000)
Boston	**8.0**	**17.7**	**6.8**	**12.2 (10.7-13.7)**	**6.7**
Allston/Brighton	12.0	12.6	3.6	15.5 (8.8-22.3)	6.9
Fenway	12.4	16.4	3.3	10.9 (5.1-16.7)	7.0
North Dorchester	7.1	13.4	6.5	16.5 (11.6-21.4)	8.7
Roxbury	9.0	22.6	12.2	12.6 (7.7-17.5)	6.2
South Dorchester	10.5	16.1	8.3	14.5 (9.8-19.1)	7.7
South End/Chinatown	9.8	80.8	24.2	11.6 (5.2-18.1)	12.8
Quincy	790.6** (age-adjusted rate per 100,000)	No data	No data	No data	9.0***

*Sources: Hospital Case Mix Database, MA Center for Health Information and Analysis (CHIA), **MA Hospital Inpatient Discharges 2008-2012, ***MA Vital Records 2008-2012*
Analysis: Boston Public Health Commission Research and Evaluation
**Includes ED visits, observational stays, and inpatient hospitalizations*

With respect to substance abuse, according to 2013 data from the MA Department of Public Health, Boston, Quincy, and Barnstable County had a statistically higher rate per 100,000 population of alcohol and substance abuse related hospital encounters (Table 10). Rates in these areas were particularly high in the Roxbury, South Dorchester, and South End/Chinatown neighborhoods. It should be noted that the rates for South End/Chinatown are skewed by the plethora of public shelters that exist in this neighborhood, including the Pine Street Inn and Boston Healthcare for the Homeless' facilities. Furthermore, with respect to alcohol, 25% of residents of Boston overall reported binge drinking[47] compared to 18% for the Commonwealth overall. Binge drinking ranged from a low of 20% in the Fenway neighborhood to a high of approximately 30% in Roxbury and Dorchester.

[47] According to the Centers for Disease Control and Prevention, "binge" drinking is defined as 5 or more drinks on an occasion for men or 4 or more drinks on an occasion for women

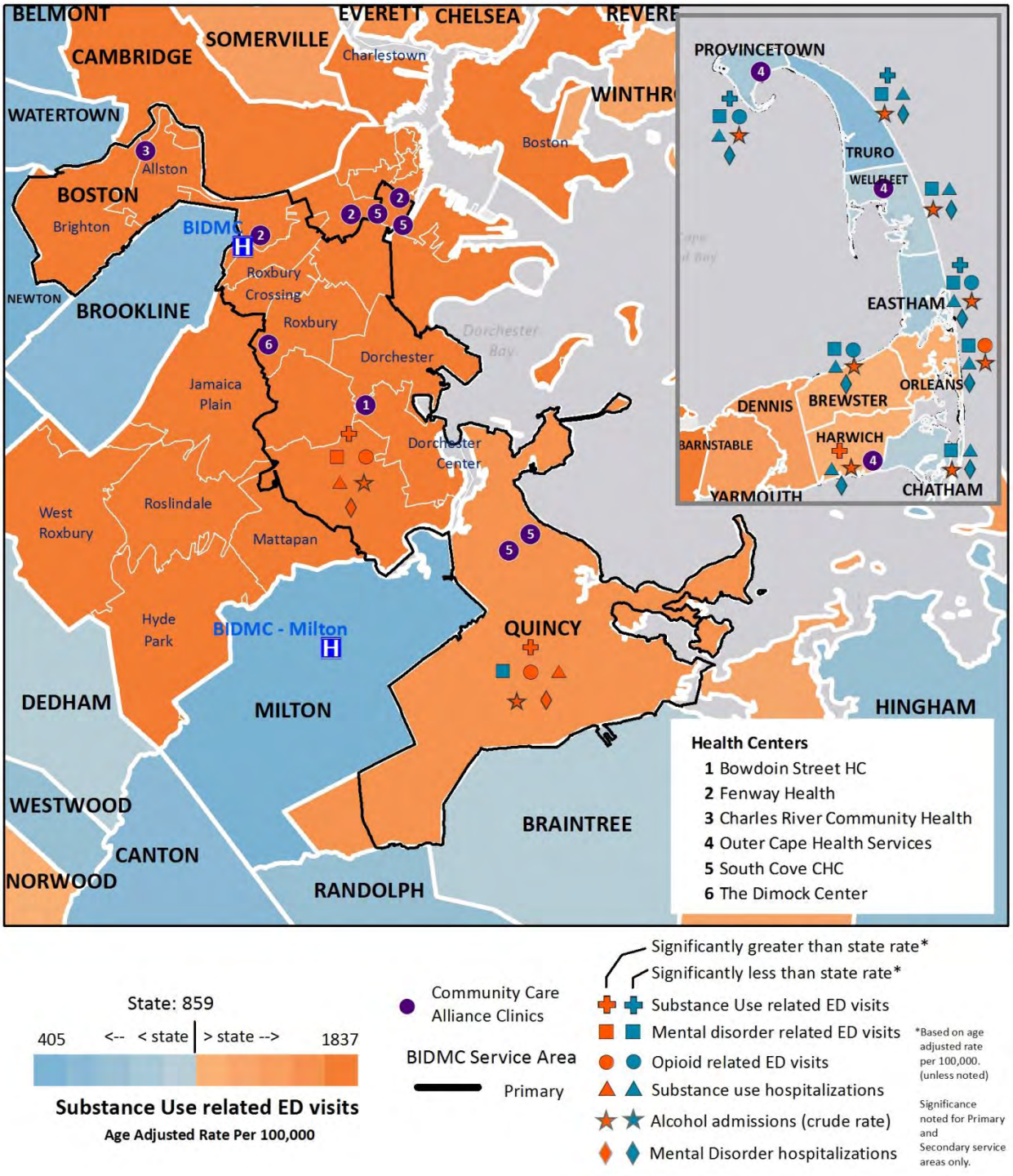
Quantitative data, specifically related to mental health morbidity or mortality, is limited but the burden of mental health in the CBSA is also well understood and mental health was one of the leading themes in the assessment's stakeholder interviews and community/provider forums. There was an overwhelming sentiment across all of the community forums that mental health issues were one of the major health issues facing the community. The clear sentiment was that mental health affected all segments of the population from children and youth to young and middle-aged adults to elders. With respect to youth, interviewees and meeting participants discussed the stresses that youth face related to family, school, and their social lives with peers. These stresses often lead to depression, low self-esteem, and isolation, as well as substance abuse, risky sexual behaviors, and, in extreme cases, suicide. A number of stakeholders and forum participants also referenced ADHD, autism, and developmental delays in children and youth. These issues have a major impact on a small but very high need group of families and forum participants and interviewees cited gaps in behavioral health services, particularly for low income families, and the need for family/child support services.

With respect to adults and older adults, the issues are similar in many ways. Stakeholders and forum participants cited depression and anxiety/stress often coupled with isolation, particularly in older adults. In older adults mental health issues are often exacerbated by lack of family/caregiver support, lack of mobility, and physical health conditions. Stakeholders advocated strongly for expansion of mental health services, particularly care/case management services, as well as other supportive services that this population needed to manage their conditions and improve health status and overall well-being.

While there is limited quantitative data on mental health, according to 2013 hospital discharge data from the MA Department of Public Health, Allston/Brighton, Fenway, South Dorchester, and South End/Chinatown had a statistically higher rate per 100,000 population of hospital inpatient discharges when a mental health condition was the primary reason for the visit. Also, suicide rates were also statistically higher in North Dorchester, South End/Chinatown, and Quincy. These data provide some insight into the mental health burden but the qualitative data is more compelling.

Figure 13 (next page) shows a number of behavioral health-related indicators in one map of the CBSA. The base layer shows the range in the rate of substance use-related ED visits in the CBSA, with orange indicating rates higher than the Commonwealth and blue indicating rates lower than the Commonwealth. Markers indicate significantly different rates from the Commonwealth on this and other behavioral health measures. Taken together, this provides even more detail on the disparities that exist across BIDMC's CBSA.

Figure 13. Substance Abuse Indicators in BIDMC CBSA
(Source: Mass CHIP 2008-2012)



Special Populations

Older Adults

Across the country, older adults are among the fastest growing age groups. Older adults are much more likely to develop chronic illnesses and related disabilities such as heart disease, hypertension, and diabetes as well as congestive heart failure, depression, anxiety, Alzheimer's, Parkinson's disease, and dementia. By 2030, the CDC and the Healthy People 2020 Initiative estimates that 37 million people nationwide (60% of the older adult population 65+) will manage more than one chronic medical condition.

Based on information gathered from the assessment's interviews and community forums, older adults have been identified as one of the leading at-risk target populations. The major issues expressed by participants were fragmentation of services and poor care transitions, depression and social isolation, the impacts of poverty, poor nutrition and access to healthy foods, lack of caregiver support services, and transportation barriers

As an elderly person, it is not rare to have two, three or more chronic health conditions. Nationally, 49% of those aged 45-64 and 80% of people 65 and older live with one or more chronic conditions.[48]

Maternal and Child Health

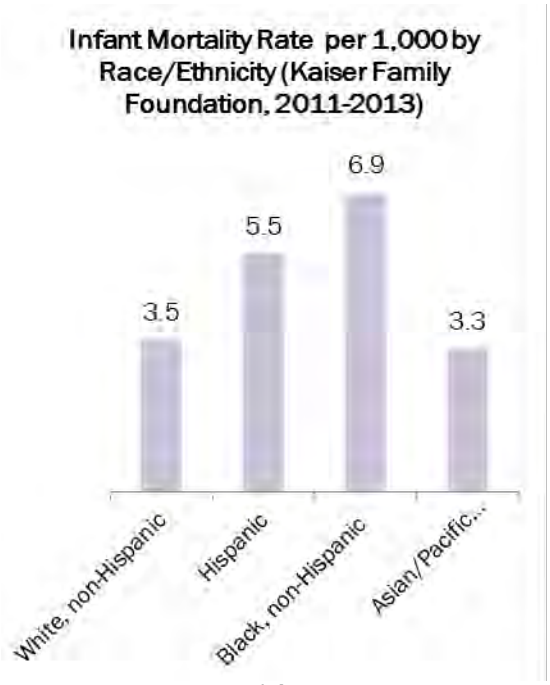
Infant mortality, childhood immunization, rates of teen pregnancy, rates of low birth weight, and rates of early, appropriate prenatal care for pregnant women are among the most critical indicators of maternal and child health.

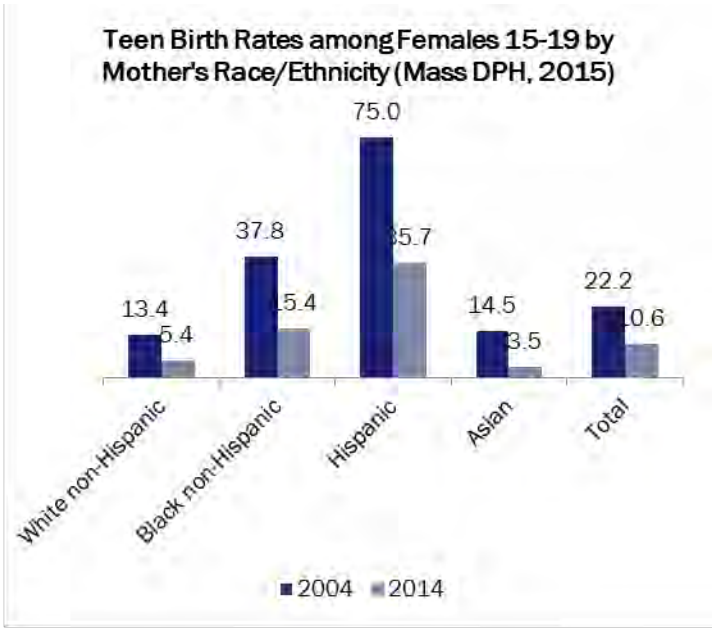
Data compiled on maternal and child health from MA DPH showed that neither Quincy nor any communities on Cape Cod were significantly worse than the Commonwealth on infant mortality or low-birthweight births.[49] However, Boston's rates on these indicators were higher than the Commonwealth's rates. For example, in 2012, Boston's infant mortality rate was 4.8 per 1,000 and low birthweight rate was 8.4%, which was higher than the Commonwealth overall, 4.24 per 1,000 and 7.5% respectively. Boston also had a statistically significantly higher rate of preterm births (9.5%) compared to the Commonwealth (9.0%).[50] Figure 14 (included on the next page) maps these infant mortality statistics.

[48] Gerteis J, Izrael D, Deitz D, LeRoy L, Ricciardi R, Miller T, Basu J. Multiple Chronic Conditions Chartbook. AHRQ Publications No, Q14-0038. Rockville, MD: Agency for Healthcare Research and Quality. April 2014.
[49] Massachusetts Vital Records Natality, 2008-2012
[50] Massachusetts Vital Records Natality, 2008-2012

The health disparities with respect to the leading maternal and child health indicators (e.g., infant mortality, prenatal care, adolescent births, and low birth weight) for racially/ethnically diverse populations are well known. Disparities have lessened over the years but there are still significant disparities in outcomes, particularly for blacks/African Americans and Hispanics/Latinos. The infant death rate for white, non-Hispanics/Latinos is 3.5 per 1,000 compared to 5.5 per 1,000 for Hispanics/Latinos and 6.9 per 1,000 for black/African Americans (see figure below).[51] While teen birth rates have declined since 2004, black/African American adolescents in Massachusetts continue to have a teen birth rate that is over five times that of white, non-Hispanic/Latino

Figure 14. Maternal and Infant Health Disparities



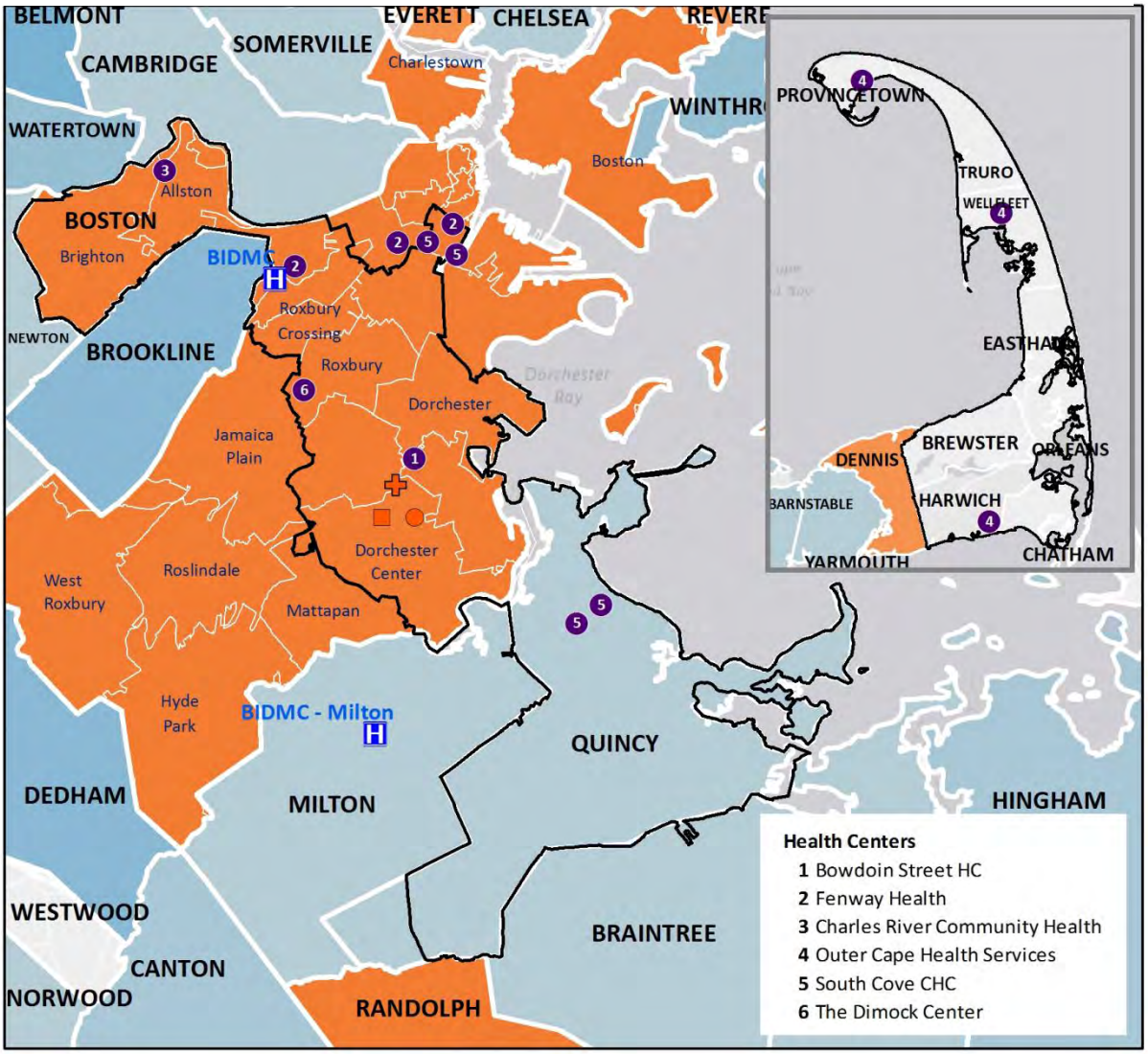


adolescents (Figure 14).[52]

[51] Kaiser Family Foundation. Infant Mortality Rate (Deaths per 1,000 Live Births) by Race/Ethnicity. 2011-2013 http://kff.org/other/state-indicator/infant-mortality-rate-by-race-ethnicity/

[52] Massachusetts Department of Public Health. Massachusetts Births 2014 http://www.mass.gov/eohhs/docs/dph/research-epi/birth-report-2014.pdf

Figure 15. Maternal and Child Health Indicators in BIDMC CBSA
(Source: Massachusetts Vital Records Natality, 2008-2012)



Youth

There is an unfortunate lack of data available on youth at the county or town levels. State-level data is available through the Massachusetts Youth Risk Behavioral Survey (Figure 16).[53] A number of areas of concern were highlighted by the state-level data, and these same concerns were confirmed by qualitative comments from the interviews and community forums. Particular concerns for youth include:

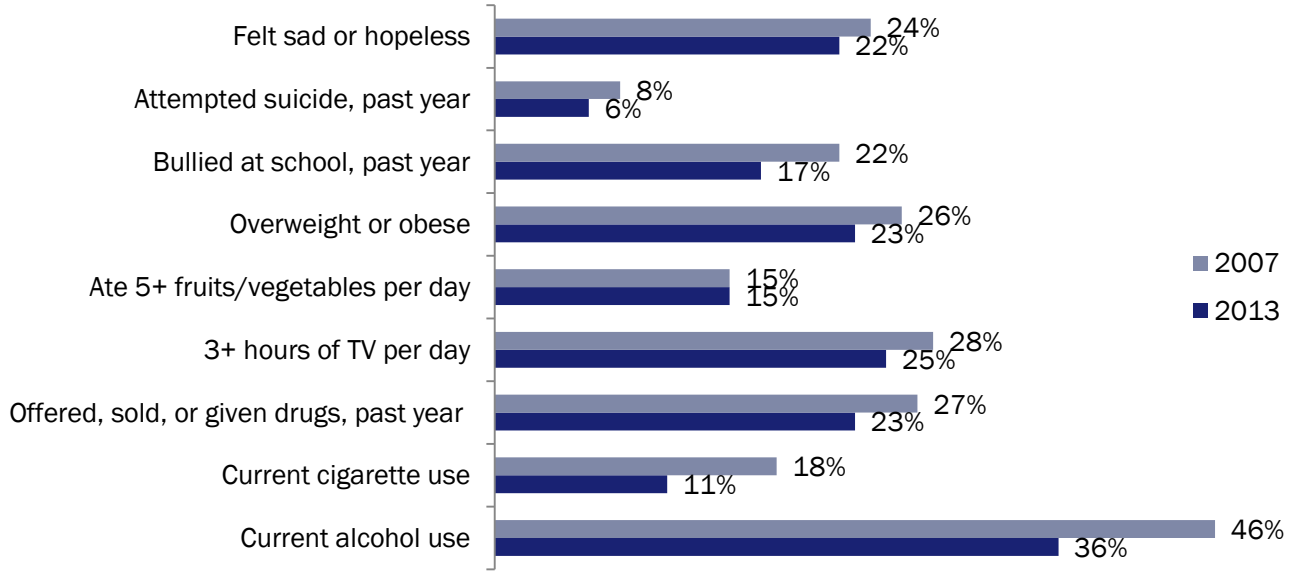
- **Mental Health:** In 2013, one in five high-school youth (22%) in the Commonwealth felt sad or hopeless, and 6% had attempted suicide in the past year.[54] One in five (17%) reported being bullied at school. In Boston these issues were even more extreme. In 2013, 30% of Boston public high school students reported persistent sadness. Exposure to stressors may explain, in part, why certain groups suffer from poorer mental and physical health outcomes than others. Stress related to school, family issues or social situations with peers can have detrimental effects on mental health.

- **Overweight/Obesity, Physical Activity and Healthy Eating:** In 2013, 25% of high-school youth in the Commonwealth were overweight or obese. Just 15% reported eating at least five fruits and vegetables each day, whereas a quarter (25%) reported watching at least three hours of TV on an average school day.[55]

- **Alcohol and Substance Use:** In 2013, almost a quarter (23%) of high-school youth in the Commonwealth reported that they were offered, sold, or given drugs in the past year. Meanwhile, one in ten (11%) reported current cigarette use, and a third (36%) reported current alcohol use.[56]

[53] Massachusetts Department of Elementary and Secondary Education & Massachusetts Department of Public Health. Health and Risk Behaviors of Massachusetts Youth, 2013. http://www.doe.mass.edu/cnp/hprograms/yrbs/2013report.pdf
[54] Massachusetts Department of Elementary and Secondary Education & Massachusetts Department of Public Health. Health and Risk Behaviors of Massachusetts Youth, 2013. http://www.doe.mass.edu/cnp/hprograms/yrbs/2013report.pdf
[55] Massachusetts Department of Elementary and Secondary Education & Massachusetts Department of Public Health. Health and Risk Behaviors of Massachusetts Youth, 2013. http://www.doe.mass.edu/cnp/hprograms/yrbs/2013report.pdf
[56] Massachusetts Department of Elementary and Secondary Education & Massachusetts Department of Public Health. Health and Risk Behaviors of Massachusetts Youth, 2013. http://www.doe.mass.edu/cnp/hprograms/yrbs/2013report.pdf

Figure 16. Statewide Youth Health Indicators (YRBS, 2007-2013)



Lesbian, Gay, Bi-sexual, and Transgender Populations

The lesbian, gay, bi-sexual, and transgender (LGBT) community is diverse. While L, G, B, and T are usually tied together as an acronym that suggests homogeneity, each letter represents a wide range of people of different races, ethnicities, ages, socioeconomic statuses and identities. What binds them together are common experiences of stigma and discrimination, the struggle of living at the intersection of many cultural backgrounds and trying to be a part of each, and, specifically with respect to health care, a long history of discrimination and lack of awareness of health needs by health professionals. As a result, LGBT people face a common set of challenges in accessing culturally competent health services and achieving the highest possible level of health. [57]

Research has shown that that these challenges lead to significant health disparities for LGBT populations when compared to the heterosexual populations. More specifically, according to a study conducted in 2009 by the Massachusetts Department of Public Health in Partnership with MassEquity, Massachusetts' largest LGBT advocacy organization, LGBT populations face disparities with respect to access to health care services, overall health status, cancer screening, chronic health conditions, mental health, substance use, sexual health, and violence victimization. While gay and lesbian adults reported poorer health and greater risk than heterosexuals across several health domains, poorer health was observed most often for bisexuals and transgender individuals. The health profile of bisexual and transgender respondents was poorer than that of heterosexual residents in terms of access to medical providers, disability status, and 12-month suicidal ideation. For transgender persons, there were also worse outcomes with respect to anxious and depressed moods and lifetime violence victimization. The health profile of gay and lesbian residents was poorer than that of heterosexual residents in the following domains: lifetime sexual assault victimization; 30-day binge drinking and substance use; asthma; and type 2 diabetes.

[57] LGBT Health Education. http://www.lgbthealtheducation.org/topic/lgbt-health/ Accessed 6/1/16

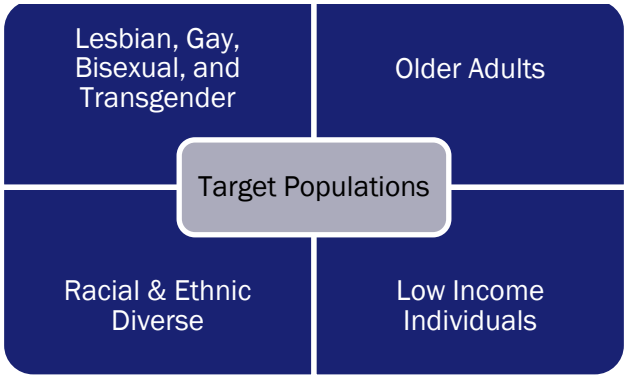
Community Health Priorities and Target Populations

Once all of the assessment's findings were compiled, hospital and community stakeholders participated in a strategic planning process that integrated data findings from Phases I and II of the project, including information gathered from the interviews and community forums. Participants engaged in a discussion of: 1) the assessment findings, 2) current community benefits program activities, and 3) emerging strategic ideas that could be applied to refine their community benefits strategic response. From this meeting, community health priorities were identified, as were target populations and core strategies to achieve health improvements.

Following is a brief summary of the target populations and community health priorities that were identified with the support of community stakeholders. Also included below is a review of the goals, objectives, and core elements of BIDMC's Community Health Implementation Plan (CHIP).

Target Populations

Figure 17. Target Populations

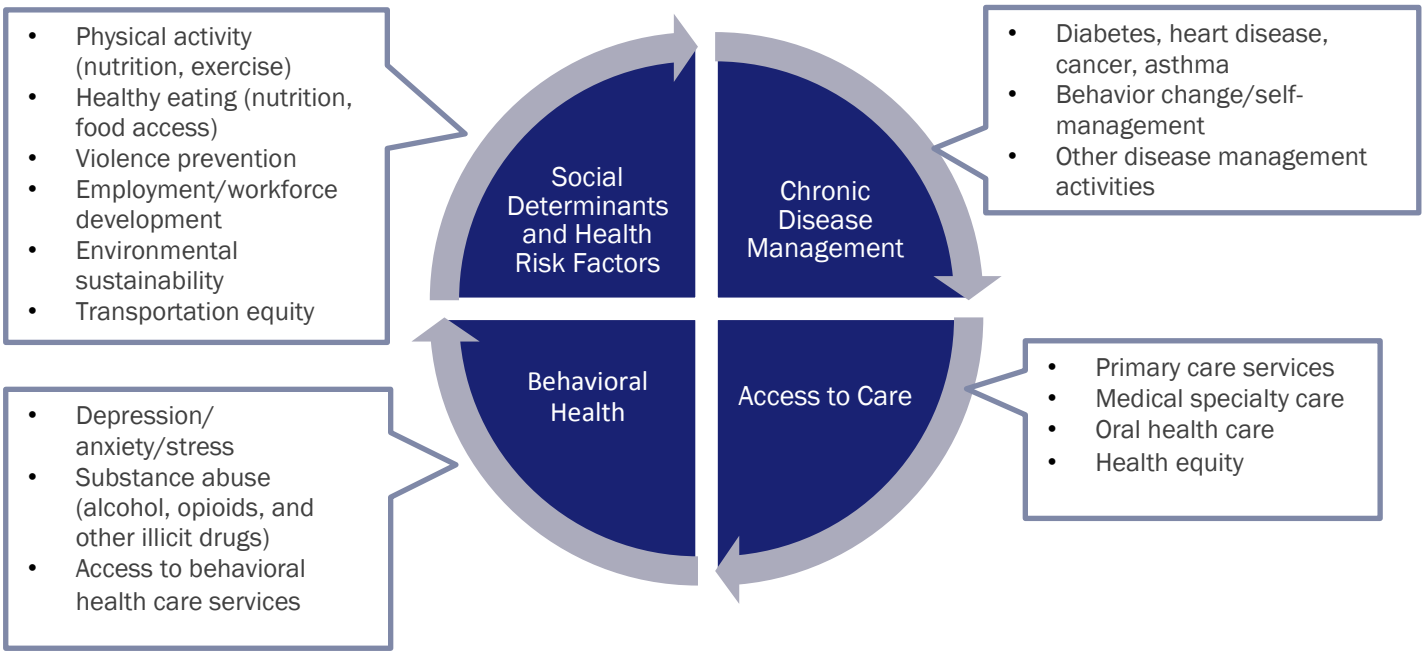


BIDMC, along with its other health, public health, social service, and community health partners, is committed to improving the health status and well-being of all residents living throughout its CBSA. BIDMC's CHIP, summarized in the next section, includes many activities that will support residents throughout the BIDMC CBSA. However, based on the assessment's quantitative and qualitative findings, including discussions with a broad range of community participants, there was broad agreement that BIDMC's CHIP should target certain demographic, socio-economic and geographic cohorts that have complex needs, face barriers to care and service gaps, as well as other adverse social determinants of health that can put them at greater risk, limit their access to needed services, and can often lead to disparities in health outcomes. More specifically, the assessment identified low income populations, older adults, racially/ethnically diverse populations, and the LGBT populations.

Community Health Priorities

BIDMC's CHNA's approach and process provided ample opportunity to vet the quantitative and qualitative data compiled during the assessment. BIDMC has framed the community health needs in four priority areas, which together encompass the broad range of health issues and social determinants of health facing residents living in BIDMC's CBSA. These four areas are: 1) Social Determinants, Health Risk Factors and Equity, 2) Chronic Disease Management and Prevention, 3) Access to Care, and 4) Behavioral Health (mental health and substance abuse). BIDMC already has a robust community health implementation plan that has been working to address all of the identified issues. However, this CHNA has provided new guidance and invaluable insight on quantitative trends and community perceptions that can be used to inform and refine BIDMC's efforts. The following are the core elements of BIDMC's updated Community Health Implementation Plan (CHIP).

Figure 18. Community Health Priorities



BIDMC's Community Health Implementation Plan

Given the complex health issues in the community, BIDMC has been strategic in identifying its priority areas in order to maximize the impact of its community benefits program and work to improve the overall health and wellness of residents in its CBSA. Based on the data, BIDMC has identified the following as the highest priority needs of the CBSA:

1. Social Determinants and Health Risk Factors
2. Chronic Disease Management
3. Access to Care
4. Behavioral Health

These health priorities have directed BIDMC's community health implementation planning process. The priorities outlined below are designed to promote community-based wellness and disease prevention, and ensure ongoing self-management of chronic diseases and behavioral health disorders. The goals and activities drawn from these priorities will make extensive use of existing partnerships, resources and programs in order to facilitate the largest possible health impact.

The following goals address the existing access, care coordination issues, barriers, and targeted service gaps identified through the CHNA process.

Priority Area 1: Social Determinants and Health Risk Factors

Improvements in health status begin with knowledge of the population's characteristics as well as the underlying social, economic, and environmental factors that impact health and health equity. More specifically, determinants such as poverty, employment opportunities, violence, transportation, racial segregation, literacy, provider linguistic/cultural competency, social support, and community integration limit many people's ability to care for their own and/or their families' health. Lack of physical activity, poor nutrition, alcohol abuse, and tobacco are the leading risk factors for chronic disease and poor emotional health. Addressing these issues and developing healthy habits in these areas are among the most important things people of all ages can do to improve their health. Physical activity helps prevent many diseases (e.g. heart disease, diabetes and some cancers), strengthens bones and muscles, reduces stress and depression and makes it easier for people to maintain a healthy body weight. Eating a healthy diet can help lower people's risk for heart disease, high blood pressure, diabetes, osteoporosis and certain cancers, and also helps people maintain a healthy body weight. Healthy and safe eating is important throughout the lifespan. Limiting alcohol consumption and not using tobacco can dramatically reduce one chances of contracting heart disease, diabetes, or respiratory disease.

The following goals and objectives address the existing access care coordination issues, barriers, and targeted service gaps identified through the process.

Priority Area 1: Social Risk Factors and Health Equity
Goal 1: Increase Physical Activity
Goal 2: Promote Healthy Eating (Nutrition and Food Access)
Goal 3: Promote Violence Prevention (Safe Neighborhoods and Community Cohesion)
Goal 4: Support Workforce Development and Creation of Employment Opportunities
Goal 5: Promote Environmental Sustainability
Goal 6: Promote Transportation Equity

Priority Area 2: Chronic Disease Management

There are a broad range of chronic and infectious diseases prevalent in BIDMC's CBSA, including heart disease, diabetes, asthma, hypertension, cancer, HIV/AIDS, and HIV/HPC. Although treating these illnesses requires a range of clinical interventions, there is a great deal of overlap with respect to the potential community interventions. Population-level responses to chronic and infectious illnesses all require community based education, screening, timely access to treatment and seamless coordination of follow-up services.

BIDMC, in collaboration with public health officials, community based organizations and other clinical providers is already fully engaged on these issues and BIDMC has a broad range of existing programs that work to address prevention, service coordination, improve follow-up care, and ensure that those with chronic and infectious conditions are engaged in the services they need. However, these efforts need to be enhanced and refined based on data from this assessment. Moving forward,

it is critical that these issues be addressed and perfected so that BIDMC, other clinical providers, and the broad range of key community based organizations can work collaboratively to address community need.

The following goals and objectives address the existing access care coordination issues, barriers, and targeted service gaps identified through the process.

Priority Area 2: Chronic Disease Management

Goal 1: Improve Chronic Disease Management

Goal 2: Improve Care Transitions for Those with Chronic Health Conditions

Goal 3: Increase Cancer Screening

Goal 4: Support Cancer Patients and Caregivers

Goal 5: Support Older Adults to Age in Place

Priority Area 3: Access to Care

Greater Boston has one of the strongest and most comprehensive healthcare systems in the world. This system is expansive and spans the full healthcare continuum, including outreach and screening services, primary care medical and medical specialty care services. There are no absolute gaps in services across the continuum, even for low income and racially/ethnically diverse populations that often struggle with access to health care services. This does not mean, however, that everyone in Greater Boston receives the highest quality services when they want it and where they want it. In fact, despite the overall success of the Commonwealth's heath reform efforts, data captured for this assessment shows that segments of the population, particularly low income and racially/ethnically diverse populations, face significant barriers to care and struggle to access services due to lack of insurance, cost, transportation, cultural/linguistic barriers, and shortages of providers willing to serve Medicaid insured or low income, uninsured patients.

Among some of Boston's most prominent safety net primary care clinics, the uninsured rates range from 17% to 48%. These clinics struggle to ensure access to care for their patients, particularly for medical specialty care services. Massachusetts BRFSS data also indicates that approximately one in five (21%) residents living in North Dorchester and Allston/Brighton do not have a personal health care provider or primary care provider compared to one in six (17%) for Boston residents overall.

The following goals and objectives address the existing access care coordination issues, barriers, and targeted service gaps identified through the process.

Priority Area 3: Access to Care

Goal 1: Increase Access to Quality Medical Services (Inc. PC, OB/GYN, & Medical Specialty Care)

Goal 2: Increase Access to Quality Oral Health Services

Goal 3: Increase Quality and Efficiency of Clinical Services at CCA Clinics

Goal 4: Promote Equitable Care and Support for those with Limited English proficiency

Priority Area 4: Behavioral Health

The burden of mental illness and substance abuse is substantial. These issues impact all segments and age groups in the population. Hospitalization rates for substance abuse and mental health are higher in many of the towns when compared to the Commonwealth. Large portions of the population also struggle with alcohol abuse and binge drinking. Despite increased community awareness and sensitivity about mental illness and addiction, there is still a great deal of stigma related to these conditions and there is a general lack of appreciation for the fact that these issues are often rooted in genetics and physiology similar to other chronic diseases.

The following goals and objectives address the existing access care coordination issues, barriers, and targeted service gaps identified through the process.

Priority Area 4: Behavioral Health
Goal 1: Promote behavioral health (BH)/ primary care integration
Goal 2: Reduce burden of opioid use
Goal 3: Increase Access to Quality Behavioral Health Care Services
Goal 4: Identify those at risk for BH condition and provide enhanced care management

Questions or comments on the BIDMC Community Health Needs Assessment or Community Health Implementation Plan may be submitted to:

Nancy Kasen
Director, Community Benefits
Beth Israel Deaconess Medical Center
330 Brookline Avenue
Boston, MA 02215
(617) 667-2602
nikasen@bidmc.harvard.edu

4. Acknowledgment of Stakeholder Assessment Form Submissions

Acknowledgement of the Submission of Community Engagement Stakeholder Assessment Forms

Per the Massachusetts Department of Public Health's submissions process, stakeholders associated with the Beth Israel Deaconess Medical Center FY 2016 Community Health Needs Assessment have personally submitted Community Engagement Stakeholder Assessment Forms.

5. Community Engagement-Self Assessment Form (with Supplemental Information)

Massachusetts Department of Public Health
Determination of Need
Community Health Initiative
CHNA / CHIP Self Assessment

Version: 8-1-17

This self-assessment form is to understand the Community Engagement process that has led/ will lead to the identification of priorities for community health planning processes. It is being used to demonstrate to DPH that an existing community health planning process adequately meets DPH standards for community engagement specific to Determination of Need, Community Health Initiative purposes.

This form will provide the basic elements that the Department will use to determine if additional community engagement activities will be required. When submitting this form to DPH, please also submit your IRS Form 990 and Schedule H CHNA/CHIP and/or current CHNA/ CHIP that was submitted to the Massachusetts Attorney General's Office. Additionally, the Applicant is responsible for ensuring that the Department receives Stakeholder-Assessments from the stakeholders involved in the CHNA / CHIP process.

All questions in the form, unless otherwise stated, must be completed.

Approximate DoN Application Date: 07/27/2018 DoN Application Type: Hospital/Clinic Substantial Capital Expenditure

What CHI Tier is the project? ○ Tier 1 ○ Tier 2 ◉ Tier 3

1. DoN Applicant Information

Applicant Name: CareGroup, Inc.

Mailing Address: 330 Brookline Avenue

City: Boston State: Massachusetts Zip Code: 02215

2. Community Engagement Contact Person

Contact Person: Nancy Kasen Title: Director, Community Benefits

Mailing Address: 109 Brookline Avenue, BR 270

City: Boston State: Massachusetts Zip Code: 02215

Phone: 6176672602 Ext: E-mail: nikasen@bidmc.harvard.edu

3. About the Community Engagement Process

Please indicate what community engagement process (e.g. the name of the CHNA/CHIP) the following form relates to. This will be use as a point of reference for the following questions and does not need to be a fully completed CHNA or implemented CHIP.
(please limit the name to the following field length as this will be used throughout this form):

BIDMC CHNA/CHIP FY 2016

4. Associated Community Health Needs Assessments

In addition to the above engagement process, please list Community Health Needs Assessments and/or Community Health Improvement Planning Processes, if any that the Applicant been involved with in the past 5 years (i.e. CHNA/CHIP processes not led by the Applicant bur where the Applicant was involved?

(Please see page 22 of the Community-Based Health Initiative Guidelines for reference http://www.mass.gov/eohhs/docs/dph/quality/don/guidelines-community-engagement.pdf)

Add/ Del Rows	Lead Organization Name / CHNA/CHIP Name	Years of Collaboration	Name of Lead Organizer	Phone Number	Email Address of Lead Organizer
+ -	Boston Public Health Commission and Boston Alliance for Community Health (BACH) - Mobilizing for Action, Planning and Partnership (MAPP)	2013	Boston Alliance for Community Health (BACH)		daronstein@hria.org
+ -	Boston Community Health Improvement Planning	2017	Boston Public Health Commission	6175342673	mreid@bphc.org

5. CHNA Analysis Coverage

Within the BIDMC CHNA/CHIP FY 2016 , please describe how the following DPH Focus Issues were analyzed DoN Health Priorities and Focus Issues (please provide summary information including types of data used and references to where in the submitted CHNA/CHIP documents these issues are discussed):

5.1 Built Environment

Food Access:
FY 2016 CHNA findings: While there was not much quantitative data on food access, lack of access to healthy foods was one of the leading findings from the interviews and community forums, particularly for low income individuals and families and those living in Roxbury and Dorchester who often struggled to find stores to buy fresh fruits and vegetables. This finding mirror what was found in BIDMC's FY 2013 CHNA, which found through a Community Health Survey that blacks/African Americans and Hispanics/Latinos living in Boston neighborhoods were considerably more likely to report having limited access to fresh fruits and vegetables compared to white, non-Hispanic/Latino populations. According to the FY 2013 survey, 65% of Hispanics/Latinos and 64% of blacks/African Americans reported having limited access to fresh fruits and vegetables compared to only 45% of white, non-Hispanics/Latinos. In FY 2013, on a neighborhood level, 68% of respondents from Roxbury and 69% of respondents from North Dorchester reported limited access.

The attachment entitled Supplemental Information to the CHNA/CHIP Self-Assessment Form includes the detailed methodology for the CHNA, including the data resources for this section. CHNA references: pages 21 and 27

Access to Recreational Facilities:
FY 2016 CHNA findings: Although access to recreational facilities was not raised as a primary need during BIDMC's FY 16 CHNA, it was noted that in Boston, many of the recreational sites, particularly in the communities that make up BIDMC's CBSA, are perceived to be unsafe and are not used. Increasingly, health and public health strategies targeted at decreasing obesity are working to support opening or improving accessibility to recreational sites (e.g., parks, playgrounds, trails) as a way of increasing the rates of adequate physical activity. Over the past several years, BIDMC has worked with community partners to support and foster programs promoting active living and community cohesion in spaces, such as the Bowdoin Street Wellness Center.

The attachment entitled Supplemental Information to the CHNA/CHIP Self-Assessment Form includes the detailed methodology for the CHNA, including the data resources for this section. CHNA references: pages 27-28

FY 2016 CHNA findings: Transportation: Lack of timely and effective transportation services was identified during key informant interviews and community forums. Lack of transportation has a major impact on access to health care services but also an individual's or family's ability to live a productive, fulfilling life. Transportation equity is a civil and human rights priority. Access to affordable and reliable transportation widens opportunity and is essential to addressing poverty, unemployment, and goals such as access to good schools, healthy foods, and health care services.

The attachment entitled Supplemental Information to the CHNA/CHIP Self-Assessment Form includes the detailed methodology for the CHNA, including the data resources for this section. CHNA reference(s): page 4 (Social Determinants of Health and Health Risk Factors); pages 22, 26 and 31 and Goal 6 of Priority Area #1 (Social Determinants of Health and Health Risk Factors)

5.2 Education

FY 2016 CHNA findings: Disparities and the root causes of disparities are identified throughout BIDMC's FY 16 CHNA. It is critical to note that there is a multitude of individual, community and societal factors that work together to create these inequities. Education, income and employment are inextricably linked. Socio-economic status, as measured by income, employment status, occupation, education, has long been recognized as a critical determinant of health. Research has shown that communities with lower socio-economic status bear a higher disease burden and have lower life expectancy. Residents of these communities are less likely to be insured, less likely to have a usual source of primary care, more likely to use the emergency department for emergent and non-emergent care, and less likely to access health services of all kinds, particularly routine and preventive services. Moreover, children born to low income families are, as they move into adulthood, less likely to be formally educated, less likely to have job security, and less likely to rise and move up to higher socio-economic levels.

While Boston has numerous extremely affluent neighborhoods, large portions of the City's population live in poverty, have less than average amounts of formal education, are unemployed, and struggle to afford food and other essential household items.
• 15% of Boston's residents had less than a high school diploma or GED equivalency, compared to only 10% for the Commonwealth of Massachusetts.
• In 2014, 22% of the City of Boston's population was living in poverty, which was twice the Commonwealth's rate of 11%.

The attachment entitled Supplemental Information to the CHNA/CHIP Self-Assessment Form includes the detailed methodology for the CHNA, including the data resources for this section. CHNA references: Income, Education, and Employment section page 24

5.3 Employment

FY 2016 CHNA findings: As mentioned above (section 5.2 Education section), employment, education and income are closely linked. Unemployment rates were lower for the City of Boston overall compared to the Commonwealth but rates were considerably higher for certain demographic segments and neighborhoods living in Boston.

According to Bureau of Labor Statistics (BLS) data, in April 2015, Boston's unemployment rate overall was only 3.7%, compared to 4.7% for the Commonwealth overall, which represented the lowest unemployment rate in more than 15 years. However, despite Boston's low unemployment rate, additional analyses suggest that certain diverse cohorts face much higher rates of unemployment furthering income and unemployment disparities.

A study published by the Boston Redevelopment Authority (BRA) in March 2014, the unemployment rate for Boston overall was 9.6% but for the black/African American population the rate was 13.5%, for the Hispanic/Latino population the rate was 11.4%, and for the Asian population it was 10.7%, Additionally the study showed that the rate was nearly double for recent immigrants (20.8%) and more than 50% higher for individuals who did not graduate from high school (16.1%).
By neighborhood, within BIDMC's CBSA, unemployment rates were highest in Roxbury (16.8%) and Dorchester (16.2%).
Economic Instability: Income demographics for BIDMC's CBSA (Boston) compared to the Commonwealth indicate that Boston has a higher proportion of low-income residents. Please see Table 4 – Income Characteristics of BIDMC CBSA.

Table 4. Income Characteristics of BIDMC CBSA - MA compared to Boston
Below 200% of federal poverty line (%) 25% - MA compared to 38% - Boston
Below federal poverty line - all residents (%) 12% - MA compared to 22% - Boston
Below federal poverty line - age 65+ (%) 9% - MA compared to 20% - Boston
Families below federal poverty line (%) 8% - MA compared to 17% - Boston
Families below federal poverty line - female head of household (%) 26% - MA compared to 34% - Boston

The attachment entitled Supplemental Information to the CHNA/CHIP Self-Assessment Form includes the detailed methodology for the CHNA, including the data resources for this section. CHNA reference(s): Income, Education, and Employment section page 21, 22, and 24

5.4 Housing

FY 2016 CHNA findings: Housing quality is associated with poor overall health status and illness, yet housing was not specifically raised during key informant interviews or community forums. Lack of affordable housing has an impact on poverty and the ability of individuals and families to pay for food and other essential household items. Likewise, given the increasing cost of housing in Boston, low-income individuals risk displacement and also struggle to decide between paying for safe housing, healthy food, and/or needed medical care.
In 2010-2012, 67% of Boston residents lived in renter-occupied units. Compared to white, non-Hispanic/Latinos (57.9%), a higher percentage of Asian (75.6%), black/African American (72.4%) and Hispanic/Latino (84.6%) residents lived in renter-occupied units during the same time period

o For 51% of Boston residents, their rent was 30% or more of their household income
o After adjusting for differences in age, race/ethnicity and gender, renters were more likely to report asthma, diabetes, hypertension, persistent anxiety and persistent sadness and were more likely to be obese compared to those who own homes.

The attachment entitled Supplemental Information to the CHNA/CHIP Self-Assessment Form includes the detailed methodology for the CHNA, including the data resources for this section. CHNA references: pages 26 -27 Unstable Housing and Homelessness

5.5 Social Environment

FY 2016 CHNA findings: Older adult social isolation was expressed as a concern. Stakeholders and forum participants cited depression and anxiety/stress often coupled with isolation, particularly in older adults. In older adults mental health issues are often exacerbated by lack of family/caregiver support, lack of mobility, and physical health conditions. Stakeholders advocated strongly for expansion of mental health services, particularly care/case management services, as well as other supportive services that this population needed to manage their conditions and improve health status and overall well-being.

Additionally, social and neighborhood cohesion as it related to violence and safety was a concern expressed in community forums. Participants talked at length about how violence limits a community's ability to connect, bind together, and realize the benefits that come from a strong, supportive community.

Please reference Violence and Trauma (Section 5.6) below for more details.

The attachment entitled Supplemental Information to the CHNA/CHIP Self-Assessment Form includes the detailed methodology for the CHNA, including the data resources for this section. CHNA reference(s): page 26

5.6 Violence and Trauma

FY 2016 CHNA findings: The impact of violence was a major theme in the assessment's interviews and community forums. The discussion revolved primarily around youth violence and the impact that violence had on families. While there have been considerable improvements over the past 5-10 years, homicide rates are very high in Roxbury and Dorchester compared to the City overall and the Commonwealth. The homicide rates in Roxbury, North Dorchester, and South Dorchester in 2013 were nearly three times the rate for City of Boston overall.

Crime and violence are major issues, particularly in Boston, with their impacts being intense and far reaching. The consequences of crime and violence include physical injury and death, but there are also major social and emotional consequences. These issues affect the victims and those who are directly impacted by the crime or violence and also impact the emotional and social well-being of the victims' and perpetrators' families, friends and communities. Post-traumatic stress, social isolation and lack of mobility, lack of physical fitness, academic problems, substance abuse, and other indirect or secondary health or health-related problems are examples of these impacts. These impacts often have a ripple effect that negatively impacts families, schools, and entire communities longitudinally.

The attachment entitled Supplemental Information to the CHNA/CHIP Self-Assessment Form includes the detailed methodology for the CHNA, including the data resources for this section. CHNA References: Crime, Violence, and Community Cohesion on Page 26 and Figure 4 Homicide by Neighborhood, 2009-2013

5.7 The following specific focus issues

a. Substance Use Disorder

FY 2016 CHNA findings: According to a study prepared by the Massachusetts DPH in the Fall of 2015, Suffolk, Norfolk, and Barnstable Counties, where BIDMC's CBSA is located experienced over a 100% increase in opioid abuse overdose deaths between 2001 and 2013. Between 2013 and 2015, the increase in Suffolk County was 71%.

According to the 2013-2014 BRFSS, one in five adults (20%) in Suffolk County had ever been diagnosed with depression, comparable to the Commonwealth overall (21%). Depression, anxiety, and alcohol abuse are directly associated with chronic disease, and a high proportion of those living with these issues also have a chronic medical condition. The impact of mental health and substance abuse on the residents of BIDMC's CBSA are profound and it was undoubtedly the most significant issue discussed during the interviews and community forums. There is also ample quantitative evidence to show the impact of substance abuse.

The attachment entitled Supplemental Information to the CHNA/CHIP Self-Assessment Form includes the detailed methodology for the CHNA, including the data resources for this section. CHNA References: Figure 12 Unintentional Opioid Overdose Death Rate by County, Jan. 2013 – Sept. 2015; Figure 13. Substance Abuse Indicators in BIDMC CBSA; Table 10. Mental Health and Substance Abuse Rates in BIDMC's Community Benefits Community Benefits Service Area (Source: MA Department of Public Health, Vital Statistics Data, 2012 & 2013)

b. Mental Illness and Mental Health

FY 2016 CHNA Findings: Quantitative data, specifically related to mental health morbidity or mortality, is limited but the burden of mental health in BIDMC's Community Benefit Service Area (CBSA) is well understood and mental health was one of the leading themes in the assessment's stakeholder interviews and community/provider forums. There was an overwhelming sentiment across all of the community forums that mental health issues were one of the major health issues facing the community. The clear sentiment was that mental health affected all segments of the population from children and youth to young and middle-aged adults to elders. With respect to youth, interviewees and meeting participants discussed the stresses that youth face related to family, school, and their social lives with peers. These stresses often lead to depression, low self-esteem, and isolation, as well as substance abuse, risky sexual behaviors, and, in extreme cases, suicide.

With respect to adults and older adults, stakeholders and forum participants cited depression and anxiety/stress often coupled with isolation, particularly in older adults. In older adults mental health issues are often exacerbated by lack of family/caregiver support, lack of mobility, and physical health conditions.

According to 2013 hospital discharge data from the MA Department of Public Health, Allston/Brighton, Fenway, South Dorchester, and South End/Chinatown had a statistically higher rate per 100,000 population of hospital inpatient discharges when a mental health condition was the primary reason for the visit. Also, suicide rates were also statistically higher in North Dorchester, and the South End/Chinatown. These data provide some insight into the mental health burden but the qualitative data is more compelling.

The attachment entitled Supplemental Information to the CHNA/CHIP Self-Assessment Form includes the detailed methodology for the CHNA, including the data resources for this section. CHNA References: Table 10. Mental Health and Substance Abuse Rates in BIDMC's Community Benefits Community Benefits Service Area (Source: MA Department of Public Health, Vital Statistics Data, 2012 & 2013); Figure 13. Substance Abuse Indicators in BIDMC CBSA

c. Housing Stability / Homelessness

Please see Housing (Section 5.4) above.

d. Chronic Disease with a focus on Cancer, Heart Disease, and Diabetes

FY 2016 CHNA Findings: According to data from the Massachusetts Department of Public Health, in 2012 cancer, cardiovascular disease (heart disease), cerebrovascular disease (stroke), and chronic lower respiratory disease (COPD) were the leading causes of death in Boston (Table 5). Other leading causes of death include diabetes, influenza/pneumonia, Opioid-related issues, homicide, suicide, and motor vehicle-related deaths.

All of these leading causes of death have a major impact on people living in BIDMC's CBSA but cancer, cardiovascular disease (heart disease), chronic lower respiratory disease (COPD), cerebrovascular disease (stroke), and diabetes are the most important as they are the most prevalent conditions and are, to a large extent, preventable. These chronic conditions share health risk factors - obesity, inactivity, poor nutrition, tobacco use, and alcohol use.

According to data captured from the Commonwealth's Center for Health Information and Analysis (CHIA) Inpatient Hospital Discharge Database, Outpatient Emergency Department database, and Outpatient hospital observation database, residents of North and South Dorchester, Roxbury and Chinatown/South End were more likely to receive inpatient services for hypertension, heart failure, asthma, pneumonia, and chronic obstructive pulmonary disease than residents of Boston and Massachusetts overall. Based on a standard analysis developed by the Federal Agency for Healthcare Research and Quality (AHRQ), these services are considered preventable or avoidable with regular, primary care services and therefore are indicative of poor or limited access to primary care. In some cases residents of these communities were two and three times more likely to receive hospital services for these conditions compared to other residents.

Even among the insured, our qualitative results from the interviews and community forums revealed that individuals across all socio-demographic groups struggle to access essential health care services either due to shortage of providers willing to take certain insurances (particularly Medicaid), high out-of-pocket expenses, lack of evening or weekend hours, or lack of access to culturally appropriate services. These factors limit access and often are at the heart of inappropriate use of the hospital emergency department.

According to the Centers for Disease Control (CDC) treating people with chronic diseases accounts for 86% of the nation's health care costs and half of all American adults have at least one chronic condition, and almost one of three have multiple chronic conditions. Chronic disease is a serious issue across BIDMC's CBSA, especially in the neighborhoods of Boston that are part of BIDMC's CBSA. Data from the Boston Public Health Commission's 2015 Health of Boston Report underscores the fact that the rates are even higher in Boston neighborhoods of Roxbury, Dorchester, and the South End/ Chinatown.

o Boston adults have higher rates of diabetes hospitalizations, emergency department visits, and deaths compared to the Commonwealth with the highest rates in Boston being in Roxbury, North Dorchester, and South Dorchester

o In 2013, 24% of Boston residents reported having been told by their doctor that they had hypertension.
Boston had higher rates of hospital utilization (per 100,000 pop.) for hypertension and higher mortality rates for heart

disease compared to the Commonwealth with the highest rates being in Dorchester and Roxbury
Cancer:
Cancer is the second leading cause of death in the United States and the first leading cause of death in the Commonwealth. Quantitative and qualitative data from the assessment corroborate these findings with data showing great disparities in Boston neighborhoods that are part of BIDMC's CBSA. The major known risk factors for cancer are age, family history of cancer, smoking, overweight/obesity, excessive alcohol consumption, lack of exercise, excessive exposure to the sun, unsafe sex, exposure to fumes, second hand cigarette smoke, and other airborne environmental and occupational pollutants. As with other health conditions, there are major disparities in outcomes and death rates across all forms of cancer, which are directly associated with race, ethnicity, income, and whether one has comprehensive medical health insurance coverage. Cancer is a serious concern across all geographic segments of BIDMC's CBSA with particular disparities in Roxbury and Dorchester, specifically related to cancer death rates. In the case of Roxbury the death rate indicators for colorectal cancer, female breast cancer, lung cancer, pancreatic cancer, and prostate cancer were all higher than the Commonwealth rate, which underscores the disparities that exist.

The attachment entitled Supplemental Information to the CHNA/CHIP Self-Assessment Form includes the detailed methodology for the CHNA, including the data resources for this section. CHNA References: pages 28-39; Mortality and Premature Mortality section page 27; Table 5: Table 5. Leading Causes of Death in Boston (2012); Figure 6. Chronic Disease Indicators in BIDMC CBSA page; Table 6 Hypertension, Heart Disease, and Diabetes Indicators in Boston Neighborhoods, 2013; Figure 7. Cancer Indicators in BIDMC CBSA; Table 8. Cancer Death Rates by Boston Neighborhood; Figure 8. Cancer Screening Rates in Massachusetts and Suffolk; Figure 9. Cancer Screening Rates in Boston by Race/Ethnicity

6. Community Definition

Specify the community(ies) identified in the Applicant's BIDMC CHNA/CHIP FY 2016

Add/Del Rows	Municipality	If engagement occurs in specific neighborhoods, please list those specific neighborhoods:
+ -	Boston	Specific neighborhoods include Bowdoin Geneva (North Dorchester), Roxbury, Chinatown, Fenway/Kenmore and Allston/Brighton

7. Local Health Departments

Please identify the local health departments that were included in your BIDMC CHNA/CHIP FY 2016 . Indicate which of these local health departments were engaged in this BIDMC CHNA/CHIP FY 2016 . For example, this could mean participation on an advisory committee, included in key informant interviewing, etc. (*Please see page 24 in the Communit further description of this requirement* http://www.mass.gov/eohhs/docs/dph/quality/don/guidelines-community-engagement.pdf.)

Add/ Del Rows	Municipality	Name of Local Health Dept	Name of Primary Contact	*Email address*	Describe how the health department was involved
+ -	Boston	Boston Public Health Commission	Monica Valdes Lupi	mvaldeslupi@bphc.org	Key informant interviews conducted with Dr. Huy Nguyen, Executive Director/Medical Director and Gerry Thomas, Director of Community Initiatives; subsequently, met with Monica Valdes Lupi, Gerry Thomas and Margaret Reid regarding implementation strategies and collaborative initiatives with BPHC.

8. CHNA / CHIP Advisory Committee

Please list the community partners involved in the CHNA/CHIP Advisory Committee that guided the BIDMC CHNA/CHIP FY 2016 . (please see the required list of sectorial representation in the *Community Engagement Standards for Community Health Planning Guidelines* http://www.mass.gov/eohhs/docs/dph/quality/don/guidelines-community-engagement.pdf) Please note that these individuals are those who should complete the *Stakeholder Engagement Assessment* form. It is the responsibility of the Applicant to ensure that DPH receives the completed *Stakeholder Engagement Assessment* form:

Add/Del Rows	Sector Type	Organization Name	Name of Primary Contact	Title in Organization	Email Address	Phone Number
	Municipal Staff					
	Education					
	Housing					
	Social Services					
	Planning + Transportation					
	Private Sector/ Business					
	Community Health Center	South Cove Community Health Center	Eugene Welch	Executive Director	ewelch@scchc.org	6175216703
	Community Based Organizations					
+ -	Community health centers	The Dimock Center	Myechia Minter Jordan, MD	President and Chief Executive Officer	mminterj@dimock.org	6174828800
+ -	Community health centers	Fenway Health	Darlene Stromstad	Interim Chief Executive Officer	DStromstad@fenwayhealth.org	6179276171

Add/Del Rows	Sector Type	Organization Name	Name of Primary Contact	Title in Organization	Email Address	Phone Number
+ -	Community health centers	Bowdoin Street Health Center	Phillomin Laptiste	Executive Director	plaptist@bidmc.harvard.edu	6177540200
+ -	Community health centers	Charles River Community Health	Elizabeth Browne	Executive Director	ebrowne@charlesriverhealth.org	6172081511

8a. Community Health Initiative

For Tier 2 and Tier 3 CHI Projects, is the the Applicant's CHNA / CHIP Advisory Board the same body that will serve as the CHI advisory committee as outlined in the Table 1 of the Determination of Need Community-Based Health Initiative Guideline (http://www.mass.gov/eohhs/docs/dph/quality/don/guidelines-chi-planning.pdf)?

○ Yes ◉ No

For Tier 2 DON CHI Applicants: The CHI Advisory Committee is tasked with helping select DoN Health Priorities based on the CHNA / CHIP unless the Applicant is directed by DPH to conduct additional community engagement. If so, the advisory committee's role is to guide that additional work.

For Tier 3 DON CHI Applicants: The CHI Advisory Committee is to select DoN Health Priorities based on**, but not exclusive to,** the CHNA / CHIP. This includes the additional community engagement that must occur to develop the issue priorities.

Add/Del Rows	Sector Type	Organization Name	Name of Primary Contact	Title in Organization	Email Address	Phone Number
	Municipal Staff	MA Legislature	Liz Malia	Representative	liz.malia@mahouse.gov	
	Education	Jewish Vocational Services	Jerry Rubin	Chief Executive Officer	jrubin@jvs-boston.org	617 399-3138
	Housing	Fenway CDC	Richard Giordano	Director of Policy and Community Planning	rgiordano@fenwaycdc.org	617 267 4637
	Social Services	Louis D. Brown Peace Institute	Tina Chery	Chief Executive Officer	tina@ldbpeaceinstitute.org	6178251917
	Planning + Transportation	MASCO	Sarah Hamilton	Vice President, Area Planning and Development	shamilton@masco.harvard.edu	617.632.2776
	Private Sector/ Business	Mission Hill Main Streets	Richard Rouse	Executive Director	mainstreetrouse@gmail.com	6174277399
	Community Health Center	The Dimock Center	Holly Oh	Chief Medical Officer	hoh@dimock.org	6174428800
	Community Based Organizations	Sociedad Latina	Alex Oliver- Davila	Executive Director	alex@sociedadlatina.org	
+ -	Community health centers	South Cove Community Healt	Eugene Welch	Executive Director	ewelch@scchc.org	6175216703
+ -	Local Public Health Departments/Boards of Health	Boston Public Health Commis	Margaret Reid	Director, Office of Health Equity	mreid@bphc.org	617- 534-2673
+ -	Private Sector	Boston Resident and BIDMC C	Fred Wang		redwang65@gmail.com	
+ -	Private Sector	BIDMC Patient Family Advisor	Theresa Lee		Ta_mrs165@yahoo.com	
+ -	Community health centers	Fenway Health	Darlene Stromsgard	Interim Chief Executive Officer	dstromsgard@fenwayhealth.org	6179276171
+ -	Community health centers	Charles River Community Hea	Elizabeth Browne	Executive Director	ebrowne@charlesriverhealth.org	6172081511
+ -	Community health centers	Bowdoin Street Health Center	Phillomin Laptiste	Executive Director	plaptist@bidmc.harvard.edu	6177540200

9. Engaging the Community At Large

Thinking about the extent to which the community has been or currently is involved in the BIDMC CHNA/CHIP FY 2016 , please choose one response for each engagement activity below. Please also check the box to the left to indicate whether that step is complete or not. (For definitions of each step, please see pages 12-14 in the *Community Engagement Standards for Community Health Planning Guidelines* http://www.mass.gov/eohhs/docs/dph/quality/don/guidelines-community-engagement.pdf).

	Inform	Consult	Involve	Collaborate	Delegate	Community - Driven / -Led
☒ Assess Needs and Resources	○	○	○	◉	○	○
Please describe the engagement process employed during the "Assess Needs and Resources" phase.	Collaborated with community groups to jointly hold independently facilitated community forums to identify and prioritize needs					
☒ Focus on What's Important	○	○	○	◉	○	○
Please describe the engagement process employed during the "Focus on What's Important" phase.	Collaborated with community groups to jointly hold independently facilitated community forums to identify and prioritize needs					
☒ Choose Effective Policies and Programs	○	○	◉	○	○	○
Please describe the engagement process employed during the "Choose Effective Policies and Programs" phase.	Collaborated with public health, community health centers, and community based organizations to identify and formulate programs to address identified needs.					
☒ Act on What's Important	○	○	◉	○	○	○
Please describe the engagement process employed during the "Act on What's Important" phase.	Collaborated with public health, community health centers, and community based organizations to identify and formulate programs to address identified needs.					
☒ Evaluate Actions	○	◉	○	○	○	○
Please describe the engagement process employed during the "Evaluate Actions" phase.	Collaborated with public health, community health centers, and community based organizations to identify and formulate programs to address identified needs.					

10. Representativeness

Approximately, how many community agencies are currently involved in BIDMC CHNA/CHIP FY 2016 within the engagement of the community at large?

17 Agencies

Approximately, how many people were engaged in the process (please include team members from all relevant agencies and independent community members from the community at large)?

74 Individuals

Please describe the diversity of the people who have been engaged in the process both within the CHNA/CHIP Advisory Committee and the community at large. Explicitly describe how the process included diverse representation from different groups/individuals with varied gender, sexual orientation, race/ethnicity, disability status, international status and age. Please see page 10 and Appendix A of *the Community Engagement Standards for Community Health Planning Guideline* (http://www.mass.gov/eohhs/docs/dph/quality/don/guidelines-community-engagement.pdf) for further explanation of this.

BIDMC CHNA/CHIP Advisory Committee is comprised of members of BIDMC's Community Benefits Committee - a subcommittee of the BIDMC Board of Directors. Members are selected based on their committment to low-resource and diverse communities and to those individuals/ families who face barriers and obstacles to accessing care and services due to race, ethnicity, language, gender identity, sexual orientation, immigration status/country of origin, socio-economic status, and/or insurance status. The FY 2016 CHNA/CHIP Advisory Committee was comprised of the following demographics:
3 individuals who identify as Hispanic/Latino
2 individuals who identify as African American
4 individuals who identify as Asian
2 individuals who identify as lesbian, gay, bisexual or transgender
5 individuals aged 60 years and older
There are 9 females and 8 males.

The CHNA/CHIP community engagement process also included collaboration with BIDMC's Community Care Alliance Board of Managers- which includes the Chief Executive Officers and Executive Directors from five Boston community health centers and staff from the health centers.

Please describe the type of representation that was/is employed in the community engagement process and the rationale for that type of representation. For more information on types of representation and representativeness, please see Appendix A from the *Community Engagement Standards for Community Health Planning Guidelines (*http://www.mass.gov/eohhs/docs/dph/quality/don/guidelines-community-engagement.pdf*).* Please include descriptions of both the Advisory Board and the Community at large.

The CHNA/CHIP community forums included broad representation from the community including youth and older adults. The forums were held in the community, were T-accessible and/or offered free parking, physically accessible, offered breakfast or dinner, child activities (e.g., coloring books, etc.) and stipends offered. Language interpretation was also advertised and made available. Forums (and interviews) were independently facilitated. Attendees included grass-roots organizations, community-based organizations, health center s and residents.

To your best estimate, of the people engaged in BIDMC CHNA/CHIP FY 2016 approximately how many: Please indicate the number of individuals.

Number of people who reside in rural area	0
Number of people who reside in urban area	65
Number of people who reside in suburban area	9

11. Resource and Power Sharing

For more information on Power Sharing, please see Appendix A from the *Community Engagement Standards for Community Health Planning Guidelines* (http://www.mass.gov/eohhs/docs/dph/quality/don/guidelines-community-engagement.pdf).

By community partners, we mean agencies, organizations, tribal community, health departments, or other entities representing communities.

By Applicant partners, we mean the hospital / health care system applying for the approval of a DoN project

	Community Partners	Applicant Partners	Both	Don't Know	Not Applicable
Which partner hires personnel to support the community engagement activities?	○	◉	○	○	○

Who decides the strategic direction of the engagement process?	○	○	◉	○	○
Who decides how the financial resources to facilitate the engagement process are shared?	○	◉	○	○	○
Who decides which health outcomes will be measured to inform the process?	○	◉	○	○	○

12. Transparency

Please describe the efforts being made to ensure that the engagement process is transparent. For more information on transparency, please see Appendix A from the *Community Engagement Standards for Community Health Planning Guidelines*.

BIDMC worked with our Community Benefits Committee, the Community Care Alliance, other community-based organizations to conduct community engagement for the Community Health Needs Assessment. Some community forums were jointly held with community health centers and other hospitals to increase engagement and transparency. Priorities were shared at the BACH annual meeting and published in our bi-annual Community Connections report.

Following review of the Community Engagement Standards for Community Health Planning Guidelines, BIDMC has structured the community engagement, Community Advisory Committee and the request for proposal processes to ensure transparency and engagement. CAC members will collaborate on community engagement and CAC meetings will be open to the public; information on dates, times, locations, minutes, agendas, and attendance will be posted to the NIB web-site and email notifications will be sent periodically for anyone registering to obtain information on the NIB CHI webpage.

13. Formal Agreements

Does / did the BIDMC CHNA/CHIP FY 2016 have written formal agreements such as a Memorandum of Agreement/ Understanding (MOU) or Agency Resolution?

◉ Yes, there are written formal agreements ○ No, there are no written formal agreements

Did decision making through the engagement process involve a verbal agreement between partners?

○ Yes, there are verbal agreements ◉ No, there are no verbal agreements

14. Formal Agreement Specifics

Thinking about your MOU or other formal agreement(s), does it include any provisions or language about:

	Yes	No	Don't Know	Doesn't Apply
Distribution of funds	◉	○	○	○
Written Objectives	◉	○	○	○
Clear Expectations for Partners' Roles	◉	○	○	○
Clear Decision Making Process (e.g. Consensus vs. Voting	○	○	○	◉
Conflict resolution	○	○	○	◉
Conflict of Interest Paperwork	○	○	○	◉

15. Document Ready for Filing

When the document is complete click on "document is ready to file". This will lock in the responses and date and time stamp the form. To make changes to the document un-check the "document is ready to file" box. Edit document then lock file and submit Keep a copy for your records. Click on the "Save" button at the bottom of the page.

To submit the application electronically, click on the"E-mail submission to DPH" button.

This document is ready to file: ☒

Date/time Stamp: 07/27/2018 12:37 pm

E-mail submission to DPH

E-mail submission to Stakeholders and CHI Advisory Board

When providing the Stakeholder Assessment Forms to the community advisory board members(individuals identified in Section 8 of this form), please include the following information in your correspondence with them. This will aid in their ability to complete the form:

A) Community Engagement Process: BIDMC CHNA/CHIP FY 2016

B) Applicant: CareGroup, Inc.

C) A link to the DoN CHI Stakeholder Assessment

BIDMC Supplemental Information to the CHNA/CHIP Self-Assessment Form

This narrative is to supplement information contained in the *Community Health Initiative (CHI) CHNA/CHIP Self-Assessment Form*.

The Beth Israel Deaconess Medical Center ("BIDMC") Community Health Needs Assessment ("CHNA") was overseen by two advisory boards – a fiduciary committee of the BIDMC Board of Directors and the Community Care Alliance ("CCA") Board of Managers. Members of the CCA include Chief Executive Officers and Executive Directors of the health centers licensed and/or affiliated with BIDMC.

BIDMC's Board of Directors Community Benefits Committee ("CBC") held fiduciary responsibility for the oversight of BIDMC's FY 2016 CHNA and the drafting of the Community Health Implementation Plan ("CHIP"). BIDMC and the CBC recognize the importance of this engagement and the value of this robust, comprehensive, and objective assessment of community health needs. Such assessment and community engagement was conducted in partnership with five Boston health centers – Bowdoin Street Health Center, Charles River Community Health, The Dimock Center, Fenway Health and South Cove Community Health Center. BIDMC's CHIP encompasses priority areas, focuses on cohorts identified by its community partners, and uses strategies to address the identified needs, particularly for those who face barriers and obstacles to maximizing health and well-being in the communities served by these health centers.

The CHNA and its corresponding CHIP provide an opportunity to continue facilitating community partnerships, fostering broad community engagement and collaborate with key stakeholders, and exploring ways to more effectively leverage BIDMC's community benefits activities and resources. The full report along with the associated CHIP is the culmination of nearly a year of work.

BIDMC FY 2016 CHNA Methodology:

The CHNA was conducted in a three-phased process:

Phase I:

Phase I involved a rigorous and comprehensive review of existing quantitative data along with a series of interviews with community stakeholders. Clinical indicators, disease incidence, social determinants of health and health risk factors were key focuses throughout the CHNA and were also reflected as priority areas in the CHIP. When available, quantitative data was analyzed at the neighborhood level. Secondary quantitative data sources included the following:

Focus/Priority Area	Data Source	Year
Demographics, socioeconomics and housing	American Community Survey	2009-2013
Substance abuse program admissions	Massachusetts Bureau of Substance Abuse Services (BSAS)	2013
Hospitalizations	Massachusetts Hospital Inpatient Discharges (UHDDS)	2008-2012
ED discharges	Massachusetts Hospital Emergency Visit Discharges	2008-2012
Mortality	Massachusetts Vital Records Mortality	2008-2012
Natality	Massachusetts Vital Records Natality	2008-2012

Focus/Priority Area	Data Source	Year
Infant mortality	Massachusetts Vital Records Natality Infant Deaths	2008-2012
Lyme disease and Hepatitis C incidence	Massachusetts Communicable Disease Program Epidemiology Program	2013
Chlamydia incidence	Massachusetts Communicable Disease Program Sexually Transmitted Disease Program	2012
HIV/AIDS incidence/prevalence	Massachusetts Communicable Disease Program HIV/AIDS Program	2011
Cancer incidence	Massachusetts Cancer Registry	2007-2011
Unemployment	MA Office of Labor and Workforce Development (EOLWD)	
Boston Neighborhood Data	Boston Indicators Project (BPHC)	2014-2015
Boston Neighborhood Health Data	Health of Boston Report (BPHC)	2014-2015

Phase II:

Phase II involved a more targeted assessment of health and social needs and broader community engagement activities that included listening sessions with health, social service, and public health service providers as well as forums that included the community at-large. Qualitative data was collected through 20 key informant interviews (refer to Appendix A) and six community forums (refer to Appendix B). For all community forums, BIDMC collaborated with the CCA health centers and all forums were held in the community with complimentary parking and/or near public transportation. At each event, BIDMC provided food, either breakfast or dinner and $25 gift cards to Stop and Shop for participants and/or their community-based organization. Due to liability issues, BIDMC was unable to provide childcare at these events, and arranged for child-friendly quiet activities, such as coloring books with crayons and markers, to be available for children attending these forums with their parents. Some forums were advertised in other languages (refer to Appendix C) and interpreters were made available for any attendee to use.

In addition to partnering with local health centers and community-based partners, BIDMC also collaborated with members of the Conference of Boston Teaching Hospitals ("CoBTH") to plan, implement and analyze findings from community meetings in key neighborhoods selected by CoBTH. Together with CoBTH, BIDMC developed a core set of questions to be asked and discussed at each forum (refer to Appendix D). The total number of participants at each meeting ranged from 9 to 20 residents and the meetings lasted, on average, for a duration of 90 minutes.

The community forums and meetings included a presentation and shared secondary data specific to that cohort and/or neighborhood. Following the presentation, questions were proposed to encourage attendees to discuss needs, priorities, challenges and health related gaps(refer to Appendix E).

Phase III:

Phase III involved a series of strategic planning and reporting activities in collaboration with a broad range of internal and external stakeholders. BIDMC communicated the results of the CHNA with the CCA and CBC, and with CoBTH members at the Boston Alliance for Community Health Annual Meeting held in.

Final Considerations:

BIDMC engaged in significant efforts to include as many community stakeholders as possible and to engage with stakeholders of many diverse backgrounds. Despite these efforts, such as widespread

advertisement, offering incentives, ensuring that interpreters were present and available, providing food, hosting meetings during evening and morning hours and building on existing community gathering locations, attendance was sometimes lower than desired.

BIDMC also recognizes the limited availability of quantitative data, including social determinants of health, neighborhood statistics, cohort-specific data, such as the lesbian, gay, bisexual and transgender community, and data for the Chinatown neighborhood that does not include the South End Community.

Appendix A

BIDMC CHNA - EXTERNAL INFORMANT INTERVIEW GUIDE

Timeline: Oct-Nov (before/during secondary data analysis)

Introduction and Talking Points for Interviewer

1. Introduce JSI, purpose of interview, and the BID-Hospital's needs assessment activities
2. The purpose of the interview is to:
   - Identify high priority issues impacting the health of the community
   - Identify service gaps and/or barriers to accessing services
   - Identify community partners with whom the BID-Hospital could collaborate
   - Gain a better understanding of the BID-Hospital's strengths as well as its most significant challenges with respect to meeting the area's needs
   - Gain a better sense of how the BID-Hospital is perceived in the community
   - Collect qualitative data that can confirm results of quantitative data review

Interview Questions

1. Introduction
   - Collect interviewee name, title, affiliation, years with organization
2. Identification of Need and Gaps
   - What do you see as the most pressing issue/concern impacting the health of residents in the area? Why do you think this is the most pressing concern?
     - Are there cities, towns and/or specific neighborhoods that are particularly affected by these needs?
   - What do you see as other pressing issues or concerns impacting the health of residents in the area? Why do you think this is a significant concern?
     - Are there cities, towns and/or specific neighborhoods that are particularly affected by these needs?
   - What 2-3 segments of the population have the most significant needs or are most at-risk?
   - Where do you see health care service gaps in responding to these priority issue(s)?
3. Existing Resources to Meet Needs
   - What, if any, specific programs services provided by BID-Plymouth stand out as working well to address the needs of the community?
   - What, if any, specific programs services provided by other organizations stand out as working well to address the needs of the community?
   - Are there specific programs and/or organizations that BID-Hospitals should partner with to address the needs you identified above? If yes, what is currently being done by the program/organization? What role do you see for BID-hospitals?
4. Areas of Opportunity for BID-HOSPITALS
   - How effectively do you think BID-hospitals are currently meeting the health needs of the community? What additional activities would you like to see BID engage in to improve the health of the community?
5. Closing
   - Do you have any suggestions as to others we can talk with in the community that could help us to better understand these issues?

Thank interviewee for their time.

BIDMC CHNA INTERNAL INFORMANT INTERVIEW GUIDE

Timeline: Nov-Dec (after secondary data analysis)

Introduction

- Introduce JSI, and Purpose of Needs Assessment Project
- Progress to-date and how this fits into overall study approach and methods
    - Overview of activities to date (Community interviews, resource inventory, secondary data analysis)
    - Review major health issues and target populations that have been identified by secondary data analysis and external key informant interviews
- Areas of interest for internal Key Informant Interviews
    - Major health issues of the community and the BID-Hospitals service area
    - Gaps in services
    - At-risk populations
    - Current and suggested initiatives for addressing identified community need
    - Organizational strengths and challenges

Interview Questions

1. Introduction
    - Collect interviewee name, title/role at the BID-Hospital, years with organization
2. Identification of Need and Gaps
    - What do you see as the most pressing issue/concern impacting the health of residents in the area? Why do you think this is the most pressing concern?
        - Are there cities, towns and/or specific neighborhoods that are particularly affected by these needs?
    - What do you see as other pressing issues or concerns impacting the health of residents in the area? Why do you think this is a significant concern?
        - Are there cities, towns and/or specific neighborhoods that are particularly affected by these needs?
    - What 2-3 segments of the population have the most significant needs or are most at-risk?
    - How do you see this changing in the future? Improving? Getting Worse?
    - Where do you see health care service gaps in responding to these priority issue(s)?
3. Existing Resources to Meet Needs
    - What, if any, specific programs services provided by BID-Hospitals stand out as working well to address the needs of the community?
    - What, if any, specific programs services provided by other organizations stand out as working well to address the needs of the community?
    - Are there specific programs and/or organizations that BID-Hospitals should partner with to address the needs you identified above? If yes, what is currently being done by the program/organization? What role do you see for BID-hospitals?
    - How effectively do you think BID-hospitals are currently meeting the health needs of the community? What additional activities would you like to see BID engage in to improve the health of the community?
4. Organizational Strengths and Challenges

- How is the BI-Hospital currently perceived in the community? Are there any changes to this perception that would be desired?
- What are the major strengths of BI? Where do you see opportunities to improve?

Appendix B

Beth Israel Deaconess Medical Center - Community Health Needs Assessment 2016

Community Engagement Summary

- 7 internal interviews; 13 external interviews (see below)
- 1 Internal Provider Forum; 5 Community Forums

List of Key Informant Interviews

	Name	Title and Affiliation	Date
INTERNAL	Marsha Maurer	SVP, Patient Care Services & Chief Nursing Officer	1/14/2016
	Ken Sands, MD	SVP, Health Care Quality & Chief Quality Officer	1/11/2016
	Jayne Sheehan	SVP, Ambulatory and Emergency Services & System Clinical Integration	1/11/2016
	Barbara Sarnoff Lee	Director, Social Work	1/8/2016
	Kate Reed	SVP, Clinical Program Strategy and Planning	1/11/2016
	Sarah Moravick	Quality Improvement Project Manager	1/11/2016
	Dr. Alan Abrams	Medical Director, BIDCO	1/18/2016
EXTERNAL	David Aronstein	Program Director, Boston Alliance for Community Health	11/19/2015
	Huy Nguyen	Executive Director/Medical Director, Boston Public Health Commission	11/30/2015
	Gerry Thomas	Director of Community Initiatives, Boston Public Health Commission	11/30/2015
	Adela Margules	Executive Director, Bowdoin Street Health Center	11/17/2015
	Phyllis Barajas	Chair, Community Benefits Committee	11/17/2015
	Matthew Epstein	Former Chair, Community Benefits Committee	1/8/2016
	Paula Ivey Henry	Community Benefits Committee/HSPH	1/19/2016
	Ben Wood	Director, Office of Community Health Planning and Engagement, Mass Department of Public Health	11/19/2015
	Amanda Cassel Kraft	Chief of Staff, Assistant Secretary of EOHHS/Medicaid	11/19/2015
	Henia Handler	Director of Government Affairs, Fenway Health	2/3/2016
	Eugene Welch	Executive Director, South Cove Community Health Center	2/1/2016
	Eric Tiberi	Chief Operating Officer, South Cove Community Health Center	2/1/2016
	Elmer Freeman, MSW	Executive Director, Center for Community Health Education Research and Service, Inc, Director of Urban Health Programs and Policy, Northeastern University	12/14/2015

List of Community and Provider Forums

Date	Event	Audiences
3/8/16	BIDMC Community Benefits Committee	BIDMC Internal Staff Community Leaders and Advocates
3/3/16	Bowdoin-Geneva Alliance Community Advisory Committee Meeting	Health and Social Service Providers Community Leaders and Advocates Community Residents
3/8/16	Chinatown/South End Community Forum	Health and Social Service Providers Community Leaders and Advocates Community Residents
5/12/16	Outer Cape Community Forum	Health and Social Service Providers Community Leaders and Advocates Community Residents
3/1/16	Quincy Community Forum	Health and Social Service Providers Community Leaders and Advocates Community Residents
3/16/16	Roxbury Community Forum	Health and Social Service Providers Community Leaders and Advocates Community Residents

Appendix C

Spanish language flyer for Roxbury Forum

FORO COMUNITARIO

SALUD Y BIENESTAR

¿CUÁLES SON LOS PROBLEMAS DE MAYOR IMPORTANCIA PARA LA COMUNIDAD HOY EN DÍA?

¿HAN MEJORADO O EMPEORADO LAS COSAS?

¿QUÉ ESTÁ FUNCIONANDO BIEN EN SU COMUNIDAD?

Le invitamos a participar en el Foro Comunitario sobre la salud y bienestar en su comunidad.

CUÁNDO: **miércoles, 16 de marzo, 2016**
6:00PM-7:30PM

DÓNDE: **En el Roxbury Community College**
President's Great Room, Media Arts Center

Por favor confirme su asistencia: 617-385-36 1
o al madison_maclean@jsi.com

Los que asisten participarán en una rifa

Boston Children's Hospital
Until every child is well

Beth Israel Deaconess Medical Center

BWH BRIGHAM AND WOMEN'S HOSPITAL

DANA-FARBER CANCER INSTITUTE

THE DIMOCK CENTER

Appendix D

Facilitator's Guide - 2016 CHNA COBTH Neighborhood Discussion Groups

Verbal Introduction (this will assist in framing the discussion questions below)

When our hospitals did their needs assessments a few years ago, community members identified several things that impact their personal health and the health of their community. We heard that many social factors affect them such as employment and financial stress, community violence and lack of access to healthy, affordable food. In more recent assessments we have found more community members speaking about their emotional health, as well as difficulties with substance use. Health data in Boston also show high rates of conditions such as diabetes, asthma, cancer, obesity and heart disease. Community members expressed the importance of better coordination and integration of services, and responses that are relevant to their cultures. They voiced a strong desire to address these issues in equal partnership.

In our time together, we will be exploring key questions about health and wellness issues for your community. We are also interested in your thoughts about cancer and support for cancer survivors. Your input will inform our community health needs assessments and we will be taking notes of the discussion, but no individuals will be identified. We value everyone's participation today/tonight in this discussion, and encourage you to share your thoughts openly so we can learn from you. Please feel free to get up to get food or use the restroom at any point in our discussion tonight.

Questions for the group:

1. **What do you see as the most pressing health and wellness issues in your community today?**
   (if not mentioned in this discussion, use this specific probe: in your opinion how much a concern is cancer in your community?)
   - Would you say things have gotten better, worse or pretty much the same from a few years ago?

2. **What resources and/or supports currently exist in your community to address barriers to health and wellness for residents? What is working well?**
   (Specific prompt: are adequate services available to support people who have survived cancer?)

3. **What would be helpful in your neighborhood to address the most pressing health and wellness issues affecting your community?**
   (Specific prompt: What do you think would be helpful to specifically meet the needs of people who have survived cancer?)

4. **What is important for hospitals to know so we can work collaboratively with residents and local community organizations?**

Appendix E

Slides/presentation from Roxbury Forum

Hospital and Health Center Community Health Needs Assessment Projects

Joint Roxbury Neighborhood Community Health Forum

March 16 , 2016

Children's Hospital Boston | DANA-FARBER CANCER INSTITUTE | THE DIMOCK CENTER Healing and caring for the community for over 150 years. | Beth Israel Deaconess Medical Center | BWH BRIGHAM AND WOMEN'S HOSPITAL | COBTH CONFERENCE OF BOSTON TEACHING HOSPITALS

Context and Objective

- Review Community Benefits Requirements (State/Fed)
- Clarify Needs Assessment Approach/Methods
- Share needs assessment findings
- Gather input from community
  - Identify priority areas of need
  - Discuss potential initiatives to address need

Agenda

- Introductions and Overview
- Review Community Benefits Requirements
- Review needs assessment/planning approach & methods
- Share findings on community need
- Discussion
  - What do you feel are the most concerning health and social challenges in your community?
  - What are the existing resources and sources of strength and support to address these issues?
  - Are their any major health service gaps?

Community Health Needs Assessment Background

Community Health Needs Assessment Goals

- Highlight community health and social service needs
- Engage stakeholders
  - Engage, inform, and motivate communities
  - Encourage and foster community dialogue
  - Involve public health departments
- Inform efforts to improve community health and well-being
  - Promote community based partnerships
  - Leverage existing community resources
  - Guide community health investments and priorities
- Facilitate the development of a detailed 3-year Community Health Implementation Plan

Community Health Need: Hospital Community Benefits Infrastructure

Massachusetts Requirements

Hospitals are required to provide charity care as a condition of licensure – maintaining or increasing the percentage of patient revenues allocated to free care

The Attorney General has developed a set of Voluntary Guidelines for non-profit hospitals and health plans:

- Affirm and make public a benefits mission statement
- Demonstrate support at the highest levels
- Ensure regular involvement in the community
- Conduct a Community Health Needs Assessment
- Identify target populations, specific programs that meet identified need, and measurable goals
- Submit a community benefits report to the AG's office

Federal Requirements

The ACA established additional requirements for non-profit hospitals under § 501(r) of the Internal Revenue Code. These include:

- Community needs assessment
- Community engagement
- Evidence-based planning and prioritization
- Implementation strategy to guide investment

Community Benefits Expenditure Categories

- Uncompensated Care
- Medical, Education & Training
- Medical Research
- Community Programs

Community benefits spending cannot include:

- Bad debt
- Difference between total allowable Medicare cost and Medicare reimbursement
- Other reimbursable services

Approach

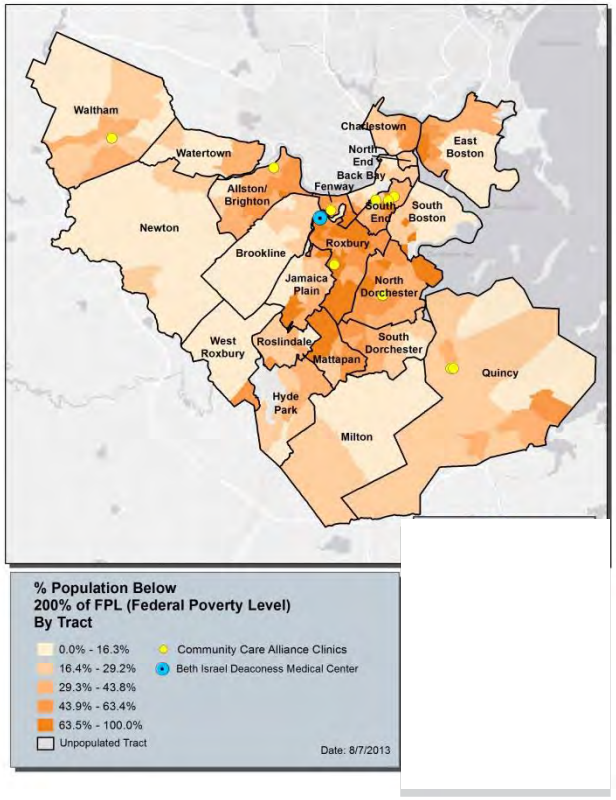
Phase 1	Phase 2	Phase 3
Identify health needs	***Engage key stakeholders***	***Develop Community Health Needs Assessment and Implementation Plan***

• **Quantitative data**
  • Vital statistics, Cancer registry, Communicable disease registry, etc. (MA DPH/MassCHIP)
  • Behavioral Risk Factor Surveillance Survey (MA DPH)
  • American Community Survey (US Census)
• **Qualitative data**
  • External key informant interviews (JSI)
	• **Quantitative data**
	  • Claims data for hospital inpatient and emergency department discharges (CHIA)
	  • Resource inventory (JSI)
	• **Qualitative data**
	  • Internal key informant interviews (JSI)
	  • Community forums
	• **Analysis**
	  • benchmarking
	  • Mapping of data
		• **Planning & Reporting**
		  • Strategic Planning Retreat
		  • Development of Community Health Needs Assessment
		  • Development of Community Health Implementation Plan

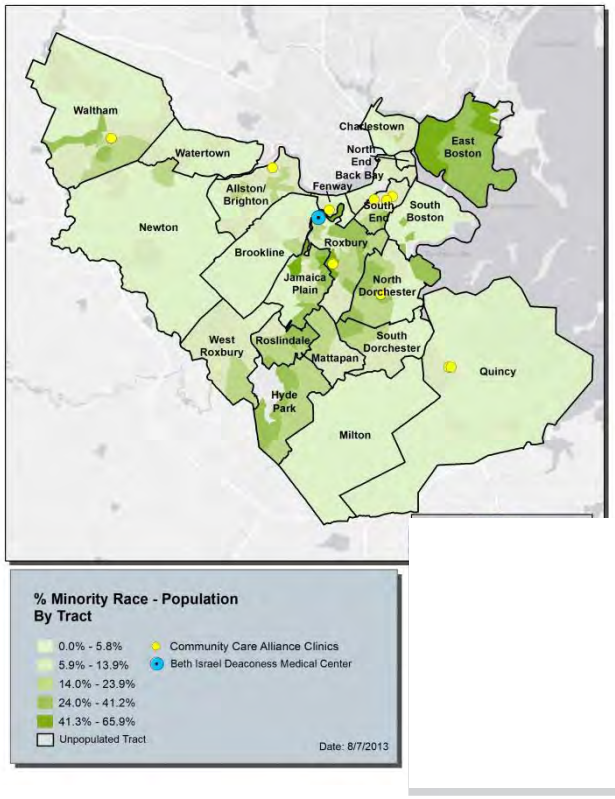
Community Needs

Boston Demographics and Social Determinants

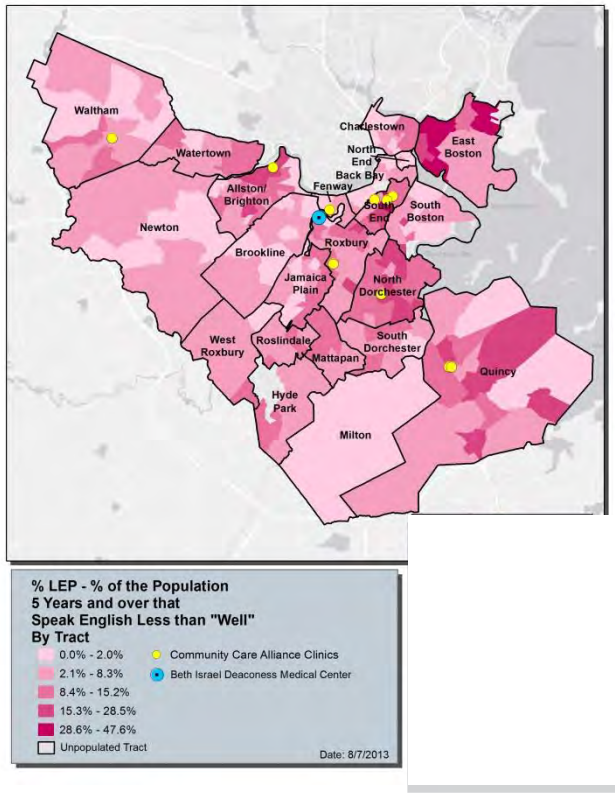
<200% FPL



% Minority Race



% Linguistically Isolated

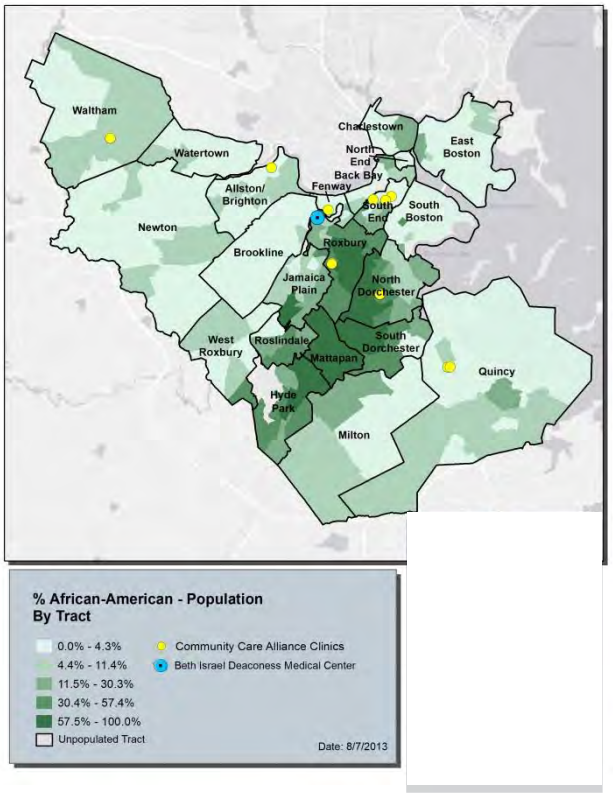


Sources:

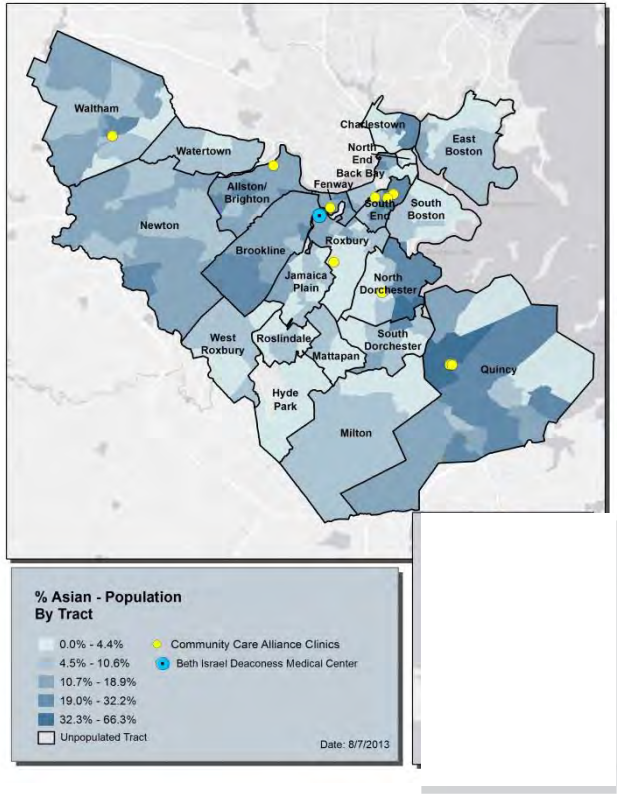
- *2010-2014 American Community Survey 5-Year Estimates*

Boston Demographics and Social Determinants

% Black/Af. Am.



% Asian



Sources:

- *2010-2014 American Community Survey 5-Year Estimates*

Leading Social Determinants of Health

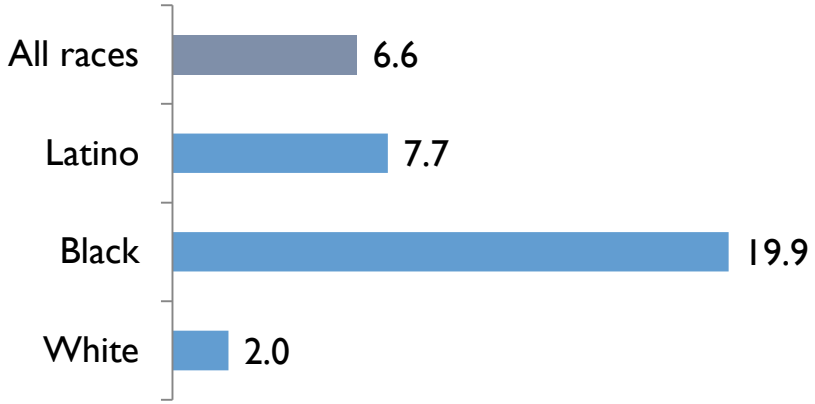
Identified through interviews with key informants

- Poverty
- Employment
- Education
- Transportation
- Food access
- Health literacy / cultural competence
- Violence
- Community cohesion
- Safe streets/parks and recreational facilities
- Housing

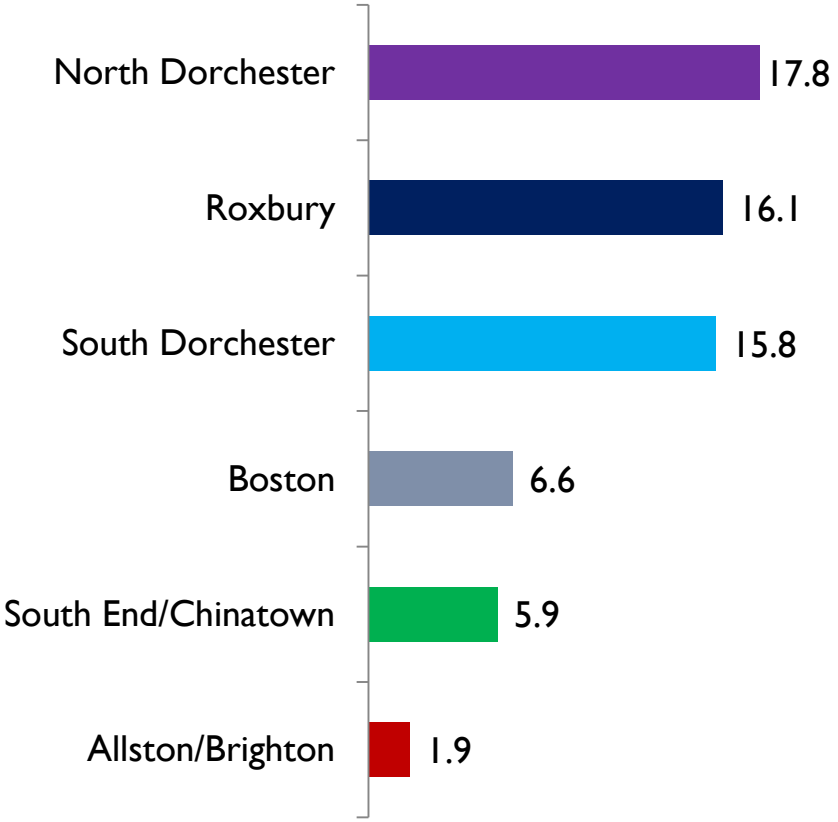
Violence

- Major disparities in outcomes in many of Boston's neighborhoods
  - Particularly concerning disparities in Roxbury and Dorchester

Homicide rate per 100,000 (2013)**



Homicide by Neighborhood, 2009-2013 (Average annual age adjusted rate per 100,000)*



*Fenway <5

Sources:
***American Community Survey 5-Year Estimates*

Physical and Behavioral Health Needs

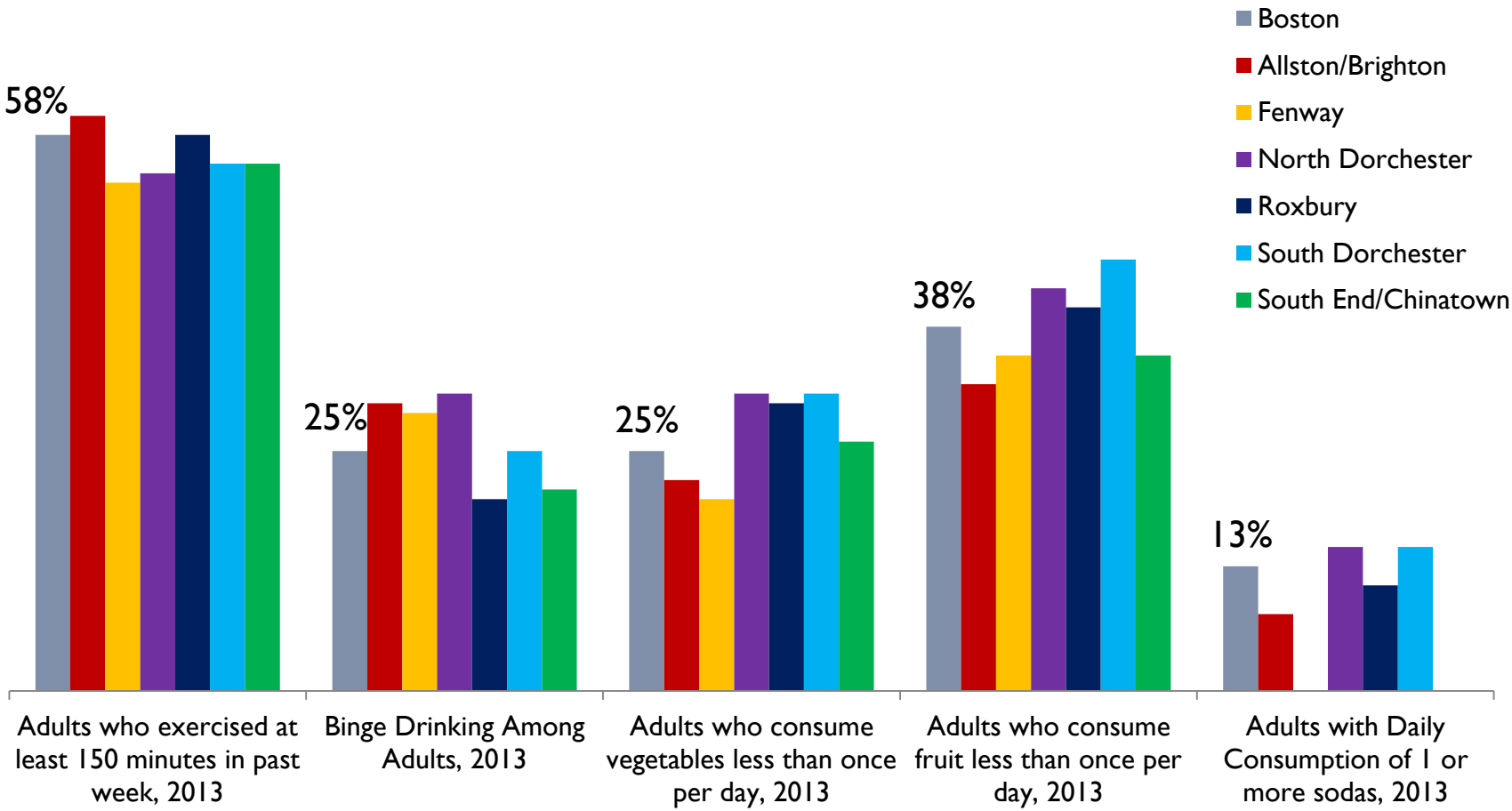
1. Chronic Disease
2. Behavioral Health
3. Cancer
4. Elder Health
5. Maternal/Infant Health
6. Infectious Disease

Community Health Need: Chronic Disease

- Chronic disease and associated risk factors remain a major problem, despite clear rise in appreciation for mental health and substance abuse issues
- Poverty increases risk of chronic disease
  - Lack of financial resources
  - Food insecurity
  - Lack of affordable housing
- Chronic disease risk factors are leading concerns across all of Boston's neighborhood, including
  - 6 in 10 adults are overweight or obese
  - 1 in 6 adults smoke
  - 1 in 8 adults consumes a sugary beverage at least once per day

Sources: Boston Behavioral Risk Factor Surveillance Survey, 2013
Analysis: Boston Public Health Commission Research and Evaluation

Chronic Disease Risk Factors



Sources: Boston Behavioral Risk Factor Surveillance Survey, 2013
Analysis: Boston Public Health Commission Research and Evaluation
Note: Fenway soda consumption rate not available due to small sample size.

Cardiovascular Disease

*age-adjusted rate per 100,000

- 24% of Boston Residents have hypertension
- Boston has high rates of hospital utilization (per 100,000 pop.) for hypertension, heart failure, and heart disease compared to the State
- Highest rates are in Dorchester and Roxbury

Area	Percent of Adults with Hypertension, 2013	Heart Disease Hospitalizations, 2013*	Heart Disease Mortality, 2013*
Boston	**24.0 (22.3-25.6)**	**9.1**	**133.6**
Allston/Brighton	14.5 (9.9-19.0)	8.1	128.9
Fenway	14.0 (7.8-20.2)	7.2	103.8
North Dorchester	**28.5 (23.1-33.9)**	**11**	**133.2**
Roxbury	**28.3 (22.1-34.5)**	**13.2**	**148.3**
South Dorchester	**30.3 (25.2-35.3)**	**9.5**	**123.1**
South End/Chinatown	23.7 (16.5-30.8)	9.6	98.3

Sources: *Boston Behavioral Risk Factor Surveillance Survey, 2013 and Hospital Case Mix Database, MA Center for Health Information and Analysis (CHIA)*
Analysis: *Boston Public Health Commission Research and Evaluation*

Asthma

- 11% of Boston adults have asthma. Asthma prevalence is especially high in Roxbury and Dorchester.
- There are higher rates of hospitalizations and ED visits due to Asthma in Boston vs. State.
- Adult crude asthma hospitalization (PQI) rates are higher for many neighborhoods in Boston, with the highest rates coming from: Roxbury and Dorchester

*age-adjusted rate per 100,000

	Percent of Adults with Asthma, 2013	Asthma Emergency Department Visits, 2013*	Asthma Hospitalizations, 2013*
Boston	**11.1 (9.7-12.5)**	**9.0**	**2.6**
Allston/ Brighton	8.3 (3.4-13.2)	5.8	1.3
Fenway	‡	6.5	1.6
North Dorchester	**17.7 (12.4-23.0)**	**14.3**	**3.8**
Roxbury	**13.8 (7.9-19.7)**	**17.5**	**5.9**
South Dorchester	**12.5 (8.3-16.7)**	**14.5**	**3.6**
South End/ Chinatown	6.8 (3.0-10.7)	12.6	2.8

Sources: *Boston Behavioral Risk Factor Surveillance Survey, 2013 and Hospital Case Mix Database, MA Center for Health Information and Analysis (CHIA)*
Analysis: *Boston Public Health Commission Research and Evaluation*

Diabetes

- Boston adults have higher rates of diabetes hospitalizations, emergency department visits, and deaths compared to the State
- Highest rates are in Roxbury, North Dorchester, and South Dorchester

Area	Percent of Adults with Diabetes, 2013	Diabetes Hospitalizations, 2013 (age-adjusted rate per 1,000)
Boston	**8.6 (7.7-9.6)**	**1.9**
Allston/ Brighton	3.9 (1.8-6.1)	1.7
Fenway	‡	0.8
North Dorchester	**12.4 (8.9-15.8)**	**3.0**
Roxbury	**15.1 (10.3-19.9)**	**3.5**
South Dorchester	**10.0 (7.0-12.9)**	**2.8**
South End/ Chinatown	7.7 (3.6-11.9)	2.5

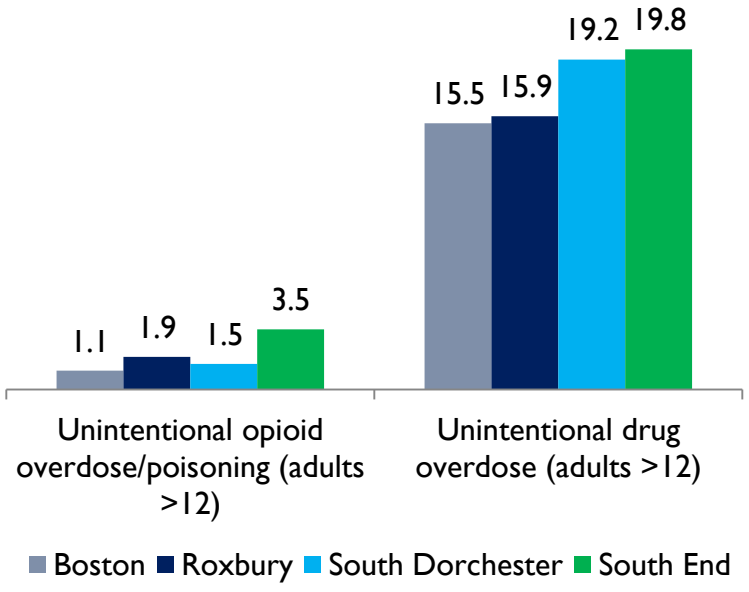
‡ *Insufficient sample*

Sources: *Boston Behavioral Risk Factor Surveillance Survey, 2013 and Hospital Case Mix Database, MA Center for Health Information and Analysis (CHIA)*
Analysis: *Boston Public Health Commission Research and Evaluation*

Community Health Need: Behavioral Health

- Consensus among interviewees regarding the dramatic impact of behavioral health on population overall and service system
  - Substance abuse (Alcohol and other drugs, especially opiate abuse)
  - Mental health (depression, anxiety/stress, SMI, ADHD, Autism)
  - Co-morbid medical and behavioral health
- Cross cuts all ages, cultures, and socio-economic groups
- Lack of access to services, particularly for those with severe needs/issues

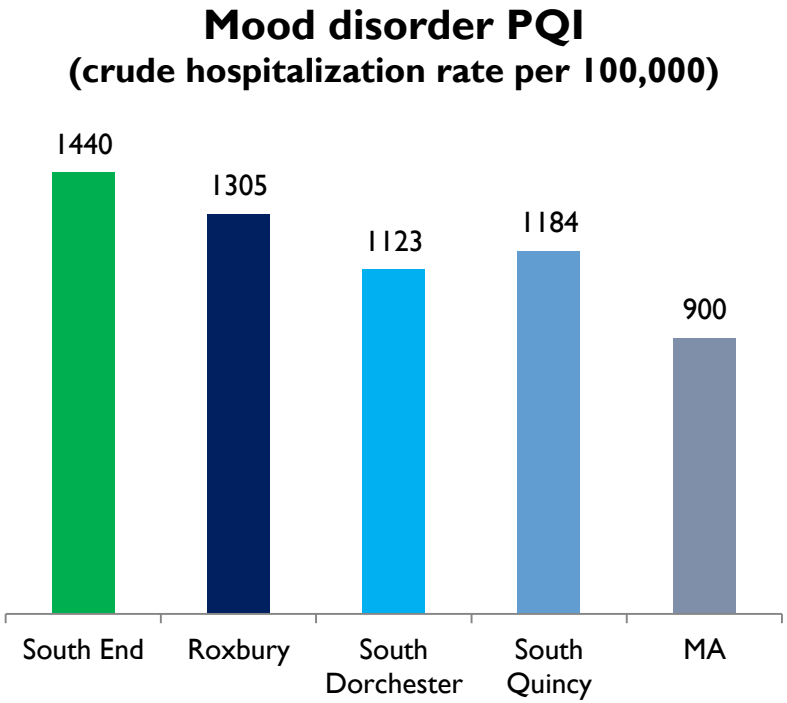
Boston Neighborhoods in with higher rates of overdose than Boston Overall (2013, rates per 1,000)



Source: http://www.mass.gov/eohhs/docs/dph/quality/drugcontrol/county-level-pmp/town-by-town-listings-january-2016.pdf

Community Health Need: Behavioral Health

- Roxbury and Dorchester hot spots for behavioral health issues
  - Mood Disorder (e.g., Depression/Anxiety) hospitalizations (CHIA data)
  - Alcohol, drug related hospitalizations (CHIA Data)
  - Persistent sadness (BRFSS Data)
- South End/Chinatown also concerning but difficult analyze due to diversity



Source: MassCHIP - 2008-2012 Massachusetts Hospital Inpatient and Emergency Department Discharges

Crude PQI rates were sourced from CHIA Case Mix Data made available by BIDMC for FY11 through FY13. PQI definitions were adapted from AHRQ using ICD-9 diagnosis codes and do not include exclusions. While the rates were statistically higher, estimated crude rates had very large confidence intervals, and the actual value may vary significantly

Community Health Need: Behavioral Health

Area	Mental Health Hospitalizations, 2013 (age adjusted rate per 1,000)	Alcohol-Related hospital patient encounters* (residents 12+) (age adjusted rate per 1,000)	Drug-related hospital patient encounters* (residents 12+) (age adjusted rate per 1,000)	Persistent Sadness Among Adults (15+ days during past 30 days), 2013	Suicide, 2009-2013 (Avg annual age adjusted rate per 100,000)
Boston	**8.0**	**17.7**	**6.8**	**12.2 (10.7-13.7)**	**6.7**
Allston/Brighton	**12.0**	12.6	3.6	15.5 (8.8-22.3)	6.9
Fenway	**12.4**	16.4	3.3	10.9 (5.1-16.7)	7.0
North Dorchester	7.1	13.4	6.5	**16.5 (11.6-21.4)**	**8.7**
Roxbury	9.0	**22.6**	**12.2**	12.6 (7.7-17.5)	6.2
South Dorchester	**10.5**	16.1	**8.3**	14.5 (9.8-19.1)	7.7
South End/Chinatown	**9.8**	**80.8**	**24.2**	11.6 (5.2-18.1)	**12.8**

*Sources: Hospital Case Mix Database, MA Center for Health Information and Analysis (CHIA), **MA Hospital Inpatient Discharges 2008-2012, ***MA Vital Records 2008-2012*

Analysis: Boston Public Health Commission Research and Evaluation

**Includes ED visits, observational stays, and inpatient hospitalizations*

Community Health Need: Cancer

- Disparities in screening rates and outcomes a major concern among interviewees
- Major issues with respect to health literacy and other cultural/ linguistic barriers to care
- Significantly higher cancer death rates, particularly in Dorchester, Roxbury, and Fenway

Community Health Need: Cancer

Cancer Deaths by Boston Neighborhood

Area	All Cancer, 2013	Colorectal Cancer 2011-2013	Female Breast Cancer 2011-2013	Lung Cancer, 2013	Pancreatic Cancer, 2011-2013	Prostate Cancer, 2011-2013
Boston	**176.1**	**16.4**	**17.9**	**45.4**	**12.1**	**25.7**
Allston/Brighton	133.3	15.6	6.9	45.6	8.3	21.4
Fenway	160.4	8.5	**21.0**	46.9	**15.6**	N<5
North Dorchester	147.9	12.6	14.4	25.0	**15.1**	29.8
Roxbury	170.8	**25.5**	**23.6**	**64.3**	**16.1**	**49.5**
South Dorchester	**199.6**	**19.9**	17.7	45.9	11.3	**32.8**
South End/Chinatown	155.6	**22.8**	10.8	26.5	**14.3**	N<5

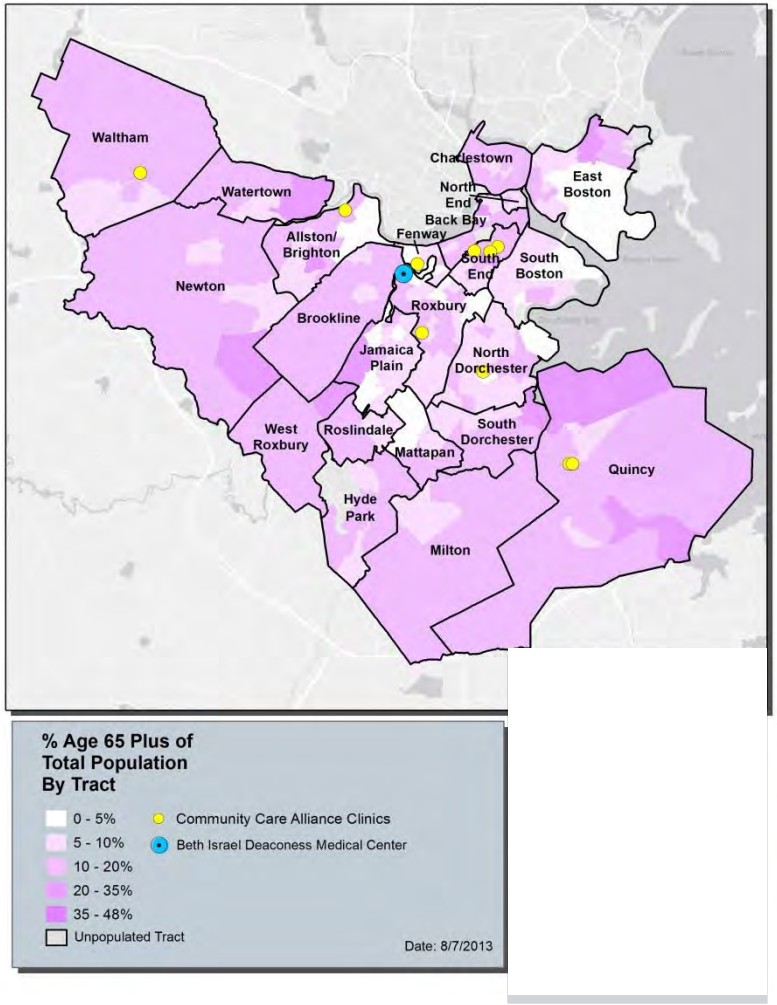
All age-adjusted rates per 100,000
Sources: *Boston Resident Deaths, MA DPH // *Source is MA Vital Records 2008-2012*
Analysis: *Boston Public Health Commission Research and Evaluation*

Children's Hospital Boston | DANA-FARBER CANCER INSTITUTE | THE DIMOCK CENTER Healing and caring for the community for over 150 years. | Beth Israel Deaconess Medical Center | BWH BRIGHAM AND WOMEN'S HOSPITAL | COBTH CONFERENCE OF BOSTON TEACHING HOSPITALS

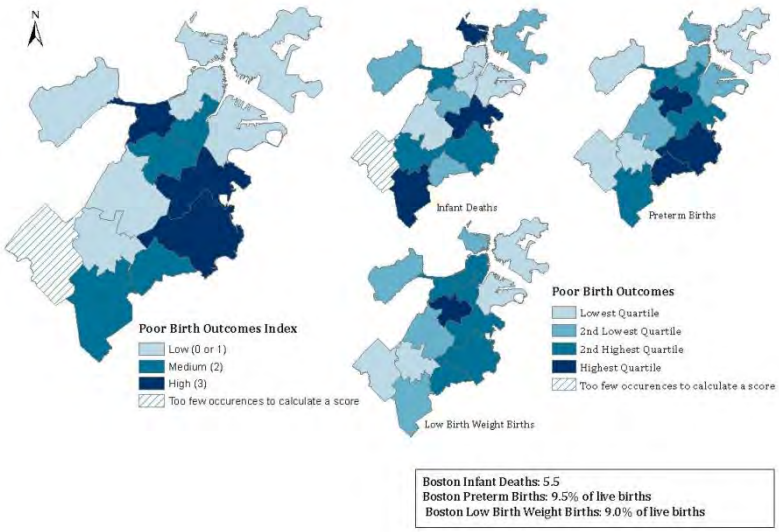
Community Health Need: Elder Health

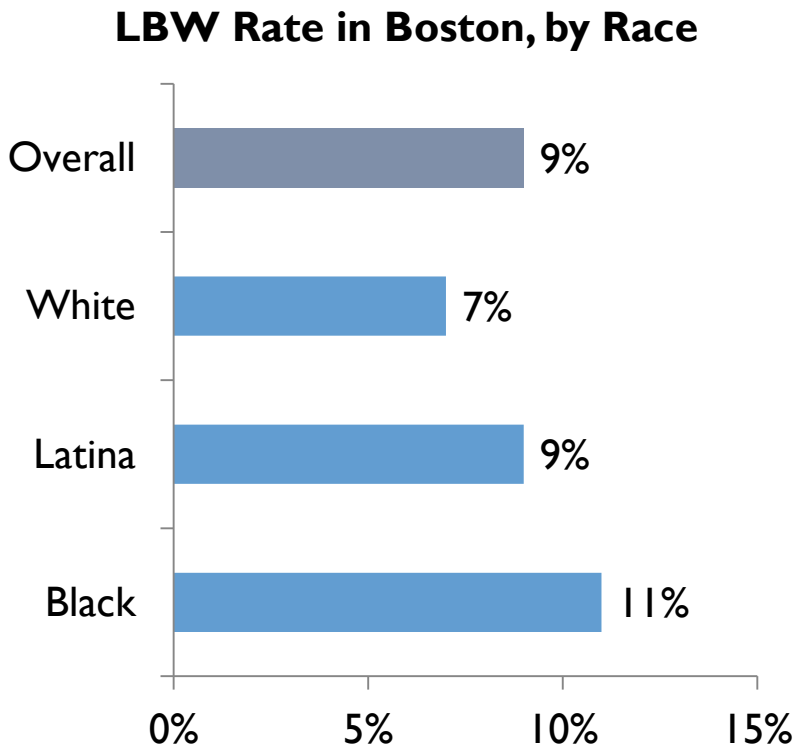
- Older adult population seen as one of the major risk groups / target populations by external and internal community interviews
- Older adult populations tend to have higher rates of chronic disease (e.g., hypertension, diabetes, heart disease) than other adult cohorts
- Concerns among interviewees about:
  - Fragmentation of services / poor care transitions
  - Depression and social isolation
  - Impacts of poverty
  - Poor nutrition and access to healthy foods
  - Lack of caregiver support services
  - Transportation barriers

Community Health Need: Elder Health



Community Health Need: Maternal/Infant Health





On the poor birth outcomes index,*

- Fenway/Kenmore and North/South Dorchester ranked **High** among Boston neighborhoods.
- Roxbury, South End, Mattapan, and Hyde Park are ranked **Medium**

* Determined by number of times the neighborhood falls in the highest or second highest quartile for the 3 birth outcomes, 2008-2012
Sources: 2014-2015 Health of Boston Report

Sources:
- *2014-2015 Health of Boston Report*
- *2008-2012 Vital Records Natality*

Children's Hospital Boston | DANA-FARBER CANCER INSTITUTE | THE DIMOCK CENTER Healing and caring for the community for over 150 years. | Beth Israel Deaconess Medical Center | BWH BRIGHAM AND WOMEN'S HOSPITAL | COBTH CONFERENCE OF BOSTON TEACHING HOSPITALS

Community Health Need: Infectious Disease

- Rates of sexually transmitted disease are high in many of Boston's neighborhoods
- Higher HIV/AIDS incidence and hospitalization rates, particularly in Roxbury

Community Health Need: HIV/AIDS

Area	**HIV/AIDS Hospitalizations** (Age adjusted rate per 100,000)	**HIV/AIDS-Related hospitalizations** (Age adjusted rate per 100,000)	**HIV/AIDS Deaths** (Age adjusted rate per 100,000)
Massachusetts	12.43 (12.05 - 12.81)	42.76 (42.06 - 43.46)	1.58 (1.45 - 1.72)
Boston	**40.05 (37.62 - 42.49)**	**160.56 (155.68 - 165.43)**	**4.56 (3.74 - 5.38)**

All age-adjusted rates per 100,000
Sources: *MA Hospital Inpatient Discharges 2008-2012, MA Vital Records Mortality 2008-2012*

DISCUSSION

Health-related Priorities, Barriers to Care, and Service Gaps

What do you feel are the most concerning health challenges in your community?
What do you feel are the most concerning social challenges?

What are the existing sources of strength and support to address these issues?

What existing health resources are available in your community? Are their any major health service gaps?

What existing social resources are available in your community? Are their any major social resource gaps?

Questions Specifically About Cancer:

In your opinion, how much of a concern is cancer in your community?

What are some things that you think people can do to decrease their chances of getting cancer?

Are adequate services available to support people who have survived cancer?

What do you think organizations or health care institutions can do to help meet the needs of cancer survivors?

Strategic Response:

What types of programs and services would help address the community's health and social challenges?

Who should the hospital(s) partner with to address these challenges?