

BETH ISRAEL LAHEY HEALTH, INC.

DON APPLICATION #TBD

DON-REQUIRED EQUIPMENT

BETH ISRAEL DEACONESS HOSPITAL- NEEDHAM

January 14, 2022

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Massachusetts Department of Public Health

Determination of Need

Application Form

Version: 11-8-17

Application Type:	DoN-Required Equipment	Application Date:	02/15/2022 11:02 am
Applicant Name:	Beth Israel Lahey Health, Inc.		
Mailing Address:	20 University Road, 7th Floor		
City:	Cambridge	State:	Massachusetts
		Zip Code:	02138
Contact Person:	Alan Einhorn, Esq.	Title:	Attorney
Mailing Address:	111 Huntington Avenue		
City:	Boston	State:	Massachusetts
		Zip Code:	02199
Phone:	6173424094	Ext:	
E-mail:	AEinhorn@foley.com		

Facility Information

List each facility affected and or included in Proposed Project

1 Facility Name:	Beth Israel Deaconess Hospital - Needham, Inc.		
Facility Address:	148 Chestnut Street		
City:	Needham	State:	Massachusetts
		Zip Code:	02492
Facility type:	Hospital	CMS Number:	220083A
Add additional Facility		Delete this Facility	

1. About the Applicant

1.1 Type of organization (of the Applicant):	nonprofit
1.2 Applicant's Business Type:	<input checked="" type="radio"/> Corporation <input type="radio"/> Limited Partnership <input type="radio"/> Partnership <input type="radio"/> Trust <input type="radio"/> LLC <input type="radio"/> Other
1.3 What is the acronym used by the Applicant's Organization?	BILH
1.4 Is Applicant a registered provider organization as the term is used in the HPC/CHIA RPO program?	<input checked="" type="radio"/> Yes <input type="radio"/> No
1.5 Is Applicant or any affiliated entity an HPC-certified ACO?	<input checked="" type="radio"/> Yes <input type="radio"/> No
1.5.a If yes, what is the legal name of that entity?	Beth Israel Lahey Health Performance Network, LLC (formerly known as Beth Israel Lahey Performance Network, LLC) inclusive of Beth Israel Deaconess Physician Organization, LLC (Beth Israel Deaconess Organization); Lahey Clinical Performance Network, LLC; and Lahey Clinical Performance Accountable Care Organization, LLC

1.6 Is Applicant or any affiliate thereof subject to M.G.L. c. 6D, § 13 and 958 CMR 7.00 (filing of Notice of Material Change to the Health Policy Commission)? ☐ Yes ☒ No

1.7 Does the Proposed Project also require the filing of a MCN with the HPC? ☐ Yes ☒ No

1.8 Has the Applicant or any subsidiary thereof been notified pursuant to M.G.L. c. 12C, § 16 that it is exceeding the health care cost growth benchmark established under M.G.L. c. 6D, § 9 and is thus, pursuant to M.G.L. c. 6D, §10 required to file a performance improvement plan with CHIA? ☐ Yes ☒ No

1.9 Complete the Affiliated Parties Form

2. Project Description

2.1 Provide a brief description of the scope of the project.

See attached Narrative

2.2 and 2.3 Complete the Change in Service Form

3. Delegated Review

3.1 Do you assert that this Application is eligible for Delegated Review? ☒ Yes ☐ No

3.1.a If yes, under what section? Certified ACO/DoN-Required Service or Equipment

4. Conservation Project

4.1 Are you submitting this Application as a Conservation Project? ☐ Yes ☒ No

5. DoN-Required Services and DoN-Required Equipment

5.1 Is this an application filed pursuant to 105 CMR 100.725: DoN-Required Equipment and DoN-Required Service? ☒ Yes ☐ No

5.2 If yes, is Applicant or any affiliated entity thereof a HPC-certified ACO? ☒ Yes ☐ No

5.2.a If yes, Please provide the date of approval and attach the approval letter:

12/23/2019

5.3 See section on DoN-Required Services and DoN-Required Equipment in the Application Instructions

6. Transfer of Ownership

6.1 Is this an application filed pursuant to 105 CMR 100.735? ☐ Yes ☒ No

7. Ambulatory Surgery

7.1 Is this an application filed pursuant to 105 CMR 100.740(A) for Ambulatory Surgery? ☐ Yes ☒ No

8. Transfer of Site

8.1 Is this an application filed pursuant to 105 CMR 100.745? ☐ Yes ☒ No

9. Research Exemption

9.1 Is this an application for a Research Exemption? ☐ Yes ☒ No

10. Amendment

10.1 Is this an application for a Amendment?

☐ Yes ☒ No

11. Emergency Application

11.1 Is this an application filed pursuant to 105 CMR 100.740(B)?

☐ Yes ☒ No

12. Total Value and Filing Fee

Enter all currency in numbers only. No dollar signs or commas. Grayed fields will auto calculate depending upon answers above.

Your project application is for: DoN-Required Equipment

12.1 Total Value of this project:	<input type="text" value="\$2,358,540.00"/>
12.2 Total CHI commitment expressed in dollars: (calculated)	<input type="text" value="\$117,927.00"/>
12.3 Filing Fee: (calculated)	<input type="text" value="\$4,717.08"/>
12.4 Maximum Incremental Operating Expense resulting from the Proposed Project:	<input type="text"/>
12.5 Total proposed Construction costs, specifically related to the Proposed Project, If any, which will be contracted out to local or minority, women, or veteran-owned businesses expressed in estimated total dollars.	<input type="text"/>

13. Factors

Required Information and supporting documentation consistent with 105 CMR 100.210

Some Factors will not appear depending upon the type of license you are applying for.

Text fields will expand to fit your response.

Factor 1: Applicant Patient Panel Need, Public Health Values and Operational Objectives

F1.a.i Patient Panel:

Describe your existing Patient Panel, including incidence or prevalence of disease or behavioral risk factors, acuity mix, noted health disparities, geographic breakdown expressed in zip codes or other appropriate measure, demographics including age, gender and sexual identity, race, ethnicity, socioeconomic status and other priority populations relevant to the Applicant's existing patient panel and payer mix.

See attached Narrative

F1.a.ii Need by Patient Panel:

Provide supporting data to demonstrate the need for the Proposed Project. Such data should demonstrate the disease burden, behavioral risk factors, acuity mix, health disparities, or other objective Patient Panel measures as noted in your response to Question F1.a.i that demonstrates the need that the Proposed Project is attempting to address. If an inequity or disparity is not identified as relating to the Proposed Project, provide information justifying the need. In your description of Need, consider the principles underlying Public Health Value (see instructions) and ensure that Need is addressed in that context as well.

See attached Narrative

F1.a.iii Competition:

Provide evidence that the Proposed Project will compete on the basis of price, total medical expenses, provider costs, and other recognized measures of health care spending. When responding to this question, please consider Factor 4, Financial Feasibility and Reasonableness of Costs.

See attached Narrative

F1.b.i Public Health Value /Evidence-Based:

Provide information on the evidence-base for the Proposed Project. That is, how does the Proposed Project address the Need that Applicant has identified.

See attached Narrative

F1.b.ii Public Health Value /Outcome-Oriented:

Describe the impact of the Proposed Project and how the Applicant will assess such impact. Provide projections demonstrating how the Proposed Project will improve health outcomes, quality of life, or health equity. Only measures that can be tracked and reported over time should be utilized.

See attached Narrative

F1.b.iii Public Health Value /Health Equity-Focused:

For Proposed Projects addressing health inequities identified within the Applicant's description of the Proposed Project's need-base, please justify how the Proposed Project will reduce the health inequity, including the operational components (e.g. culturally competent staffing). For Proposed Projects not specifically addressing a health disparity or inequity, please provide information about specific actions the Applicant is and will take to ensure equal access to the health benefits created by the Proposed Project and how these actions will promote health equity.

See attached Narrative

F1.b.iv Provide additional information to demonstrate that the Proposed Project will result in improved health outcomes and quality of life of the Applicant's existing Patient Panel, while providing reasonable assurances of health equity.

See attached Narrative

F1.c Provide evidence that the Proposed Project will operate efficiently and effectively by furthering and improving continuity and coordination of care for the Applicant's Patient Panel, including, how the Proposed Project will create or ensure appropriate linkages to patients' primary care services.

See attached Narrative

F1.d Provide evidence of consultation, both prior to and after the Filing Date, with all Government Agencies with relevant licensure, certification, or other regulatory oversight of the Applicant or the Proposed Project.

See attached Narrative

F1.e.i Process for Determining Need/Evidence of Community Engagement: For assistance in responding to this portion of the Application, Applicant is encouraged to review *Community Engagement Standards for Community Health Planning Guideline*. With respect to the existing Patient Panel, please describe the process through which Applicant determined the need for the Proposed Project.

See attached Narrative

F1.e.ii Please provide evidence of sound Community Engagement and consultation throughout the development of the Proposed Project. A successful Applicant will, at a minimum, describe the process whereby the "Public Health Value" of the Proposed Project was considered, and will describe the Community Engagement process as it occurred and is occurring currently in, at least, the following contexts: Identification of Patient Panel Need; Design/selection of DoN Project in response to "Patient Panel" need; and Linking the Proposed Project to "Public Health Value".

See attached Narrative

Factor 2: Health Priorities

Addresses the impact of the Proposed Project on health more broadly (that is, beyond the Patient Panel) requiring that the Applicant demonstrate that the Proposed Project will meaningfully contribute to the Commonwealth's goals for cost containment, improved public health outcomes, and delivery system transformation.

F2.a **Cost Containment:**

Using objective data, please describe, for each new or expanded service, how the Proposed Project will meaningfully contribute to the Commonwealth's goals for cost containment.

See attached Narrative

F2.b **Public Health Outcomes:**

Describe, as relevant, for each new or expanded service, how the Proposed Project will improve public health outcomes.

See attached Narrative

F2.c **Delivery System Transformation:**

Because the integration of social services and community-based expertise is central to goal of delivery system transformation, discuss how the needs of their patient panel have been assessed and linkages to social services organizations have been created and how the social determinants of health have been incorporated into care planning.

See attached Narrative

Factor 3: Compliance

Applicant certifies, by virtue of submitting this Application that it is in compliance and good standing with federal, state, and local laws and regulations, including, but not limited to M.G.L. c. 30, §§ 61 through 62H and the applicable regulations thereunder, and in compliance with all previously issued notices of Determination of Need and the terms and conditions attached therein .

F3.a Please list all previously issued Notices of Determination of Need

Add/Del Rows	Project Number	Date Approved	Type of Notification	Facility Name
<input type="checkbox"/> <input type="checkbox"/>	NEWCO 17082413-TO	04/13/2018	Transfer of Ownership	Beth Israel Deaconess Medical Center, Beth Israel Deaconess Hospital – Needham, Inc., Beth Israel Deaconess Hospital– Milton, Inc., Beth Israel Deaconess Hospital –Plymouth, New England Baptist Hospital, Mount Auburn Hospital, Lahey Hospital and Medical Center, Winchester Hospital, Northeast Hospital Corp, Anna Jaques Hospital, Care Group, Inc., Lahey Health System, Inc. and Seacoast Health Systems
<input type="checkbox"/> <input type="checkbox"/>	CG-18051612-HE	01/10/2019	Hospital/Clinic Substantial Change in Service	Beth Israel Deaconess Medical Center, Inc.
<input type="checkbox"/> <input type="checkbox"/>	BILH-19092415-RE	11/12/2021	DoN-Required Equipment	Beth Israel Deaconess Medical Center, Inc.

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 Project without negative impacts or consequences to the Applicant's existing Patient Panel.

F4.a.i **Capital Costs Chart:**

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

[illegible]

F4.a.ii For each Category of Expenditure document New Construction and/or Renovation Costs.

	Category of Expenditure	New Construction	Renovation	Total (calculated)
	Land Costs			
	Land Acquisition Cost			
	Site Survey and Soil Investigation			
	Other Non-Depreciable Land Development			
	Total Land Costs			
Construction Contract (including bonding cost)				
	Depreciable Land Development Cost			
	Building Acquisition Cost			
	Construction Contract (including bonding cost)		\$1257564.	\$1257564.
	Fixed Equipment Not in Contract		\$953617.	\$953617.
	Architectural Cost (Including fee, Printing, supervision etc.) and Engineering Cost		\$100605.	\$100605.
	Pre-filing Planning and Development Costs		\$46754.	\$46754.
	Post-filing Planning and Development Costs			
Add/Del Rows	Other (specify)			
<input type="checkbox"/> + <input type="checkbox"/> -	Furnitures, Fixtures and Equipment			
<input type="checkbox"/> + <input type="checkbox"/> -	Moves and Move Management			
<input type="checkbox"/> + <input type="checkbox"/> -	Maintenance and Shutdown Support			
	Net Interest Expensed During Construction			
	Major Movable Equipment			
	Total Construction Costs		\$2358540.	\$2358540.
Financing Costs:				
	Cost of Securing Financing (legal, administrative, feasibility studies, mortgage insurance, printing, etc			
	Bond Discount			
Add/Del Rows	Other (specify)			
<input type="checkbox"/> + <input type="checkbox"/> -				
	Total Financing Costs			
	Estimated Total Capital Expenditure		\$2358540.	\$2358540.

Factor 5: Relative Merit

F5.a.i Describe the process of analysis and the conclusion that the Proposed Project, on balance, is superior to alternative and substitute methods for meeting the existing Patient Panel needs as those have been identified by the Applicant pursuant to 105 CMR 100.210(A)(1). When conducting this evaluation and articulating the relative merit determination, Applicant shall take into account, at a minimum, the quality, efficiency, and capital and operating costs of the Proposed Project relative to potential alternatives or substitutes, including alternative evidence-based strategies and public health interventions.

Proposal:

See attached Narrative

Quality:

See attached Narrative

Efficiency:

See attached Narrative

Capital Expense:

See attached Narrative

Operating Costs:

See attached Narrative

List alternative options for the Proposed Project:

Alternative Proposal:

See attached Narrative

Alternative Quality:

See attached Narrative

Alternative Efficiency:

See attached Narrative

Alternative Capital Expense:

See attached Narrative

Alternative Operating Costs:

See attached Narrative

Add additional Alternative Project

Delete this Alternative Project

F5.a.ii Describe the process of analysis and the conclusion that the Proposed Project, on balance, is superior to alternative and substitute methods for meeting the existing Patient Panel needs as those have been identified by the Applicant pursuant to 105 CMR 100.210(A)(1). When conducting this evaluation and articulating the relative merit determination, Applicant shall take into account, at a minimum, the quality, efficiency, and capital and operating costs of the Proposed Project relative to potential alternatives or substitutes, including alternative evidence-based strategies and public health interventions.

See attached Narrative

Documentation Check List

The Check List below will assist you in keeping track of additional documentation needed for your application. Once you have completed this Application Form the additional documents needed for your application will be on this list. E-mail the documents as an attachment to: DPH.DON@state.ma.us

- ☒ Copy of Notice of Intent
- ☒ Affidavit of Truthfulness Form
- ☒ Scanned copy of Application Fee Check
- ☒ Affiliated Parties Table Question 1.9
- ☒ Change in Service Tables Questions 2.2 and 2.3
- ☒ Certification from an independent Certified Public Accountant
- ☒ Articles of Organization / Trust Agreement
- ☐ Limited Liability Company agreement
- ☐ Partnership agreement
- ☐ Trust agreement
- ☒ Current IRS Form, 990 Schedule H CHNA/CHIP and/or Current CHNA/CHIP submitted to Massachusetts AGO's Office
- ☒ Community Engagement Stakeholder Assessment form
- ☒ Community Engagement-Self Assessment form

Document Ready for Filing

When 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 Determination of Need" button.

This document is ready to file:



Date/time Stamp: 02/15/2022 11:02 am

E-mail submission to
Determination of Need

Application Number: BILH-21111612-RE

Use this number on all communications regarding this application.

☒ Community Engagement-Self Assessment form

#1

Determination of Need Narrative and Exhibits

**BETH ISRAEL DEACONESS HOSPITAL - NEEDHAM
DETERMINATION OF NEED NARRATIVE**

DETERMINATION OF NEED NARRATIVE

1.4 RPO Status

The Applicant's RPO was filed for the first time as a health system on September 30, 2021.

2. Project Description

Beth Israel Lahey Health, Inc. (the "Applicant" or "BILH"), located at 20 University Road, 7th Floor, Cambridge MA 02138, is filing a Notice of Determination of Need Application ("Application") with the Massachusetts Department of Public Health ("Department") to utilize a second computed tomography ("CT") unit. The Proposed Project is for the expansion of CT services within the Beth Israel Deaconess Hospital – Needham ("BID-N") Department of Radiology ("Radiology"), located at 148 Chestnut Street Needham, MA 02492 (the "Proposed Project"). BID-N obtained permission from DPH on or about February 3, 2021 to replace its existing CT unit with a new GE unit and to locate that unit within the Radiology Department at BID-N. BID-N now requests a DON approval for a second unit (which will be its old GE VCT unit (the "2009 CT")), so that BID-N will be able to operate a total of two CT units.

BID-N currently provides CT services, including CT-guided procedures ("procedures") and diagnostic exams (procedures and exams are sometimes referred to collectively in this Application as "CT services") at a single location in the main building. A second CT unit will help maximize efficiencies to address patient care needs appropriate to the patients' conditions in a timely manner.

For the reasons set forth below, BID-N is in urgent need of a second CT scanner. External factors have created volume demands that could not have been foreseen when the current scanner was built and installed in 2009. Having a second CT scanner in service would allow BID-N to better meet patient demands and create flexibility to meet BID-N patients' needs in the future. Having a second CT unit would also enable BID-N to avoid the interruptions and delays that occur when a single scanner is down. With only one current CT, whenever there is downtime for repairs or for scheduled maintenance, or when lengthy interventional procedures are being performed, the impact is felt not only by the entire hospital, but also by the community as a whole. Emergency Department ("ED") and inpatients must wait, potentially increasing length of stays. Also, the ED

must go on Stroke Diversion, likely increasing the time it takes for some patients to get to an alternate facility to obtain imaging needed for making critical decisions regarding their care.

Patient volumes for BID-N's CT have on average been 31.3% higher than previous norms since July 2020, with the most recent three months averaging 41.0% higher. Much of the increase is from increased ED volume since the Norwood Hospital closure. Prior to the COVID-19 pandemic and the closure of Norwood Hospital, the single CT unit was already running over capacity. Accommodating the surge of ED/inpatients has strained BID-N's outpatient resources and the ability to serve the needs of BID-N's communities, creating the prospect that patients will have to travel additional distances and lose important, perhaps critical, time to obtain their care. The added capacity of a second CT will help increase the efficiency of transferring patients to and from the ED at BID-N and increase capacity to meet the increased demand for both inpatients and outpatients. The replacement CT is located directly across from the ED elevator, essentially serving as an ED-sited CT scanner. DoN approval to operate a second CT will result in better access for scheduled outpatient CT procedures and more timely turnaround for inpatient studies. Currently, the wait time for scheduled studies is three weeks, but BID-N has recently enhanced its ICU with intensivists who care for patients, who in the past, were transferred to Boston for tertiary care.

As noted above, with a single unit, when that unit goes down, even for a few hours, the impact is felt throughout the entire hospital, and especially in the ED. BID-N has no physical location on its campus where a mobile CT trailer can be parked and operated. Having a second unit in the space where BID-N's 2009 CT is currently located, as BID-N is proposing with this Application, will cost-effectively add redundancy (i.e., when the first unit goes down), while also increasing efficiency and improve health outcomes for our emergency patients and increasing BID-N's capacity to meet increased demand.

The additional ED and inpatient volume at BID-N has compromised the capacity to serve BID-N's outpatient needs. BID-N is also extremely limited in its interventional capability since, as noted above, any interventional procedures done on the CT scanner require the ED to go on stroke diversion for the length of the procedure and at least an hour before and after. Operating a second CT scanner would allow the BID-N ED uninterrupted availability, and allow BID-N to offer more procedures to its service area. Operating a second CT will enable BID-N to provide greater access to CT procedures, which is currently limited to only the most critical patients, and will also decrease the need for diversion to more expensive facilities.

BID-N currently operates one (1) CT unit to provide CT services for the entire hospital. That unit sits on the ground floor, directly below the ED and is in service 24 hours a day, seven days a week. The single unit serves the diagnostic needs of ED patients as well as inpatients requiring exams, and any remaining capacity is used for outpatient diagnostic exams throughout the day.

The need for the Proposed Project is based on the existing needs of the Applicant's, and particularly BID-N's, Patient Panel. A second CT unit will also help to address anticipated growth in the need for CT services based on BID-N's current Patient Panel trends of increasing acuity and an aging population, as described in this Application. The Applicant seeks to expand the number of CT's within its Department of Radiology to address delays in access to care, thereby improving the patient experience, the timeliness of clinical decision making, and health outcomes, while also improving administrative efficiencies. The current CT unit operates at full capacity. As noted above, there is no back-up unit if the unit requires service.

The current constraints leading to delays in scheduling CT scans at BID-N are caused by the following factors: (1) the increase in inpatient census at BID-N; (2) the increase in acuity of inpatients at BID-N; (3) the increase in ED patients at BID-N (including code stroke and trauma patients) - all of which translate into an increase in the number of candidates for whom a CT scan is appropriate; and (4) the increase in the need of CT-guided procedures for both inpatients and outpatients. An additional CT unit will reduce delays in access, especially during peak demand times, and reduce significant wait times for CT-guided procedures (e.g., tissue biopsies, abscess drainage, and cardiac procedures), and provide an alternative for patients who, without ready access to CT services at BID-N, will be obliged to travel to another facility, perhaps much farther away, for these services. Also, a second CT will better enable BID-N to respond in moments of crisis, such as when, recently, three code strokes were called within 30 minutes. In addition, by utilizing BID-N's 2009 CT as the second CT unit, there is the added benefit of utilizing a unit and protocols that are already integrated within the existing BID-N Department of Radiology, with its highly specialized and experienced BID-N physicians, robust departmental and overall hospital quality assurance mechanisms, and strong health care quality and patient satisfaction criteria.

The Proposed Project is consistent with Massachusetts' cost containment goals for multiple reasons. As a threshold matter, the Proposed Project maximizes use of existing hospital space, equipment, facilities and ancillary services, reduces administrative inefficiencies caused by capacity constraints, and most importantly, increases timely patient access to care in an appropriate setting. There will virtually be no cost incurred by reactivating the 2009 CT, which will be utilized as the second CT for the foreseeable future. Also with respect to cost containment, we note that a significant percentage of services planned for the additional CT unit are included as a component of an inpatient stay or an interventional procedure. BID-N also is currently implementing an electronic clinical decision support tool, in accordance with federal law, to ensure that physicians ordering advanced imaging consult appropriate use criteria. The Proposed Project will not impact existing payer contracts.

In sum, the expanded CT services capacity will ensure that BID-N patients, including vulnerable patients in BID-N's Community Benefits Service Area ("CBSA"), and, in particular, inpatients and patients in need of CT-guided procedures, will have timely access to essential hospital-based imaging services from a low cost provider of high quality services.

Factor 1: Applicant Patient Panel Need, Public Health Value and Operational Objectives

F1.a.i Patient Panel:

Describe your existing patient panel, including incidence or prevalence of disease or behavioral risk factors, acuity mix, noted health disparities, geographic breakdown by zip codes or other appropriate measure, demographics including age, gender and sexual identity, race, ethnicity, socioeconomic status and other priority populations relevant to the Applicant's existing Patient Panel and payer mix.

A. Beth Israel Lahey Health Patient Panel

The Applicant 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, behavioral health providers, post-acute care providers and other caregivers. BILH's member entities serve the health needs of patients and communities of Greater Boston¹ and other surrounding communities in Eastern Massachusetts. BILH's purpose is to support the patient care, research, and educational missions of its member entities. BILH's member hospitals include BID-N and the following hospitals: Addison Gilbert Hospital; Anna Jaques Hospital; Beth Israel Deaconess Medical Center; Beth Israel Deaconess Hospital-Milton; Beth Israel Deaconess Hospital-Plymouth; Beverly Hospital; Lahey Hospital & Medical Center; Mount Auburn Hospital; New England Baptist Hospital; and Winchester Hospital (collectively known as "BILH Hospitals"). BILH's vision is to have a broader impact on the health care industry and patient populations in Massachusetts by sharing best practices, investing in foundational infrastructure to support population health management, and encouraging true market competition based on value.

BILH also operates Beth Israel Lahey Health Performance Network, LLC ("BILHPN"), a value-based physician and hospital network and Massachusetts Health Policy Commission ("HPC") certified Accountable Care Organization ("ACO"), whose goal is to partner with other community hospitals and other providers throughout Eastern Massachusetts to improve quality of care while effectively managing medical costs. Through BILHPN, BILH and its participating community partners are working to align the incentives and efforts needed to dramatically improve the health of broad populations and to focus intently on caring for patients at the right time, in the right location, and in the community whenever possible. BID-N is contracted to participate in

¹ Greater Boston includes the complementary geographies, from the Northeastern Massachusetts border to Plymouth County, and west to the I-495 beltway, including the following cities/towns: Acton, Arlington, Ashland, Bedford, Belmont, Boston, Boxborough, Braintree, Brighton, Brookline, Burlington, Cambridge, Canton, Carlisle, Chelsea, Cohasset, Concord, Dedham, Dorchester, Dover, Foxboro, Framingham, Hingham, Holbrook, Holliston, Hopkinton, Hudson, Hull, Lexington, Lincoln, Littleton, Marlborough, Maynard, Medfield, Millis, Milton, Natick, Needham, Newton, Norfolk, Northborough, Norwell, Norwood, Quincy, Randolph, Revere, Roslindale, Scituate, Sharon, Sherborn, Somerville, Southborough, Stow, Sudbury, Walpole, Waltham, Watertown, Wayland, Wellesley, Westborough, Weston, Westwood, Weymouth, Wilmington, Winchester, Winthrop, Woburn, and Wrentham.

BILHPN and currently participates in its subsidiary ACO, Beth Israel Deaconess Physician Organization, LLC d/b/a Beth Israel Deaconess Care Organization or “BIDCO”.²

An estimated five million people reside in the BILH service area (see map attached at Table 2 in Exhibit C). This area has experienced 6.4% population growth since FY 2010, and is projected to increase at a faster rate (4.5%) than the state (3.5%) from 2017 to 2022, as shown in Table 1 in Exhibit C. As shown on Table 2 in Exhibit C, the BILH Patient Panel represents approximately 1.4 Million patients in State Fiscal Year (“SFY”) 2021. The Massachusetts Center for Health information and Analysis (“CHIA”) reports that BILH’s patient care panel represents approximately 18% of all discharges in the Commonwealth.³

As shown on Table 1 in Exhibit C, the gender breakdown of BILH’s Patient Panel mix is relatively stable consisting of approximately 55.8% females and 44.2% males based on SFY 2021 data. The proportion of BILH patient aged 65 and older has remained steady between SFY 2019 and SFY 2021, at approximately 29%. Approximately 64% are aged 18-64 and less than 7% are under the age of 18, based on SFY 2021.

Based on self-reporting, in SFY 2021, 74.16% of the total patient population identified as white, 4.9% identified as Black or African American, 5.6% identified as Asian, 6% identified as Hispanic/Latino, 0.1% identified as American Indian or Alaskan Native, and 0.1% identified as Native Hawaiian or Other Pacific Islander. 17.8% of responses were “other”, “unknown”, or “patient declined to answer”. Ethnicity information is not available for three BILH hospitals: BID-N, BID-Milton, and BID-Plymouth.

The following additional key demographic statistics with demonstrated links to health outcomes were analyzed including through a review of the current Community Health Needs Assessments (“CHNAs”) associated with BILH providers.⁴

1. Payor Mix

As shown on Table 1 in Exhibit C, the payor breakdown of BILH’s Patient Panel mix for SFY 2021 is approximately 48.1% Commercial, 25.4% Medicare, 12.2% Medicaid, 6% Multiple Payors, 7.78% Other, and 0.6% Unknown. The proportion of Medicaid patients increased between SFY 2019 and SFY 2021, from 11.7% to 12.2%.

2. Health Indicators

² Certain BILHPN/ BIDCO activities relevant to this Application are described in later sections.

³ www.chiamass.gov/assets/docs/r/hdd/FY18-Case-Mix-Hospital-Inpatient-Discharge-Documentation-Guide.pdf

⁴ The Parties note that while the CHNAs encompass broad geographies, and may include individuals that have not historically been patients at a BILH facility or of a BILH physician, BILH believes the attributes identified in the CHNAs are consistent with those of the patients served by BILH hospitals, and provide relevant context for better understanding the needs of the patient panel. Understanding and addressing these needs is critical to disease prevention and management efforts.

A review of the population within the BILH collective communities through the CHNA process revealed a high prevalence of certain chronic diseases such as obesity, diabetes, hypertension, and cancer. Most counties and neighborhoods in the BILH service area are comparable to the Commonwealth averages,⁵ however, rates of these diseases vary by segments of the population, and especially by risk factors. Hypertension and cancer have been highlighted as chronic conditions of particular interest with respect to BILH patients in communities served by BID-N in and around Boston with cancer being the leading cause of death among Boston residents.

BID-N's most recent CHNA contains the following points of interest:⁶

- “Chronic conditions such as heart disease, cancer, stroke, Alzheimer’s disease, and diabetes are the leading causes of death and disability in the United States, and are the leading drivers of the nation’s \$3.3 trillion annual healthcare costs.⁷ Over half of American adults have at least one chronic condition, while 40% have two or more.⁸ Perhaps most significantly, chronic diseases are largely preventable despite their high prevalence and dramatic impact on individuals and society. This underscores the need to focus on health risk factors, primary care engagement and evidence-based chronic disease management. Access to specialty care plays a role in the prevention, treatment, and management of many chronic and complex conditions.”
- A “major finding from the assessment is the high rates of chronic and complex conditions that exist for many of the leading physical health conditions (e.g., heart disease, hypertension, cancer, and asthma) in the CBSA. Overall, the rates of illness and death are not statistically higher than the rates for the Commonwealth, however, it is important to note that these chronic physical health conditions are still the leading causes of death...”
- Within this priority area, according to those who participated in interviews, focus groups, the community meeting, and the Community Health Survey, cardiovascular disease, cancer, diabetes, and Alzheimer’s disease and other dementias were thought to be of the highest priority. It is also important to note that the risk factors for nearly all chronic/complex conditions are much the same, including lack of physical activity, poor nutrition, obesity, tobacco use, and alcohol use.
- “Health and social service providers, public health agencies, first-responders, and community-based organizations are confronted on a daily basis with people struggling with acute or chronic conditions and struggle to provide or link them to the care they need.”

⁵ As DPH DoN staff have cited with authority, Cancer is the leading cause of death in Massachusetts, with incidence rates higher than the national average, and cardiovascular disease is the second leading cause of death. See DPH DoN Staff Report PHS-19093011-HS.

⁶ These examples are derived from BID-N’s 2019 CHNA, <https://www.bidneedham.org/about/community-involvement>. The Executive Summary of the BID Needham 2019 CHNA is included in this Application.

⁷ Centers for Disease Control and Prevention, “Chronic Diseases in America,” US Census Bureau, 2013-2017 ACS 5-Year Estimates, last updated April 15, 2019.

⁸ CDC, *Chronic Diseases in America*

Though substance use and mental health were the focus for many key informants, providers, and residents, one cannot ignore that heart disease, stroke and cancer are the leading causes of death in the nation and the Commonwealth. Along with other conditions, including asthma and diabetes, these conditions are considered to be chronic and complex and can strike early in one's life, possibly ending in premature death. As noted above, the risk and protective factors for many chronic/complex conditions are the same, including tobacco use, lack of physical activity, poor nutrition, obesity, and alcohol use. Individuals with chronic/complex conditions often face significant barriers to care (e.g., transportation, lack of health literacy, fragmented care). The effects of the COVID-19 pandemic have also exacerbated existing racial inequities. A recent study published in Health Affairs found that, "Across Massachusetts cities and towns, significant COVID-19 disparities are evident along multiple dimensions—particularly race/ethnicity, foreign-born noncitizens status, household size, and job type" and that, "[h]igher proportions of Black or Latino residents within a community were significantly associated with higher rates of COVID-19 cases."⁹

While BILH hospitals and other BILH providers are located in distinct and complementary regions, with each organization primarily providing health care services to their unique patient communities and patient service areas, BILH is working to ensure that specialized capabilities of its providers are made available to patients throughout its system, and that care is delivered in the community whenever appropriate. BID-N serves as a community hospital within the BILH system, and serves the needs of the existing BID-N Patient Panel for acute community hospital care, and as the primary acute care and community hospital for neighborhoods in close proximity to BID-N that include vulnerable patient populations.

B. Beth Israel Deaconess – Needham Patient Panel

As a community hospital that is part of BILH, BID-N provides secondary/community-based care to meet complex patient needs and concurrently fulfills its mission as an essential community hospital for residents living in Needham and other nearby communities, including many from vulnerable populations that often demonstrate an increased need for access to health care. BID-N's Patient Panel for this Application consists of the number of unique patients that visited BID-N for inpatient or outpatient services, including patients who were admitted through the ED, during the 3-year period from July 1, 2018 through June 30, 2021. ("Lookback Period") (hereinafter known as "BID-N Patient Panel" or "Patient Panel"). The BID-N Patient Panel is comprised of a total of 215,657 unique patients during the Lookback Period. During the Lookback Period, the gender makeup of BID-N's patients were steady and consisted of approximately 58% females, 42% males/other.¹⁰

⁹ Figueroa et al. Community-Level Factors Associated With Racial And Ethnic Disparities In COVID-19 Rates In Massachusetts. August 27, 2020. <https://www.healthaffairs.org/doi/10.1377/hlthaff.2020.01040>

¹⁰ See BID-N Patient Panel at Exhibit A.

BID-N serves a relatively homogeneous Patient Panel in terms of race. In the most recent year, 69.1% of the Patient Panel identified as White, 4.1% identified as Black or African American, 3.6% identified as Asian, 0.1% identified as Native Hawaiian or other Pacific Islander, and 5% identified and 48.1 % identified as Other. 18.1% of responses were “unknown” or patient declined to answer.

A dominant theme from BID-N’s CHNA assessment was the tremendous impact that underlying social determinants of health, particularly access to affordable housing, transportation, poverty/employment, and food insecurity have on the entire population. The social determinants of health are often the drivers or underlying factors that create or exacerbate mental health issues, substance misuse, and chronic/complex conditions. These social determinants of health, particular poverty, underlie the access to care issues that were prioritized in the assessment: navigating the health system (including health insurance), chronic disease management, and access to culturally and linguistically competent care.

To address BID-N’s Patient Panel’s needs, BID-N participates in initiatives to assist this population:

- Partnering with the Needham Community Council, rides to medical appointments and screenings are provided to those who do not have transportation.
- BID-N staff members serve on local committees to address social needs of the underserved population, including the Community Crisis Intervention Team and Youth Resource Network in Needham.
- The BID-N works to provide culturally responsive care, especially for those for whom English is not their first language, an essential piece of access to care and managing physical disease. BID-N offers several options for Interpreter Services for patients, including face-to-face interpreter via video services, phone interpreting and in-person interpreter services.

1. Age of Patient Panel

Older adults are one of BID-N’s priority populations identified in the 2019 CHNA. The CHNA showed that older adults in the service area are particularly impacted by housing, transportation, and managing health insurance/access to care.¹¹ Historically, BID-N has served a high acuity, aging patient population, many of whom have multiple chronic conditions.

¹¹ BID-N’s *Community Health Needs Assessment (CHNA) – 2019, Final Report*, 29 (2019), available at <https://www.bidneedham.org/writable/files/Needham-CHNA-Report.pdf>. The Executive Summary of the BID Needham CHNA is included in this Application.

According to BID-N's 2019 CHNA, "All communities in BID Needham's CBSA had a significantly high median age compared to the Commonwealth overall, and the percentage of the population over 65 is significantly higher than the Commonwealth in all communities. While adults over the age of 65 represent approximately 13% of the entire U.S. population, research has shown that the aging population accounts for approximately 20% of all ED visits and 36% of all hospitalizations. As the Department has cited, advancing age is the most important risk factor for cancer.¹² BID-N is also seeing a slight increase in the number of patients aged 65 and older during the Lookback Period, from 29.9% to 30.9%.

2. Other Vulnerable Populations Within Patient Panel

The information derived from BID-N's 2019 CHNA enables BID-N to better understand the population it serves and how to best address health-related needs and health disparities in its CBSA.¹³ In recognition of the considerable health disparities that exist in some communities, BID-N focuses the bulk of its community benefits resources on improving the health status of low income and underserved populations living in those communities—specifically in the city/towns of Dedham, Dover, Needham and Westwood. BID-N further prioritizes the needs of individuals in these communities within vulnerable cohorts, in particular, youth, older adults, low-to-moderate income individuals and families, and those with chronic/complex conditions.

BID-N has a covenant to care for the underserved and to work to address disparities in access to care. BID-N provides medical services to patients regardless of their ability to pay; BID-N also recognizes that the high cost of health care and lack of insurance are barriers to patients' seeking health care. BID-N's Financial Assistance Office assists patients with eligibility determinations for supplemental coverage and the completion of necessary applications to reduce their out of pocket cost of care and improve access to needed services. In the most recent year (FY 2020-2021), approximately 54% of patient panel encounters were covered by Medicare, Medicaid (including managed care), or Health Safety Net. In comparison, approximately 44% of patient panel encounters were paid by commercial payors.¹⁴

F1.a.ii Need by Patient Panel:

Provide supporting data to demonstrate the need for the Proposed Project. Such data should demonstrate the disease burden, behavioral risk factors, acuity mix, health disparities, to other objective patient panel measures as noted in your response to Question F1.a.i that demonstrates the need that the Proposed Project is attempting to address. If an inequality or disparity is not identified as relating to the Proposed Project, provide information justifying

¹² See DPH DoN Staff Report PHS-19093011-HS.

¹³ See BID-N's Community Benefit Service Area at Exhibit D.

¹⁴ See BID-N Payor Mix at Exhibit B.

the need. In your description of Need, consider the principles underlying Public Health Value and ensure that Need is addressed in that context as well.

A. BID-N's Patient Panel Need for Computed Tomography for Acute Clinical Needs

The use of CT services at BID-N has increased over the past several years with BID-N's existing CT unit currently at capacity, sometimes necessitating diversions from various BID-N units, including its ED. Increases in use of CT services within the BID-N patient panel, as described below, have been driven by a significant increase in patient volume and increases in patient acuity. Through the Proposed Project, BID-N will be able to meet the current and future needs of BID-N's Patient Panel by providing increased access to timely CT services for BID-N patients.

As noted above, BID-N is providing care to an increasingly complex patient population because that population is aging and includes an increasing number of vulnerable people/communities and because of the vulnerable communities it serves. BID-N has 58 licensed inpatient beds, 6 operating rooms, the ED, and various outpatient clinics (in addition to physician offices). BID-N's only current CT unit is used for a significant number of outpatient and inpatient CT services as well as procedures. A second CT unit would be used in a similar manner and will enable BID-N to accommodate the ever-growing demand for CT services at BID-N.

Patient acuity is impacted by the risk factors and health disparities described in Section F1.a.i, such as increasing age, chronic illness(es), and being a member of a vulnerable patient cohort. These factors tend to contribute to patients delaying or failing to access care or manage conditions and treatment protocols effectively. Between October 2017 and September 2020, while patient acuity rose, BID-N cared for a higher volume of inpatients and realized a 13% increase in average daily census for all services. In the most recent twelve month period, the BID-N's average daily census has increased by an additional 27%. BID-N's case mix index ("CMI") has continued to increase (to average of 1.36 overall). Moreover, during this timeframe, BID-N's average CMI for ICU discharges has increased to 1.67 in FY20 and 1.72 in FY21, with the addition of full time intensivists in the BID-N's ICU beginning in 2020.

Clinically, based on research data pulled from six integrated health systems from different regions of the United States, CT utilization in an acute setting has nearly tripled from 1996 to 2010 across the nation.¹⁵ Consistent with growth of its acute Patient Panel, BID-N's total CT volume increased by approximately 10% during the Lookback Period. However, total CT scans performed in FY21 were 40% greater than those performed in FY20.¹⁶ The BID-N patient panel generated a

¹⁵ Smith-Bindman R, Miglioretti DL, Johnson E, et al. Use of diagnostic imaging studies and associated radiation exposure for patients enrolled in large integrated health care systems, 1996-2010. JAMA 2012; 307:2401-9.

¹⁶ See BID-N's Total CT Scans by Location at Exhibit E and BID-N CT Utilization by Daily Average Visits at Exhibit F.

total of 37,078 inpatient, observation, and outpatient (including emergency patient) CT exams and procedures between October 2017 and September 2020 including, imaging of the head and neck, chest, abdomen, and musculoskeletal structures. These CT services included a significant number of patients with cardiac issues or cancer, consistent with the significant number of BID-N patients with chronic conditions in the patient panel and as identified in the FY2019 CHNA.

BID-N invests significant administrative resources to optimize scheduling of CT services in order to ensure timely care and to maximize patient volume needs among ED patients, inpatients, and outpatients. Inpatient and ED patient needs are both significant and unpredictable. Since FY 2017, the existing BID-N CT unit has been operating at above the full utilization rate of 93%. As a result, the BID-N Department of Radiology is currently operating twenty-four hours per day, seven days per week, to accommodate the additional CT scan slots for patient care, including evening slots for inpatient and ED patient use only. Radiology staff work hard to ensure that scheduling is done in a manner to enable staff to accommodate emergency and add-on patients with maximum efficiency.

CT scheduling for BID-N has evolved into a complex process as volumes have increased. The complexity results from a number of factors, including, the following: the variety of types of CT services being scheduled, the unique parameters associated with the types of procedures that are prioritized, and the hours of availability for CT services (both in general and off-hours). This makes scheduling CT services more complicated than standard scheduling for other types of imaging, requiring intensive management and additional administrative resources (e.g., inpatients are often squeezed in-between outpatient slots; procedures are only scheduled if absolutely urgent; and outpatients are scheduled by the call center).

Despite the various efforts to optimize scheduling and CT unit use, the current utilization rates for all CTs continue to increase beyond the full capacity of the single machine, resulting in ongoing delays in the scheduling. The current wait time for a non-urgent appointment is approximately three weeks. By increasing access, the proposed second CT unit is expected to relieve the pressure in scheduling all types of procedures and exams while ensuring that the most emergent and time sensitive procedures and exams continue to be provided when needed. The efficiency of CT operations is also projected to increase.¹⁷ BID-N would expect the second CT unit to operate at full capacity within a short period of time after becoming operational.

B. BID-N Patient Panel Need for CT for ED and Time Sensitive Uses

¹⁷ Based on the current patient panel need, but not accounting for future factors that may impact need (e.g. changing demographics such as age and health status of the patient panel, technological developments, payer requirements, and patient choice).

As described in the Project Description, BID-N currently has one CT scanner, located in the Department of Radiology that is used for all CT services for both inpatients and outpatients. ED patients who require CT exams often result in urgent/emergent CT scan requests, and must be performed in a timely manner. The growth of BID-N's ED CT volume, from 4300 patient studies in FY2019 to a projected 6800 studies this fiscal year, creates challenges in scheduling CT services.¹⁸ In addition to ED patient CT exams, BID-N prioritizes other time sensitive CT service requests for uses such as stroke, trauma, post-procedural and post-surgical, and inpatient procedures. When accommodating such emergent and other time sensitive CT scan requests, the CT schedule often needs to move around patients who have a less urgent need for a CT scan.

C. BID-N's Patient Panel Need for CT for Inpatients and For Procedures

If approved, the second CT scanner will be heavily used for inpatient CT services. It will also be used for the growing number of outpatient procedures, with additional availability for some outpatient exams.

i. Increase in Inpatient Need

There has been a consistent increase during the last several years (1-2% per year) in the number of overall unique inpatients who require CT scans during their inpatient stay. As described above, there are two key drivers to the increase in inpatient use of CT services. Most recently, the severity of BID-N's case mix is being further impacted by BILH's system-wide case management efforts to ensure that patients receive care in a community hospital setting where appropriate. BID-N works closely with other BILH hospitals, physicians and other BILH providers to ensure that patients with lower acuity are treated locally, and to facilitate transfer of patients requiring higher levels of care to BILH's larger tertiary care hospitals. Inpatient volume is also increasing due to the increase in the older adult population who have more acute needs, including greater needs for CT services. The second driver for the increase in use of BID-N's CT services has been for inpatients, particularly older patients with the most acute medical needs.

In addition, the closure of Norwood Hospital due to a flash flood in June, 2020 placed a significant additional strain on BID-N in terms of ED and inpatient volume. As a result of the closure, ED visits increased to 21,008, a 34% over fiscal year 2020. The closure additionally resulted in an increase in inpatient discharges to 3742, a 24% increase over FY 2020. The resultant combination of these factors increased CT procedures at BID-N to 14,093, a 40% increase over the prior year.¹⁹

At this point in time, it is estimated that Norwood Hospital will remain closed for approximately three additional years. While previous growth patterns and community need prior

¹⁸ See BID-N's Total CT Scan by Location at Exhibit E.

¹⁹ See BID-N's CT Utilization by Daily Averages Visits at Exhibit F.

to the Norwood Hospital flood justified the addition of a second scanner at BID-N for the reasons specified throughout this application, the need to address displaced volume from Norwood Hospital adds further urgency to this Proposed Project.

ii. Increase in Need for CT- Guided Procedures

The Proposed Project will allow for mixed uses. The “procedural” uses are important for understanding the complete picture of the proposed use of the additional CT unit to demonstrate the strain on BID-N’s existing capacity. CT-guided procedures at BID-N are only performed when they are critically needed. Our elective procedures are sent elsewhere. It is important to highlight that most CT-guided procedures require at least two hours of dedicated CT scan room time per procedure as compared with diagnostic exams, which take on average 10-20 minutes. With BID-N only having one CT scanner currently, in order to perform a CT-guided procedures, it requires an analysis of the critical need of a CT-guided procedure patient and whether it outweighs the impact of placing the ED on stroke diversion for many hours.

Complex procedures are often associated with increased procedural risks to patients, and navigational tools, such as CT-guidance, have offered providers a way to facilitate complex interventions and improve outcomes. Image-guided procedures are the safe and preferred alternative to surgical drainage procedures, such as the draining of intra-abdominal abscesses. Research studies have demonstrated that a minimally invasive approach facilitated by image guidance for such procedures offers lower morbidity, allows for the use of moderate sedation (instead of general anesthesia), and is associated with lowered costs of medical care. Each patient’s area of concern is precisely targeted during a procedure through the use of high quality, real-time visual information, which leads to improved outcomes and reduced risk of damage to the surrounding tissue. At BID-N, with a second CT unit, image-guidance can be used for all body regions with the bulk of localized to the head and neck, chest, and abdomen. As discussed in the Project Description, CT-guided procedures performed at BID-N include targeted biopsies and aspiration/drainage for abscesses. Some of these should be available electively for outpatients, as described below.

iii. Increase in Need for Outpatient Procedures

BID-N’s Radiology Department expects outpatient procedures performed at BID-N will continue to further drive up the need for the additional CT services. This is due to the fact that outpatient minimally invasive treatment options are shown to provide improved clinical outcomes when compared to open surgery, resulting in decreased patient morbidity and increased cost efficiencies.²⁰ Emerging new minimally invasive procedures for oncology and cardiac patients,

²⁰ Mohkam K, Dumont PN, Manichon AF, et al. No-touch multibipolar radiofrequency ablation vs. surgical resection for solitary hepatocellular carcinoma ranging from 2 to 5 cm. J Hepatol. 2018;68(6):1172–1180.

among others, are now predominantly performed in the outpatient setting for increased patient comfort and reduced health care expenditures. These procedures are performed using CT-guidance for improved accuracy and safety. Furthermore, recent advances in surgery require high-end CT and CT angiography (“CTA”) for triage, planning and safe execution for the following: cardiac CT for patients planning for cardiac valve replacement²¹, pancreatic CTA for pancreatic cancer surgery²², low extremities CTA for patients with peripheral vascular disease²³, comprehensive evaluation and triage prior to organ transplant^{24,25} as well as monitoring for complications. The majority of these CT studies can be performed on an outpatient basis in a matter of seconds, subject to patient acuity and other chronic conditions.

iv. Need for CT Services by BID-N’s Growing Aging Adults Population

As indicated elsewhere in the application, BID-N treats a significant senior community that continues to follow the state and national trend of an aging population. In fiscal year 2021, approximately 48.3% of hospital gross revenues were generated by Medicare and managed Medicare insurance products. In addition, within a 3 mile radius of BID-N are six major senior care and independent living facilities (Briarwood, North Hill, Evita, Wingate and Newbridge on the Charles), which are significant sources of referrals to BID-N. The service mix at BID-N is also largely organized to support a senior population, offering ready access to specialists in cardiology, urology, general surgery, cancer center care, neurology and diabetes care.

v. Outpatient Diagnostic Use

Diagnostic use represents the majority of CT services provided to ED and inpatients at BID-N. As noted above, however, there is an increasing demand at BID-N for exams for the hospital’s outpatients which a single CT is unable to fully accommodate. For example, outpatients may currently need to wait as long as four weeks for a CT scan appointment. With a second CT scanner, there will be more CT capacity for ED and inpatient overflow and procedures, as well as capacity for outpatient CT exams that can be coordinated with patients’ medical visits.

F1.a.iii Competition:

²¹ Matsumoto S, Yamada Y, Hashimoto M, et al. CT imaging before transcatheter aortic valve implantation (TAVI) using variable helical pitch scanning and its diagnostic performance for coronary artery disease. *Eur Radiol.* 2017;27(5):1963–1970.

²² Chen FM, Ni JM, Zhang ZY, Zhang L, Li B, Jiang CJ. Presurgical Evaluation of Pancreatic Cancer: A Comprehensive Imaging Comparison of CT Versus MRI. *AJR Am J Roentgenol.* 2016;206(3):526–535.

²³ Preuß A, Schaafs LA, Werncke T, Steffen IG, Hamm B, Elgeti T. Run-Off Computed Tomography Angiography (CTA) for Discriminating the Underlying Causes of Intermittent Claudication. *PLoS One.* 2016;11(4):e0152780.

²⁴ Jhaveri K, Guo L, Guimarães L, et al. Mapping of hepatic vasculature in potential living liver donors: comparison of gadoxetic acid-enhanced MR imaging using CAIPIRINHA technique with CT angiography. *Abdom Radiol (NY).* 2018;43(7):1682–1692.

²⁵ Braunagel M, Ortner F, Schönermarck U, et al. Dynamic CTA in Native Kidneys Using a Multiphase CT Protocol-Potential of Significant Reduction of Contrast Medium. *Acad Radiol.* 2018;25(7):842–849.

Provide evidence that the Proposed Project will compete on the basis of price, total medical expenses, provider costs, and other recognized measures of health care spending. When responding to this question, please consider Factor 4, Financial Feasibility and Reasonableness of Costs.

Having in place the appropriate complement of and access to CT equipment will help enable BID-N to continue to compete with other community hospitals on the basis of price, TME, costs and other measures of health care spending. BID-N is already a lower cost provider of community hospital services. Patients rely on BID-N as a cost-effective alternative to more expensive providers in the region, and as a community-based provider to vulnerable patients in its CBSA. For all the reasons described in this subsection, approval and implementation of the Proposed Project will maintain BID-N's historical cost-effective, cost-competitive performance. In addition, approval of the Proposed Project will not impact BID-N's contracted rates for CT services.

A. Additional CT Raises Little to No Risk of Excessive or Inappropriate Utilization and Is Cost Effective

The Proposed Project will be primarily used for high value care, targeted primarily to patients in those categories where there is lowest risk of excessive utilization, and for whom CT services provide a necessary and integral component of hospital-based care: inpatients and patients in need of CT-guided procedures. In such cases, CT services are not a separately billable event but rather the service is included as a component of the inpatient stay or is integrated as part of the primary intervention, thereby minimizing risk of inappropriate or over-utilization.

With respect to inpatient use, BID-N supports the Commonwealth's goals of managing cost growth and total health care expenditures with its lower than average CMI adjusted cost per discharge. In FY 2018, the average cost per discharge for hospitals in Massachusetts was \$12,873.35, based on the data provided to CHIA by provider organizations. Not only was BID-N lower than the average cost per discharge for local community hospitals, but it had the cost per discharge of \$9,035.52.

With respect to CT-guided procedure use, CT technology is an essential tool, providing high quality resolution, magnification and the ability to employ and detect injectable contrast into the target site. Integrated imaging enables physicians to have highly refined, real-time visual information that precisely targets the area of concern, thereby improving outcomes and lessening the potential for damage to the surrounding tissue during the procedure. Improved outcomes reduce health care expenditures through the reduction in use of health care resources due to reduced complications and faster recovery times.

To the extent the proposed CT unit has availability to be used for a limited amount of outpatient diagnostic imaging, BID-N's Department of Radiology employs best practices and

standards of care to ensure that CT imaging at the hospital is used only under appropriate circumstances. Commencing in 2022, providers also will be required to follow the Medicare Part B Appropriate Use Criteria for Advanced Diagnostic Imaging which BID-N is prepared to do.²⁶

Once a Radiology order is scheduled for an appointment, the order is checked for compliance with the external payer preauthorization requirements.

It is important to also highlight that BID-N's ACO affiliation with BIDCO has performed well when it comes to avoiding unnecessary medical expenses. According to the HPC's analysis of unnecessary pre-operative tests in 2017, the BIDCO rate was lower than most other provider systems of all types (25.4% as compared with the average of 26.7 %).²⁷ Moreover, BIDCO's total per-member spending on several low value care measures was well below several other large systems, exceeding only safety net and community-based health care systems and some smaller providers.²⁸ BILH and BIDCO, and through them BID-N, is focused on ensuring the status of the health system as a lower cost, high value provider, and recent data bears this out. BILH's goal is to continue to maintain and improve value measures like these.

B. Increased Capabilities and Capacity Improves Outcomes and Operating Efficiencies

The implementation of a second CT unit at BID-N will result in increased access through expanded capabilities and capacity to address patient panel need, improvements in patient wait-times, and the efficient use of existing hospital infrastructure, thereby improving outcomes and reducing unnecessary health care spending in a variety of ways. According to the Institute for Healthcare Improvement, "the results of improving flow can include increased access, shorter waiting times, lower costs, and better outcomes". As the Department has cited, timely access to needed imaging may assist in diagnosing and treating patients in a more timely fashion, potentially reducing treatment complications and contributing to better outcomes, reducing morbidity and mortality.²⁹ This is because patients may avoid undergoing more invasive, or less effective diagnostics or treatments, such as biopsies, and benefit from more targeted treatment plans, both of which factors are likely to result in reductions in health care spending. "These improvements can result in lower provider and payer costs, and lower out of pocket costs for patients, leading to a reduction in TME."³⁰

It is also important to note that in addition to BID-N Department of Radiology's commitment to comply with quality assurance and patient satisfaction criteria, all CT images at

²⁶ <https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/AUCDiagnosticImaging-909377.pdf>

²⁷ HPC, 2019 Health Care Cost Trends Report: Select Findings, slide 23, available at <https://www.mass.gov/doc/slides-1142020-cost-trends-report/download>.

²⁸ Id. at slide 24.

²⁹ See DPH DoN Staff Report PHS-19093011-HS.

³⁰ Id. at 16.

BID-N are interpreted by subspecialty radiologists who specialize in interpreting radiology images for specific parts of the body, which may improve outcomes and reduce costs on an ongoing basis.

In sum, to accommodate the existing Patient Panel and address Patient Panel growth in the near future, it is necessary to address significant capacity challenges which are creating unsatisfactory scheduling delays and adjustments for which administrative workarounds are no longer sufficient. The new unit will have the impact of reducing these inefficiencies and also reducing the added expenses created by these administrative challenges, while also improving the quality of care and, through expanded capabilities and expanded access, leading to a reduction in health care costs.

C. Proposed Project Has Been Planned to Minimize Capital Costs

The Proposed Project has been planned and will be implemented with the goal of minimizing capital expenditures. With respect to the equipment itself, the existing 2009 CT being reactivated is still a multi-functional unit with good adaptability for general purposes and as described above, expanded capabilities. That unit will serve as the second CT unit for the foreseeable future.

The 2009 CT currently exists in proximity to BID-N's new primary CT unit and is the most cost effective option available to BID-N to expand its CT services capacity promptly and seamlessly. The reactivation of the 2009 CT scanner requires no additional buildout or disruption to the existing services.

BID-N must be able to ensure timely access to convenient treatment in order to continue to provide its Patient Panel with the highest quality care; to thereby improve health outcomes and quality of life; and to meet the Commonwealth's cost containment goals by maintaining and enhancing efficient access to a lower cost provider and potentially reducing the number of transfers to higher cost facilities. The Proposed Project will allow BID-N to continue providing high quality, complex treatment at an economical value, enabling it to continue to compete effectively with other community hospitals, and in turn support the shared goal of lowering TME in the Commonwealth. The added capacity of a second CT unit is an essential component of the high value inpatient and outpatient hospital care delivered on the BID-N campus. For all the reasons described in this subsection, the Proposed Project will help maintain BID-N's low cost performance and will not contribute to inappropriate or over-utilization of high cost or low value services.

F1.b.i Public Health Value/Evidence-Based:

Provide information on the evidence-base for the Proposed Project. That is, how does the Proposed Project address the Need that Applicant has identified?

Factor F1.a.ii describes how the addition of the Proposed Project will meet the BID-N's Patient Panel need. As provided in greater detail below, the Proposed Project is further supported

by extensive evidence-based literature related to the efficacy of CT technology for those uses proposed in the Application. This review focuses on clinical applicability, comprehensive access, efficiency and convenience.

CT has been available for clinical use for several decades and is highly utilized in a variety of clinical disciplines.³¹ Generally speaking, CT is a diagnostic imaging test that combines the use of sophisticated x-ray technology and computer processing to provide detailed anatomical and structural information.³² Since its introduction into clinical use in the United States in the 1970s, CT has made enormous technical and engineering advances that have led to improvements in image quality, speed and dose reduction and application, which all have led to increased clinical utilization of the technology.³³ As noted earlier, CT is used in image-guided procedures because the evidence demonstrates that this technique offers a lower morbidity, allows for reduced sedation, and is associated with lower costs of medical care.³⁴ CT technology assists in providing timely, accurate diagnoses of patients with a variety of health conditions,³⁵ including cancer and cardiac conditions.

³¹ Carlo Liguori et al., Emerging clinical applications of computed tomography, 8 MED. DEVICES 265-278 (2015), available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4467659/>; Computed Tomography, RADIOLOGYINFO.ORG, <https://www.radiologyinfo.org/en/submenu.cfm?pg=ctscan> (last visited Dec. 19, 2019); Computed Tomography (CT), U.S. FOOD & DRUG ADMINISTRATION, <https://www.fda.gov/radiation-emitting-products/medical-x-ray-imaging/computed-tomography-ct> (last updated June 14, 2019); Computed Tomography (CT or CAT) Scan of the Brain, JOHNS HOPKINS MEDICINE, <https://www.hopkinsmedicine.org/health/treatment-tests-and-therapies/computed-tomography-ct-or-cat-scan-of-the-brain> (last visited Dec. 19, 2019).

³² Liguori et al., *supra* note 1; Computed Tomography, *supra* note 1; Computed Tomography (CT), *supra* note 1; Computed Tomography (CT or CAT) Scan of the Brain, *supra* note 1.

³³ Norbert J. Pelc, Sc.D., Recent and Future Directions in CT Imaging, Ann Biomed Eng. (Feb. 2014), available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3958932/> (last visited Dec. 19, 2019); International Society for Computed Tomography, Half a Century in CT: How Computed Tomography Has Evolved, Oct. 7, 2016, available at <https://www.isct.org/computed-tomography-blog/2017/2/10/half-a-century-in-ct-how-computed-tomography-has-evolved> (last visited Dec. 19, 2019).

³⁴ See earlier note – Brolin RE, Noshier JL Brolin RE, Noshier JL, Leiman S, Lee WS, Greco RS. Percutaneous catheter versus open surgical drainage in the treatment of abdominal abscesses. Am Surg. 1984 Feb;50(2):102-8. PubMed PMID: 6703514; Bufalari A, Giustozzi G, Moggi L. Postoperative intraabdominal abscesses: percutaneous versus surgical treatment. Acta Chir Belg. 1996 Sep-Oct;96(5):197-200. PubMed PMID: 8950379.; Levison MA. Percutaneous versus open operative drainage of intra-abdominal abscesses. Infect Dis Clin North Am. 1992 Sep;6(3):525-44. Review. PubMed PMID: 1431037; Ferraioli G, Garlaschelli A, Zanaboni D, Gulizia R, Brunetti E, Tinozzi FP, Cammà C, Filice C. Percutaneous and surgical treatment of pyogenic liver abscesses: observation over a 21-year period in 148 patients. Dig Liver Dis. 2008 Aug;40(8):690-6. doi: 10.1016/j.dld.2008.01.016. Epub 2008 Mar 11. PubMed PMID: 1833794.)

³⁵ Rebecca Smith-Bindman et al., *Rising Use Of Diagnostic Medical Imaging In A Large Integrated Health System*, 27 HEALTH AFFAIRS 1491 (2008), available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2765780/pdf/nihms-137739.pdf>; Rebecca Smith-Bindman et al., *Use of Diagnostic Imaging Studies and Associated Radiation Exposure For Patients Enrolled in Large Integrated Healthcare Systems, 1996-2010*, 307 JAMA2400 (2012), available at <https://jamanetwork.com/journals/jama/fullarticle/1182858>; Robert J. McDonald et al., *The Effects of Changes in Utilization and Technological Advancements of Cross-Sectional Imaging on Radiologist Workload*, 22 ACADEMIC RADIOLOGY 1191 (2015), available at: <https://www.ncbi.nlm.nih.gov/pubmed/26210525>; Michael Walter, *Feeling Overworked? Rise in CT, MRI images adds to radiologist workload*, RADIOLOGY BUSINESS (Jul. 31, 2015), <https://www.radiologybusiness.com/topics/quality/feeling-overworked-rise-ct-mri-images-adds-radiologist-workload>; *Increases in Imaging Procedures, Chronic Diseases Spur Growth of Medical Imaging Infonnatics*

The Proposed Project will decrease the time to procedure, which in turn will decrease the time to diagnosis and treatment, improving health care outcomes. From a patient perspective, reducing wait times in scheduling, results and ultimately a diagnosis, can reduce anxiety,³⁶ relieve unnecessary pain and suffering, and hasten treatment. As noted earlier in the Application, BID-N is experiencing increased demands for CT services because of increases in volume and acuity. As a result, appointments for non-urgent CT-guided procedures and outpatient exams are pushed out further in the schedule. BID-N is continually evaluating workload patterns to help guide schedules for a more effective alignment of workload with existing resources.³⁷ BID-N has attempted to streamline scheduling; the Department of Radiology has extended its hours and outpatient procedures are scheduled to the extent possible. However, the limitation of having only one CT scanner severely limits CT guided procedures to only the most critically needed, as the ED must go on stroke diversion anytime the CT scanner is scheduled with such a procedure.

The current scheduling situation is not sustainable given the Patient Panel needs. The existing CT unit is at maximum capacity. There is currently approximately a four week wait time for non-urgent, outpatient CT services with contrast.

The Proposed Project will provide continuity and integration along the continuum of care and should improve patient satisfaction.³⁸ By increasing CT capacity at its facility, BID-N hopes and expects to provide patients with access to a continuous quality health care experience with reduced wait times, improved patient satisfaction, and better health outcomes.

F1.b.ii Public Health Value/Outcome-Oriented:
Describe the impact of the Proposed Project and how the Applicant will assess such impact. Provide projections demonstrating how the Proposed Project will improve health outcomes, quality of life, or health equity. Only measures that can be tracked and reported over time should be utilized.

Improving Health Outcomes and Quality of Life

BID-N anticipates that the Proposed Project will provide its patients with improved access to high quality CT services, which in turn will improve health outcomes and quality of life. At

Market, IMAGING TECHNOLOGY NEWS (Oct. 28, 2016), <https://www.itnonline.com/content/increases-imaging-procedures-chronic-diseases-spur-growth-medical-imaging-informatics-market>.

³⁶ Heyer et al., Anxiety of Patients Undergoing CT Imaging – An Underestimated Problem, 22 Academic Radiology __ (Sept. 2014), https://www.researchgate.net/publication/265859977_Anxiety_of_Patients_Undergoing_CT_Imaging-An_Underestimated_Problem

³⁷ Jason N. Itri, Patient-centered Radiology, 35 RadioGraphics 6 (Oct. 14, 2015), available at: <https://pubs.rsna.org/doi/full/10.1148/rg.2015150110#r47> (last visited on Dec. 23, 2019).

³⁸ Kurt C. Strange, The Problem of Fragmentation and the Need for Integrative Solutions, 7 ANNALS OF FAMILY MED. 100-103 (2009), available at <http://www.annfammed.org/content/7/2/100.full.pdf+html> (last visited Dec. 19, 2019); Itri, *supra* Note 5.

present, increases in CT volume caused by general trends and, in particular, the closure of Norwood Hospital in 2020, have significantly increased CT volume at BID-N. Research indicates that delayed access to quality health care negatively affects patient satisfaction as well as health outcomes due to delays in diagnosis and treatment. Given that quality of life is a multidimensional concept that includes aspects of physical health, delayed access to care also results in decreased quality of life. Through the addition of a second CT unit within the Department of Radiology, BID-N endeavors to improve access to time-effective, high-quality imaging services, and thereby enhance patient satisfaction, health outcomes and quality of life for its patient population.

i. Improved Access

The current single CT unit at BID-N has been operating well over its intended capacity with a wait time of approximately four weeks for non-urgent, outpatient CT services. By adding a second CT unit in the Department of Radiology, the Applicant will address the current Patient Panel need as well as anticipated growth in need based on patient trends. The second CT unit will provide increased access, which will reduce delays in access, especially during peak demand times. Additionally, there will be capacity to perform outpatient CT-guided and interventional procedures at BID-N. Currently, patients must go outside the service area for these procedures.

ii. High Quality Care and Efficiency

In addition to improving access, the Proposed Project will also ensure the provision of high-quality care and realize efficiencies. In current state, the efficiency of the CT function is marginal in meeting the needs of the population. Because of the time requirements necessitated for stroke treatment, operation of a single CT at BID-N means that the ED, on occasion, must go on “stroke diversion” if the single CT unit is ever down for repairs or scheduled maintenance. While occurrences of this kind are infrequent, they are highly disruptive to care delivery resulting in transfers to other facilities to accommodate treatment. This situation will be mitigated with the operation of an additional CT. Second, in a single unit situation, the CT department must continually evaluate the priority of treatment among ED patients, inpatients and scheduled outpatients at BID-N. This process has become increasingly complex as all three of these categories have increased in volume and/or acuity over the last three years at BID-N, resulting in, at the very least, patient inconvenience and, at the most, prolonged treatment delays. Average daily CT orders from the ED for the year have gone up to 17.65 in FY21 versus 11.80 in FY19 (49.5% increase).³⁹ Average daily inpatient cases requiring CT exams have gone up to 12.11 in FY21 versus 7.97 in FY19 (51.9% increase).⁴⁰ In addition, BID-N has seen a dramatic increase in the number of Code Stroke cases coming into the ED and subsequently to CT service. FY20 saw 148 cases. FY21 already has seen 117 cases and is on pace for 202, a 36.5% increase.

³⁹ See BID-N’s CT Utilization by Daily Average Visits at Exhibit F.

⁴⁰ See id.

Assessing the Impact of the Proposed Project

To assess the impact of the Proposed Project, BID-N has developed the following quality metrics and reporting schematic, as well as metric projections for quality indicators that will measure patient satisfaction and access.

- 1. Code Stroke door-to-CT time under 25 minutes:** With the addition of a second CT scanner in the department, BID-N will be able to decrease the critical minutes between the time a patient is identified as a potential stroke patient, definitive diagnosis, and subsequent treatment. This need was clearly demonstrated when BID-N recently had three code stroke cases called within an hour.

- a. Measure:** Monthly statistics on the percentage of all called code stroke cases imaged within 25 minutes of their arrival

Projections: Baseline: 85%; Year 1: 95%; Year 2: 95%; Year 3: 95%

Monitoring: The Department of Radiology in conjunction with the code stroke committee will monitor all code stroke cases on a monthly basis. The Department of Radiology will report on both the door-to-CT time and CT-to-Read time.

- 2. Access-Wait Times:** The Proposed Project seeks to ensure timely access to CT services. Accordingly, in the Department of Radiology, BID-N will track median time from order placement to next available appointment for outpatient CT diagnostic procedures.

- a. Measure:** Average (mean) time interval from when the CT services request was initiated to the third next available appointment.

Projections: Baseline: 14 days; Year 1: 5 days; Year 2: 5 days; Year 3: 5 days

Monitoring: This data will be provided on an annual basis.

F1.b.iii

Public health Value/Health Equity-Focused:

For Proposed Projects addressing health inequities identified within the Applicant's description of the proposed projects need-based, please justify how the Proposed Project will reduce the health inequity, including the operational components (e.g. culturally competent staffing). For Proposed Projects not specifically addressing a health disparity or inequity, please provide information about specific actions the Applicant is and will take to ensure equal access to the health

benefits created by the Proposed Project and how these actions will promote health equity.

BID-N strives to ensure health equity to all populations, including vulnerable and underserved populations. The Proposed Project will positively affect accessibility of BID-N's services for poor, medically indigent and/or Medicaid eligible individuals or participants in the MassHealth ACO in the sense that it will increase access to hospital-based CT services. BID-N is committed to serving the community regardless of an individual's ability to pay, and BID-N does not discriminate based on ability to pay or payer source.

Additionally, BID-N strives to understand and accommodate all cultures who utilize our services and facilitate communication with all patients to ensure patient understanding and promote a positive patient experience. BID-N considers multiple cultures to facilitate communication with, and understanding of the patient experience. BID-N maintains an Interpreter Services program to meet the needs of its non-English speaking patient population. Virtual interpreters are provided under an agreement with an established interpreter services company. Each year, BID-N submits an interpreter services report to the Department. BID-N's interpreter program underwent a successful onsite survey by the Department in 2020.

All of these practices will continue following implementation of the Proposed Project.

F1.b.iv: Provide additional information to demonstrate that the Proposed Project will result in improved health outcomes and quality of life of the Applicant's existing Patient Panel, while providing reasonable assurances of health equity.

As described throughout this Application, the Proposed Project will assist BID-N in improving health outcomes and quality of life for its patient panel, while enhancing health equity for vulnerable populations in need of enhanced access to hospital-based services. The Proposed Project will facilitate improved health outcomes and quality of life indicators for BID-N Patient Panel by ensuring that BID-N patients, including vulnerable patients in BID-N's CBSA, and in particular, ED patients, inpatients and those in need of CT-guided procedures, have timely access to essential hospital-based imaging services. Combined with the fact that BID-N does not discriminate and offers a variety of services to address Social Determinants of Health "SDoH" and health care disparities (e.g. interpreter services, financial assistance, social services, and partnerships with community health centers), the Applicant anticipates that the Proposed Project will result in improved patient care experiences and quality outcomes while assuring health equity.

F1.c Provide evidence that the Proposed Project will operate efficiently and effectively by furthering and improving continuity and coordination of care for the Applicant's patient panel, including, how the Proposed Project will create or ensure appropriate linkages to patients' primary care services.

BID-N is committed to improving the health status of the communities it serves. To do so effectively, BID-N supports and/or provides numerous community health initiatives, many in conjunction with community partners such as: public health departments, councils on aging, food pantries, mental health organizations and other social service organizations. BID-N is also a member of BIDCO, a physician and hospital network and ACO. Through BIDCO, BID-N collaborates with the other BIDCO members to evaluate and manage the health of the population it serves through its affiliated ACOs and by providing care coordination and follow-up information via written results. Internal ordering physicians receive the results via the electronic medical record. Meanwhile, any external ordering physicians operating outside of BID-N's electronic medical record receive the results via fax. If there are any critical results, BID-N's radiologist will try to directly contact the ordering physician.

F1.d Provide evidence of consultation, both prior to and after the Filing Date, with all Government Agencies with relevant licensure, certification, or other regulatory oversight of the Applicant or the Proposed Project.

The Applicant consulted with the following individuals regarding the Proposed Project:

- Rebecca Rodman, Esq., General Counsel, Department of Public Health
- Lara Szent-Gyorgyi, Director of Determination of Need Program, Department of Public Health
- Jennica Allen, MPH, Division of Community Health Planning and Engagement, Department of Public Health

F1.e.i Process for Determining Need/Evidence of Community Engagement: For assistance in responding to this portion of the Application, Applicant is encouraged to review Community Engagement Standards for Community Health Planning Guideline. With respect to the existing patient panel, please describe the process through which Applicant determined the need for the Proposed Project.

As stated in the Project Description and Patient Panel need discussion, the Proposed Project will improve BID-N's existing CT services by ensuring that BID-N patients, including vulnerable patients in BID-N's CBSA, and, in particular, ED patients, inpatients and patients in need of CT-guided procedures, have timely access to essential hospital-based imaging services from a lower cost provider. To determine need for the Proposed Project, BID-N not only looked at patient acuity, historical usage data, capacity, and patient wait time, but it also solicited direct feedback from patients and clinicians about their experience with BID-N's CT services. To ensure appropriate community engagement, the Proposed Project was presented to BID-N's Community Benefits Advisory Committee ("CBAC") and its Patient and Family Advisory Committee ("PFAC").

The BID Needham Department of Radiology presented the Proposed Project to the CBAC on Thursday, December 10, 2020. The CBAC is comprised of community partners, social service organizations, residents and leaders in the CBSA. There was discussion about the operational need for the CT unit due to the current scanner being at full capacity. In order to address patient demand, decrease wait times for ED patients, and to avoid suspension of services when the current machine is down, a second CT scanner is needed at BID-N. The Proposed Project was presented to the group, who expressed strong support of the Proposed Project. The Proposed Project was again presented to the CBAC on December 8, 2021.

The BID-N Department of Radiology presented the Proposed Project to the PFAC on January 20, 2019. The PFAC is comprised of a group of patients and family members who volunteer their time each month to provide BID-N input that helps improve BID-N's care with a focus quality, safety and communication at the hospital. At the PFAC meeting there was a robust dialogue with the PFAC patient and family members in attendance, many of whom expressed strong support of the Proposed Project. The PFAC was engaged and asked critical questions about the Proposed Project. There was discussion about the operational need for the additional CT unit that included the need for back-up CT resources when the other CT unit is down and why the expanded schedule with BID-N's existing CT equipment is not an adequate solution. A key concern for the PFAC was the current access and wait time for CT services. In its support for the Proposed Project, the PFAC also questioned whether only one new CT unit was sufficient for BID-N to meet the Patient Panel needs. The Radiology Department representatives expressed their belief that the Proposed Project would allow BID-N to meet its goals over the next few years, and it would continually assess the impact of the Proposed Project and would be making annual reports to the Department. The Proposed Project was again presented to the PFAC on September 21, 2021 and updates were provided at that time.

F1.e.ii Please provide evidence of sound Community Engagement and consultation throughout the development of the Proposed Project. A successful Applicant will, at a minimum, describe the process whereby the “Public Health Value” of the Proposed Project was considered, and will describe the Community Engagement process as it occurred and is occurring currently in, at least, the following contexts: Identification of Patient Panel Need; Design/selection of DoN Project in response to “Patient Panel” need; and Linking the Proposed Project to “Public Health Value”.

As discussed in Section F1.e.i., to ensure sound community engagement throughout the development of the Proposed Project, BID-N's Department of Radiology took a number of actions:

- Presentation to the Community Benefits Advisory Committee on Thursday, December 10, 2020 and December 8, 2021

- Presentation to the PFAC Committee on January 8, 2020 and September 21, 2021.
- Presentation at numerous Hospital President employee open forum meetings in FY20 and FY21
- President's reports for bi-monthly BID-N Board Meetings include ongoing updates on the status of the Proposed Project.

Factor 2: Health Priorities

Addresses the impact of the Proposed Project on health more broadly (that is, beyond the patient panel) requiring that the Applicant demonstrate that the Proposed Project will meaningfully contribute to the Commonwealth's goals for cost containment, improved public health outcomes, and delivery system transformation.

F2.a Cost Containment:

Using objective data, please describe, for each new or expanded service, how the Proposed Project will meaningfully contribute to the Commonwealth's goals for cost containment.

The Proposed Project will meaningfully contribute and further the Commonwealth's goals of (i) ensuring resources will be made reasonably and equitably available to every person at the lowest reasonable aggregate cost and (ii) creating an accountable health care system that ensures quality, affordable health care for Massachusetts residents.⁴¹ As discussed throughout the Application, the Proposed Project will ensure the appropriate complement of and access to CT equipment, and will enable BID-N to continue to compete with other community hospitals on the basis of price, TME, costs and other measures of health care spending. The Proposed Project is an essential component of high value inpatient and hospital care delivered on the BID-N campus.

As discussed in F1.a.iii, the Proposed Project will be targeted primarily to patients in those categories where there is a lowest risk of excessive or inappropriate utilization, and for whom CT services provide a necessary and integral component of hospital-based care. Timely access to appropriate imaging services will improve outcomes, which will reduce health care expenditures through the reduction in use of health care resources due to faster evaluation, treatment, and recovery times. To the extent the Proposed Project has capacity to be used for a limited amount of outpatient diagnostic imaging, best practice/standards of care will ensure that CT imaging at the hospital is used under appropriate circumstances. There will be no impact on BID-N's contracted rates for CT services. The Proposed Project will also improve patient access by reducing wait-

⁴¹ 105 CMR 100.001; See also *Massachusetts Health Policy Commission Annual Health Care Cost Trends Report 2019*. Available at: <https://www.mass.gov/doc/2019-health-care-cost-trends-report/download> and Paul Hattis, M.D., J.D., M.P.H., *Massachusetts and its Approach To Health Care Cost Containment Since its Passage of its 2012 Law – Chapter 224* (December 11, 2017) Available at: https://www.assembly.ca.gov/sites/assembly.ca.gov/files/Archives/paul_hattis_powerpoint_presentation_massachusetts_and_its_approach_to_health_care_cost_containment.pdf

times, and thereby efficiently using hospital infrastructure and likely reducing transfers to higher cost facilities. Accordingly, the Proposed Project will lower costs, as well as overall TME and total health care expenditures, and will meaningfully contribute to the Commonwealth's goals of cost containment.

F2.b. Public Health Outcomes:

Describe, as relevant, for each new or expanded service, how the Proposed Project will improve public health outcomes.

The Proposed Project will improve public health outcomes as patients will have timely access to CT services, which will reduce delays in diagnosis and treatment. BID-N's sole CT unit is currently operating over capacity. With historical volume trends showing high utilization rates, BID-N also predicts that imaging demand will grow into the future as BID-N continues to treat an older, more acute population. To address both the current and future demand in CT services, increased capacity is required. The Proposed Project will also improve public health outcomes by providing a better patient care experience due to more timely scheduling of CT services.

All of the exams at BID-N are protocolled to ensure appropriateness, which will improve public health outcomes. The Radiology Department will screen CT orders to ensure appropriateness, and exams are protocolled by Radiologists. BID-N will implement the Medicare Part B Appropriate Use Criteria for Advanced Diagnostic Imaging after COVID in time for the 2022 start date.⁴²

F2.c. Delivery System Transformation:

Because the integration of social services and community-based expertise is central to goal of delivery system transformation, discuss how the needs of their Patient Panel have been assessed and linkages to social services organizations have been created and how the social determinants of health have been incorporated into care planning.

BID-N is committed to improving the health status of the communities it serves. To do so effectively, BID-N supports and/or provides numerous community health initiatives, many in conjunction with community partners such as: The Charles River YMCA, Needham Community Council, Charles River Center, and The Councils on Aging in Dedham, Dover, Needham and Westwood. BID-N is also a member of BIDCO, a physician and hospital network and ACO, and BIDCO is a subsidiary of BILHPN. Through BILPHN, BID-N collaborates with the other BILPHN members to evaluate and manage the health of the population it serves through assessing

⁴² <https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/AUCDiagnosticImaging-909377.pdf>; see also, <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Appropriate-Use-Criteria-Program>. This program was initially set to go into effect in 2020 but has been delayed until 2022.

SDoH through its affiliated ACOs and providing care coordination and referrals. As noted elsewhere, BID-N has sought community input through presentations at the PFAC, written correspondence to the Board of Trustees and Board of Advisors and ongoing updates to the Town of Needham leadership through monthly meetings with the BID-N President.

At BID-N's BIDHC primary care practices, all patients receive an SDoH screener as part of their annual wellness exam. This is a modified PRAPARE screener which is filled out pre-visit, or on a tablet, or by paper just prior to the visits. Any patient that has a positive screen for resource needs is referred to our community health workers who reach out directly. For any concerns about safety, this information is flagged for the provider to address during the visit.

Factor 5: Relative Merit:

F5.a.i Describe the process of analysis and the conclusion that the Proposed Project, on balance, is superior to alternative and substitute methods for meeting the existing patient panel needs as those have been identified by the pursuant to 105 CMR 100.210(A)(1). When conducting this evaluation and articulating the relative merit determination, Applicant shall take into account, at a minimum, the quality, efficiency, and capital and operating costs of the Proposed Project relative to potential alternatives or substitutes, including alternative evidence-based strategies and public health interventions.

Proposal: The Proposed Project is for the expansion of CT imaging capacity at BID-N through the addition of a second CT in the BID-N Department of Radiology.

Quality: Improving the quality of care through increased timely access to hospital-based CT services for ED patients, inpatients and outpatients in need of CT diagnostic and limited interventional procedures, is the primary driver behind the Proposed Project. As care is provided increasingly and more appropriately in the community setting, the trajectory of CT volume at BID-N has been on a steady increase. Second, the closure of Norwood Hospital in June of 2020 has placed considerable volume strain on current CT resources. Expanding CT capacity will ensure timely access for patients seeking care at BID-N. In addition, the additional CT unit will afford more predictable, timely, and reliable scheduling of patients and will reduce the rescheduling of outpatients due to emergent or urgent patients and interventional procedures and downtime maintenance. Reducing delays and rescheduling for urgent CT services will ensure that necessary care is provided timely for maximum therapeutic benefit and will reduce the risk of patient scheduling issues. Moreover, it will improve the care experience for patients and mitigate the burdens of having to reschedule appointments.

Efficiency: The current single CT scanner providing imaging for ED patients, inpatients and outpatients creates great inefficiency. Having only one scanner requires that BID-N 'set

aside' time on the schedule to accommodate any inpatient or ED patient needs that arise during the day. This pushes out non-urgent outpatient CT availability at BID-N, currently at 4+ weeks. For the inpatient side, exams that are needed but not urgent often wait for outpatient exams to be performed, which creates delays for BID-N on inpatient diagnoses or discharges. Operating two CT scanners would largely if not entirely eliminate this inefficiency and allow timelier, cost-effective care. One scanner could be fully utilized for outpatient appointments or procedures, which cannot be booked currently without the need for diversion. The second CT scanner would be able to focus on expediting and completing inpatient and ED orders as they come up, greatly improving efficiency on both the patient floors and the ED.

- a.) Capital Expense:** There are capital expenses associated with the addition of one additional CT unit. The total value of the Proposed Project is \$2,358,540.
- b.) Operating Costs:** The first-year incremental operating expense of the Proposed Project is \$375,000. This cost represents the incremental labor costs required to operate an additional CT unit.

List of Alternative Options for the Proposed Project:

Option 1:

Alternative Proposal: The first alternative for the Proposed Project would be to maintain the status quo by continuing to operate only one CT unit. The Department of Radiology has already expanded its schedule to the fullest extent possible to accommodate current demand. As previously noted, the Radiology Department schedule operates at well over full capacity in order to ensure access for emergency and urgent CT services and to accommodate required maintenance and CT downtime. The current CT operates 24 hours per day, 7 days per week. Without DoN approval, doing nothing will also mean that patients will increasingly have to go elsewhere for their care, meaning hardship for patients and families, delayed care, perhaps more expensive care, and possible increased morbidity due to delayed diagnosis and care.

Alternative Quality: This is not a feasible solution as demand for services, wait times and patient experience would not be addressed and would continue to have a negative impact on ED patients, inpatients and outpatients who need the CT services performed on a timely basis. It also would not address the capacity and access needs identified above.

Alternative Efficiency: This alternative would be inefficient. The status quo has already significantly impacted the Department of Radiology's ability to provide timely CT services (with a current wait time of approximately two weeks for non-urgent CT-guided procedures and exams).

Alternative Capital Expense: There is no capital expense involved in the reactivation of the 2009 CT unit except a \$4,614 cost for a reactivation service. Should the DoN not be approved, the existing unit will sit idle or need to be disposed of.

Alternative Operating Costs: There would be no operating costs associated with sustaining the current single CT unit and forgoing any expansion. However, this alternative would not afford BID-N with any operational efficiencies as the Department of Radiology and current CT unit will continue to operate at capacity, which has created challenges and inefficiencies for staff at multiple levels in scheduling patients, and insufficient patient access.

Exhibit A – BID-N Patient Panel

Table 1: BID-N Patient Panel Summary

Patient Panel Summary						
Facility: BID Needham						
July 1, 2018-June 30, 2021						
Demographic Measure	July 2018-June 2019		July 2019-June 2020		July 2020-June 2021	
	Count	Percent	Count	Percent	Count	Percent
Gender						
Female	41,041	58.48%	37,477	58.70%	47,300	57.94%
Male/Other ⁴³	29,142	41.52%	26,363	41.29%	34,334	42.06%
Total	70,183	100.00%	63,840	100.00%	81,634	100.00%
Age						
0 to 17	2,211	3.15%	1,630	2.55%	2,138	2.62%
18 to 64	47,007	66.98%	42,004	65.80%	54,282	66.49%
65+	20,965	29.87%	20,206	31.65%	25,214	30.89%
Total	70,183	100.00%	63,840	100.00%	81,634	100.00%
Race						
White	50,973	72.63%	45,940	71.96%	56,372	69.05%
Black or African American	2,387	3.40%	2,210	3.46%	3,314	4.06%
American Indian or Alaska Native	33	0.05%	41	0.06%	105	0.13%
Asian	2,720	3.88%	2,396	3.75%	2,953	3.62%
Native hawaiian or Other Pacific Islander	32	0.05%	27	0.04%	33	0.04%
Other	3,720	5.30%	2,818	4.41%	4,073	4.99%
Unknown	10,125	14.43%	10,227	16.02%	14,545	17.82%
Patient Declined	193	0.27%	181	0.28%	239	0.29%
Total	70,183	100.00%	63,840	100.00%	81,634	100.00%
Ethnicity						
Hispanic/Latino						
Not Hispanic/Latino						

⁴³ Includes male and other for confidentiality due to regulations around data with counts less than 11.

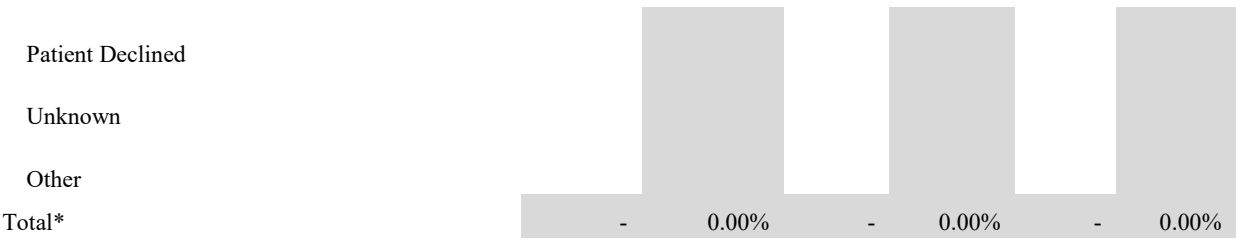
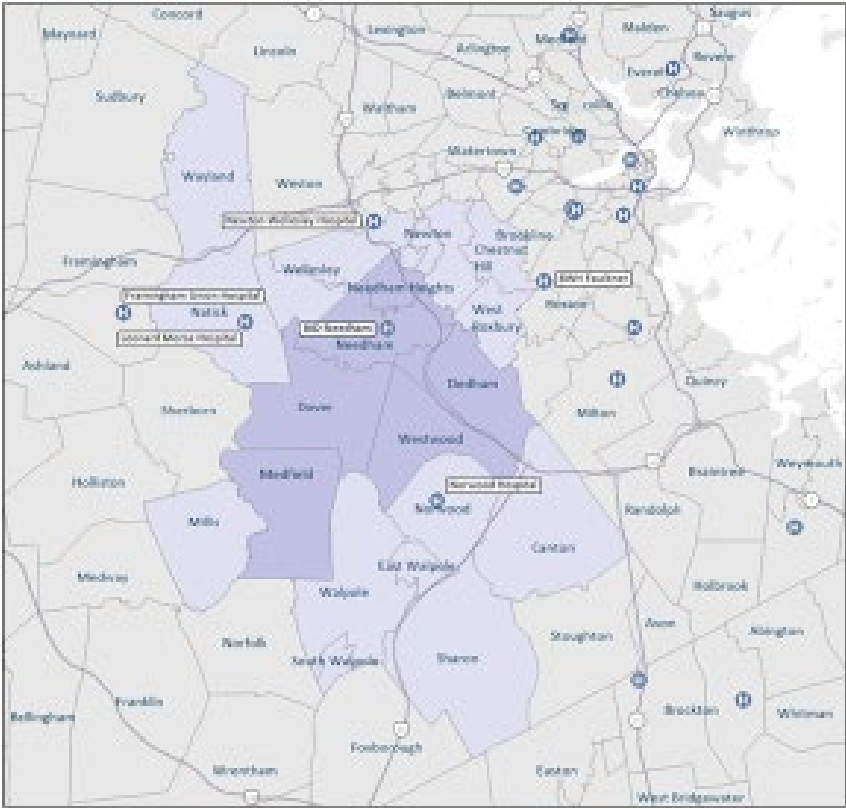


Table 2: BID-N Patients by Service Area FY2019

BID-Needham Service Area



Primary Service Area	
Dedham	02026
Dedham	02027
Dover	02030
Medfield	02052
Needham	02462
Needham Heights	02464
Westwood	02090
Secondary Service Area	
Canton	02021
Millis	02054
Natick	01760
Newton Center	02459
Newton Highlands	02461
Newton Upper Falls	02464
Chestnut Hill	02467
Waban	02468
Roslindale	02062
Sharon	02067
East Walpole	02082
South Walpole	02071
Walpole	02081
Weymouth	02178
Wellesley	02481
Wellesley	02482
West Roxbury	02132

BID-Needham Service Area	
PSA	
SSA	
Other	

Exhibit B – BID-N Payor Mix

Grouping	FY16	FY17	FY18	FY19	FY20
Medicare Managed - HPHC	0.0%	0.0%	0.0%	0.2%	0.2%
Medicare Managed - Other	1.5%	1.8%	2.3%	3.3%	4.4%
Medicare Managed - Tufts	3.9%	4.9%	4.5%	5.1%	5.0%
Medicare Managed - BCBS	2.3%	2.3%	2.2%	2.0%	2.1%
Medicare Non-Managed	37.8%	36.6%	36.2%	35.1%	36.5%
Medicare Total	45.6%	45.5%	45.2%	45.7%	48.3%
Medicaid Managed	2.8%	3.1%	3.8%	4.3%	4.8%
Medicaid Non-Managed	2.1%	2.4%	2.0%	1.3%	1.4%
Medicaid Total	4.9%	5.4%	5.8%	5.6%	6.2%
HSN	0.3%	0.2%	0.1%	0.1%	0.1%
Commercial - BCBS	17.4%	16.4%	16.2%	18.1%	16.6%
Commercial - HPHC	9.4%	8.9%	8.6%	8.9%	7.8%
Commercial - Other	15.3%	15.3%	15.7%	12.3%	11.5%
Commercial - Tufts	5.8%	6.4%	6.6%	7.5%	7.4%
Commercial Total	47.9%	47.0%	47.1%	46.8%	43.3%
Other	0.9%	1.3%	1.2%	1.2%	1.3%
Self Pay	0.4%	0.6%	0.5%	0.7%	0.8%
Total	100%	100%	100%	100%	100%

Exhibit C – BILH Patient Panel

Table 1: BILH Patient Panel Summary

Demographic Measure	July 1, 2018-June 30, 2021					
	July 2018-June 2019		July 2019-June 2020		July 2020-June 2021	
	Count	Percent	Count	Percent	Count	Percent
Gender						
Male	563,250	43.98%	541,252	44.38%	630,371	44.15%
Female	716,882	55.98%	677,915	55.58%	796,777	55.81%
Other	567	0.04%	551	0.05%	563	0.04%
Total	1,280,699	100.00%	1,219,718	100.00%	1,427,711	100.00%
Age						
0 to 17	93,732	7.32%	82,569	6.77%	93,835	6.57%
18 to 64	827,022	64.58%	784,319	64.30%	924,797	64.77%
65+	359,945	28.11%	352,830	28.93%	409,080	28.65%
Total	1,280,699	100.00%	1,219,718	100.00%	1,427,711	100.00%
Race						
White	945,173	73.80%	908,726	74.50%	1,022,257	71.60%
Black or African American	60,675	4.74%	58,869	4.83%	69,537	4.87%
American Indian or Alaska Native	1,492	0.12%	1,404	0.12%	1,610	0.11%
Asian	73,817	5.76%	71,333	5.85%	79,440	5.56%
Native Hawaiian or Other Pacific Islander	834	0.07%	778	0.06%	985	0.07%
Other	132,287	10.33%	110,929	9.09%	127,248	8.91%
Unknown	57,635	4.50%	59,190	4.85%	106,325	7.45%
Patient Declined	8,786	0.69%	8,489	0.70%	20,309	1.42%
Total	1,280,699	100.00%	1,219,718	100.00%	1,427,711	100.00%
Ethnicity						
Hispanic/Latino	50,888	4.72%	51,758	5.05%	70,402	6.00%
Not Hispanic/Latino	916,921	84.99%	875,383	85.43%	959,434	81.75%
Patient Declined	29,147	2.70%	28,549	2.79%	41,950	3.57%
Unknown	65,334	6.06%	54,010	5.27%	70,531	6.01%
Other	16,528	1.53%	14,974	1.46%	31,372	2.67%
Total*	1,078,818	100.00%	1,024,674	100.00%	1,173,689	100.00%
Payor						
Commercial	648,487	50.64%	610,845	50.08%	687,224	48.13%
Medicare	328,993	25.69%	320,062	26.24%	363,058	25.43%

Medicaid	149,288	11.66%	143,168	11.74%	173,940	12.18%
Multiple Payors	82,715	6.46%	79,086	6.48%	85,629	6.00%
Other	62,755	4.90%	57,565	4.72%	109,545	7.67%
Unknown	8,461	0.66%	8,992	0.74%	8,315	0.58%
Total	1,280,699	100.00%	1,219,718	100.00%	1,427,711	100.00%

Notes: BILH includes Addison Gilbert Hospital, AJH, BayRidge Hospital, Beverly Hospital, BIDMC, BID-Milton, BID-N, BID-Plymouth, LHMC-Burlington, LHMC-Peabody, MAH, NEBH, and Winchester Hospital.

Counts represent the number of unique patients that visited a facility on a BILH hospital license for inpatient or outpatient services, including patients who were admitted through the emergency department. Unique patients are identified at the hospital level, with the exception of Addison Gilbert Hospital, BayRidge Hospital, and Beverly Hospital, which are jointly identified as Northeast Hospital Corp. patients, and LHMC-Burlington and LHMC-Peabody, which are also jointly identified. Patients visiting multiple BILH hospitals in a given year are not uniquely identified.

Patients for whom a gender is not specified or whose gender varies across visits over the time period are included in "Other."

Patients who fall into multiple age categories in a given year are included in the younger category.

Race information is self-reported. Patients for whom a race is not specified are included in "Patient Declined," "Unknown," or "Other," per the local facility's data collection methodology. Patients for whom race varies across visits over the time period are included in "Other."

Ethnicity information is self-reported. Patients for whom ethnicity is not specified are included in "Patient Declined," "Unknown," or "Other," per the local facility's data collection methodology. Patients for whom ethnicity varies across visits over the time period are included in "Other." *Ethnicity information is not available for three hospitals: BID-Milton, BID-Needham, and BID-Plymouth.

Patients whose primary payor is missing in the data are included in "Unknown." Patients whose primary payors within a given fiscal year fall into more than one payor category are included in "Multiple Payors." "Other" includes the following payor categories: self pay, worker's compensation, other government payment, free care, health safety net, auto insurance, Commonwealth Care/ConnectorCare plans, and dental plans.

Source: Internal inpatient and outpatient visit data submitted by BILH hospitals.

Table 2: BILH Patients by Service Area FY2019

**Beth Israel Lahey Health
Service Area**

Beth Israel Lahey Health
Beth Israel Deaconess Hospital
Needham

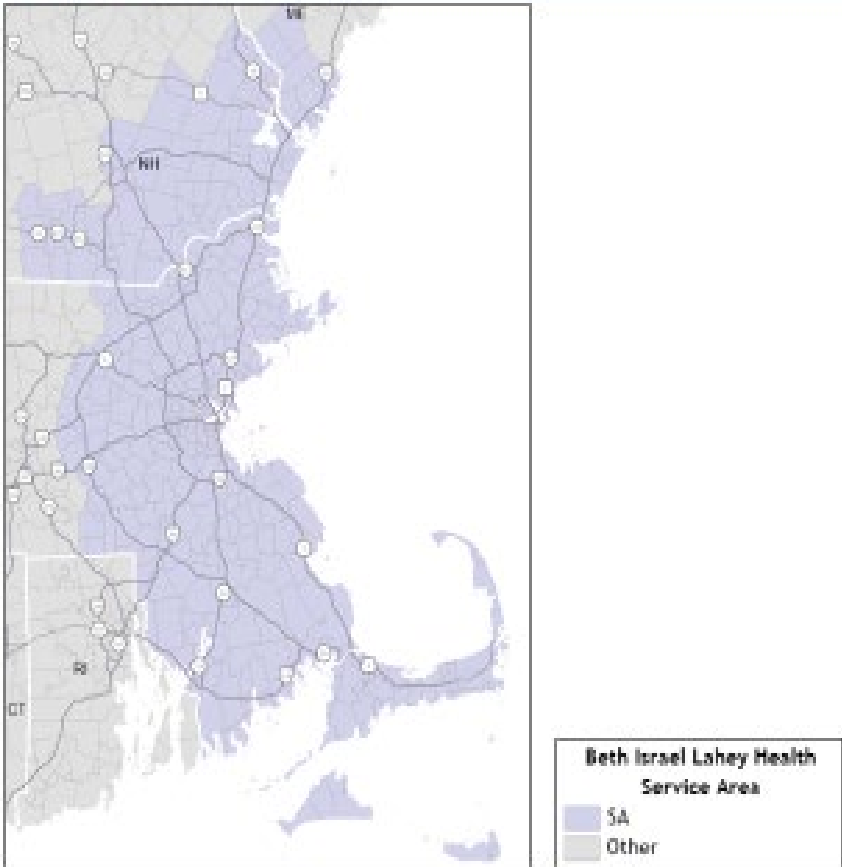


Exhibit D – BID-N Community Benefits Service Area (CBSA)



Beth Israel Lahey Health 
Beth Israel Deaconess Needham

Community Benefits Service Area

 Beth Israel Deaconess
Hospital-Needham

Table 1: Age Distribution of Patient Panel

Age Group	2013	2014	2015	2016	2017	2018	2019	FY 2017- FY 2019
0	2%	2%	2%	2%	2%	2%	2%	2%
1-17	3%	3%	3%	3%	3%	3%	3%	3%
45-64	37%	37%	37%	36%	36%	35%	35%	35%
18-64	74%	73%	72%	71%	70%	69%	69%	70%
65+	22%	23%	24%	24%	25%	26%	27%	26%

**Exhibit E - BID-N Total CT Scans
by Location**

Table 1 – BID-N Total CT Scans by Location (ED(red); Inpatient (blue); and Outpatient (green))

FY19		FY20		FY21	
N.ER	4308	N.ER	4556	N.ER	6861
N.ERHOLD	37	N.ERHOLD	29	N.ERHOLD	30
N.EROBSV	231	N.EROBSV	201	N.EROBSV	496
N.S2	923	N.S2	1121	N.S2	1732
N.W2	1762	N.W2	1903	N.W2	2636
N.ICU	224	N.ICU	266	N.ICU	207
N.CT	3990	N.CT	3746	N.CT	4486
Other	158	Other	179	Other	260
Total		Total		Total	
OUT	4148	OUT	3925	OUT	4746
IN	2909	IN	3290	IN	4575
ER	4308	ER	4556	ER	6861

Fiscal Year	ER	%	IN	%	OBSV	%	OUT	%	FY Total
FY 2019	4,308	37%	2,909	25%	268	2%	4,148	36%	11,633
FY 2020	4,556	38%	3,290	27%	230	2%	3,925	33%	12,001
FY 2021	6,861	41%	4,575	27%	526	3%	4,746	28%	16,708

**Exhibit F – BID-N CT Utilization by Daily
Average Visits**

Table 1 – BID-N CT Utilization By Daily Average Visits

Fiscal Year	ER	%	IN	%	OBSV	%	OUT	%	FY Total
FY 2019	11.80	37%	7.97	25%	0.73	2%	11.36	36%	31.87
FY 2020	12.48	38%	9.01	27%	0.63	2%	10.75	33%	32.88
FY 2021	17.65	40%	12.11	27%	1.35	3%	12.94	29%	44.05
Overall									
Increase in CT									
use from FY									
2019 - FY 2021	149.5%		151.9%		184.0%		113.9%		

Footnote on page 32: Includes male and other for confidentiality due to regulations around data with counts less than 11.

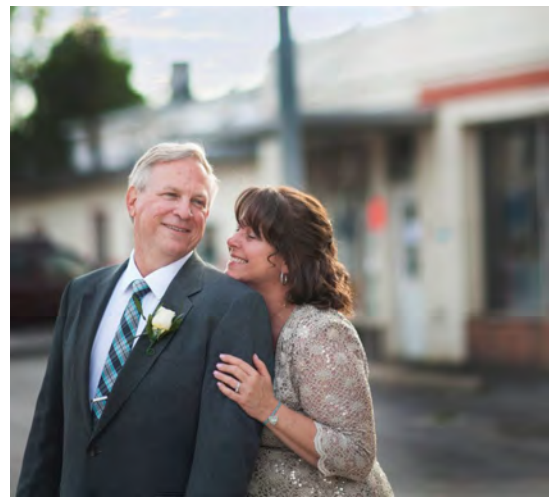
#2

Community Health Initiative Materials

- a. FY2019 CHNA Report Summary and Table of Contents**
- b. DoN Self -Assessment**
- c. DoN Self-Assessment Supplemental Information**

COMMUNITY HEALTH NEEDS ASSESSMENT

Beth Israel Lahey Health 
Beth Israel Deaconess Hospital
Needham



2019

Executive Summary

Background, Purpose, and Approach

Beth Israel Deaconess Hospital-Needham (BID–Needham) is a 58-bed acute care community hospital in Needham, Massachusetts that has been nationally recognized for quality and safety. BID–Needham’s mission is to provide, safe, high-quality community- based healthcare and access to tertiary care in close collaboration with Beth Israel Deaconess Medical Center, regardless of the patient’s ability to pay, race, color, ethnicity, religion, gender, gender identity, sexual orientation, national origin, ancestry, age, genetics, or disability. BID–Needham is committed to its mission by providing the highest quality care focused on patient safety, and has been fulfilling this vision for more than 100 years. The entire BID–Needham team, including employees, physicians, volunteers and students, are committed to exceeding the expectations of their patients and their families, the community and each other. In 2019, as part of a merger of two health systems in the greater Boston region, BID–Needham became part of Beth Israel Lahey Health (BILH) - a system of academic medical centers, teaching hospitals, community hospitals, and specialty hospitals that employ more than 4,000 physicians and 35,000 staff members combined.

In addition to its commitment to clinical excellence, BID–Needham is committed to being an active partner and collaborator with the communities it serves. This Community Health Needs Assessment (CHNA) and the associated Implementation Strategy (IS) were completed in close collaboration with BID–Needham’s Community Benefits staff, the Hospital’s leadership, and the community at-large. All together, the assessment involved hundreds of people from across the service area, including health and social service providers, community advocates, Commonwealth and local public officials, faith leaders, and community residents. The process that was applied to conduct the CHNA and develop the IS exemplifies the spirit of collaboration and community engagement that is such a vital part of BID–Needham’s mission.

This community health needs assessment report is an integral part of BID–Needham’s population health and community engagement efforts. It supplies vital information that is applied to make sure that the services and programs that BID–Needham provides are appropriately focused, delivered in ways that are responsive to those in its service area, and address unmet community needs. This assessment and the associated prioritization and planning processes also provide a critical opportunity for BID–Needham to engage the community and to strengthen the community partnerships that are essential to BID–Needham’s success now and in the future. Finally, this report allows BID–Needham to meet its Commonwealth and Federal Community Benefits requirements per the Massachusetts Attorney General’s Office and the Federal Internal Revenue Service (IRS) as part of the Affordable Care Act.

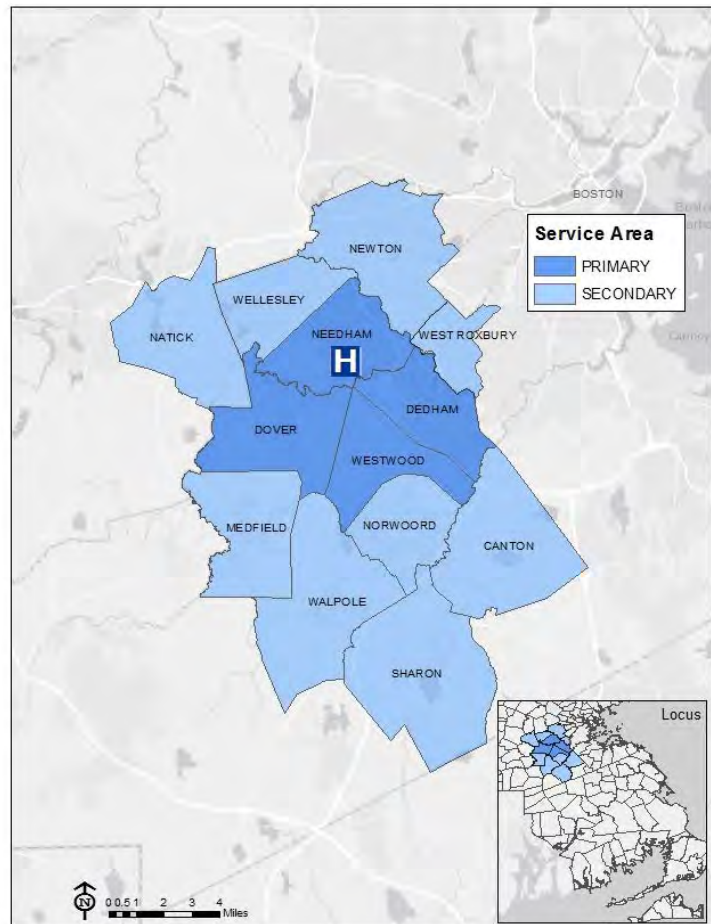
Community Benefits Service Area & Community Benefits Priorities

BID–Needham’s primary Community Benefits Service Area (CBSA) includes the towns of Dedham, Dover, Needham, and Westwood. Its secondary service area includes Newton, Wellesley, Natick, Medfield, Walpole, Norwood, Sharon, Canton, and West Roxbury (Boston). BID–Needham defines its CBSA as the

towns that make up its primary service area. This assessment focused on identifying the leading community health needs and priority populations within the Hospital's CBSA.

BID–Needham's community benefits activities support all of the people who live in its CBSA, across all geographic, demographic, and socio-economic segments. However, in recognition of the considerable health disparities that exist in some segments of the population in the CBSA, BID–Needham focuses the bulk of its community benefits resources on improving the health status of low income, underserved, vulnerable populations living in the more underserved communities of its CBSA. By prioritizing these population segments, BID – Needham is able to maximize the impact of its community benefits resources. BID–Needham currently supports and collaborates on many educational, outreach, screening, care management, care coordination, and other community-strengthening initiatives aimed at improving community health for those who live in its CBSA. In the course of these efforts, BID–Needham collaborates with many of the area's leading healthcare, public health, and social service organizations.

BID–Needham Community Benefits Service Area



Approach and Methods

The assessment began with the creation of a Steering Committee comprised of representatives from BID–Needham, Beth Israel Deaconess Medical Center (BIDMC) in Boston, and the other BID affiliate hospitals (BID–Milton and BID–Plymouth). These organizations worked together to ensure that a collaborative, transparent, and robust process was applied across the BID hospital system. In October 2018, the Steering Committee hired John Snow, Inc. (JSI), a public health research and consulting firm based in Boston, to support their efforts and to work with them to complete the CHNA and IS. Next, BID–Needham formed a Community Benefits Advisory Committee (CBAC), made up of hospital staff, local service providers, and key community stakeholders. This group met three times over the course of the assessment; they provided input on the assessment approach, vetted preliminary findings, and helped to prioritize the community health issues and the priority populations. The Hospital also formed a Community Benefits Leadership Team (CBLT) made up of key hospital leadership and representatives from the Board of Directors. The Steering Committee, the CBAC, and the CBLT reviewed this CHNA report and the subsequent Implementation Strategy before it was submitted to the Board of Directors for approval.

Substantial efforts were taken to ensure that the assessment activities implemented included efforts to engage community residents, local public health officials, and other community stakeholders. The assessment was completed in three phases. Below is a summary of the activities that were associated with each Phase of the assessment and planning process. A detailed description of BID–Needham’s approach to community engagement is included in Appendix A.

Phase One involved preliminary assessment and engagement activities, including:

- Collection and analysis of quantitative data to characterize community characteristics and disease burden
- Key informant interviews with hospital leadership, local service providers, and community stakeholders
- An evaluation of BID–Needham’s current portfolio of Community Benefits activities

Phase Two involved targeted engagement activities, including:

- Focus groups with hospital leadership, clinical providers, community stakeholders and residents
- A community meeting with residents, service providers, public health officials, and other community stakeholders from the CBSA
- Dissemination and analysis of a Community Health Survey to capture residents’ perceptions of barriers to good health, leading health issues, vulnerable populations, accessibility of health services, and opportunities for the hospital to improve the services they offer to the community

Phase III involved a series of strategic planning and reporting activities, including:

- Meetings with the CBAC and BID–Needham’s Community Benefits Leadership Team (including members of the Board of Directors) to present CHNA findings, prioritize community health issues, identify vulnerable populations, and discuss potential responses
- Creation of a Resource Inventory to catalogue local organizations, service providers, and community assets that have the potential to address identified needs
- Literature review of evidence-based strategies to respond to identified health priorities
- Development of final a Community Health Needs Assessment report and Implementation Strategy

Key Health-Related Findings

The following are brief summaries of some of the assessment’s key findings. A full review of the quantitative and qualitative information that was collected for this assessment and that led the CBAC and the CBLT to identify the issues that were prioritized by the assessment, is included in the full body of the report below.

- **Social Determinants of Health Continue to Have a Substantial Impact on Many Segments of the Population.** One of the dominant themes from the assessment’s findings was the impact that the underlying social determinants of health are having on those living in the CBSA. The segments of the population most challenged by these issues are older adults, low income individuals/families, racial/ethnic minorities, non-English speakers, and those with disabilities or with chronic / complex

conditions. More specifically, these segments struggle with financial insecurity, safe/affordable housing, transportation, access to healthy/affordable food, lack of social support, social isolation, and language access /cultural humility. These issues impact many people's and families' ability to access or pay for the services, housing, food, or other essential items they need and/or to live a happy, fulfilling, productive life.

- **The Burden of Substance Use and Mental Health Issues.** Mental health and substance use issues continue to be one of the region's most prevalent and challenging issues and are having a profound impact on individuals, families, and communities throughout the CBSA. These issues are also a major burden on the health and social service system. Health and social service providers, public health agencies, first-responders, and community-based organizations are confronted on a daily basis with people struggling with acute or chronic conditions and struggle to provide or link them to the care they need. With respect to mental health issues, depression/anxiety, stress, social isolation, and the impacts of trauma are the leading issues. With respect to substance use, the opioid crisis continues to have a tremendous impact on the region, along with alcohol use, marijuana use, and vaping in youth. The fact that physical, mental health, and substance use issues are so intertwined compounds the impact of these issues. Of particular concern are the increasing rates of opioid use and the impacts of trauma.
- **Limited Access to Behavioral Health (mental health and substance use) Services.** Despite the prevalence of mental health and substance use issues and the impact that these issues are having on individuals, families, and communities, the behavioral health service system in the region is extremely limited. There are major shortages of specialized providers - such as psychiatrists, therapists, addiction specialists, and case managers - who are capable of providing the full breadth of preventive, screening, assessment, treatment, and recovery support services that the community needs. This is particularly true for those who have limited English skills or different cultural perspectives that require specialized care, such as immigrants, racial/ethnic minorities, and LGBTQ individuals. Uninsured individuals, those covered by Medicaid, and those in low to moderate income brackets also struggle to access or pay for the services they need or to find providers who are able to take their coverage or insurance.
- **High Rates of Chronic and Acute Physical Health Conditions.** Another major finding from the assessment is the high rates of chronic and complex conditions that exist for many of the leading physical health conditions (e.g., heart disease, hypertension, cancer, and asthma) in the CBSA. Overall, the rates of illness and death are not statistically higher than the rates for the Commonwealth, however, it is important to note that these chronic physical health conditions are still the leading causes of death and must be addressed to improve the region's health status.
- **High Rates of the Leading Health Risk Factors (e.g., Lack of Nutritional Food and Physical Activity, Alcohol/Illicit Drug Use, and Tobacco Use).** Based on information gathered from focus groups, interviews, community meetings, the community health survey, and quantitative sources, the assessment found that there were substantial concerns related to the leading health risk factors, such as healthy eating, physical activity, obesity, tobacco use/vaping, alcohol use, and stress. Many

of those who were involved in the assessment believed that there was a need for more health education and a greater emphasis on health promotion and prevention.

- **Challenges Navigating the System and Coordinating Needed Services.** Another major theme from the interviews, focus groups, and community meetings conducted for the assessment was the challenges that many people in the CBSA face navigating the health and social service system. There was a general sense that there was a broad range of health and social services available in the region but that many did not know where to go for services or struggled to access the services even when they knew where to go. Once again, the population segment who struggle most to navigate the system are older adults, low income individuals/families, racial/ethnic minorities, non-English speakers, and those with disabilities or chronic/complex conditions. Many people said that there was a need for a resource inventory that would help residents access services, along with counselors or case managers who could further assist people to obtain and access the services they needed.

Priority Populations

BID–Needham is committed to improving the health status and well-being of all residents living throughout its service area. Certainly all geographic, demographic, and socioeconomic segments of the population face challenges of some kind that can hinder their ability to access care or maintain good health. With this in mind, BID–Needham’s IS includes activities that will support residents throughout its service area, across all segments of the population. However, based on the assessment’s quantitative and qualitative findings, there was broad agreement that BID–Needham’s IS should prioritize certain demographic and socio-economic segments of the population that have complex needs or face especially significant barriers to care, service gaps, or adverse social determinants of health that put them at greater risk. The assessment identified 1) Youth, 2) Older adults, 3) Low to moderate income individuals and families, and 4) Individuals with chronic and complex conditions as priority populations to be included in the IS.

BID–Needham Priority Populations 2020-2022



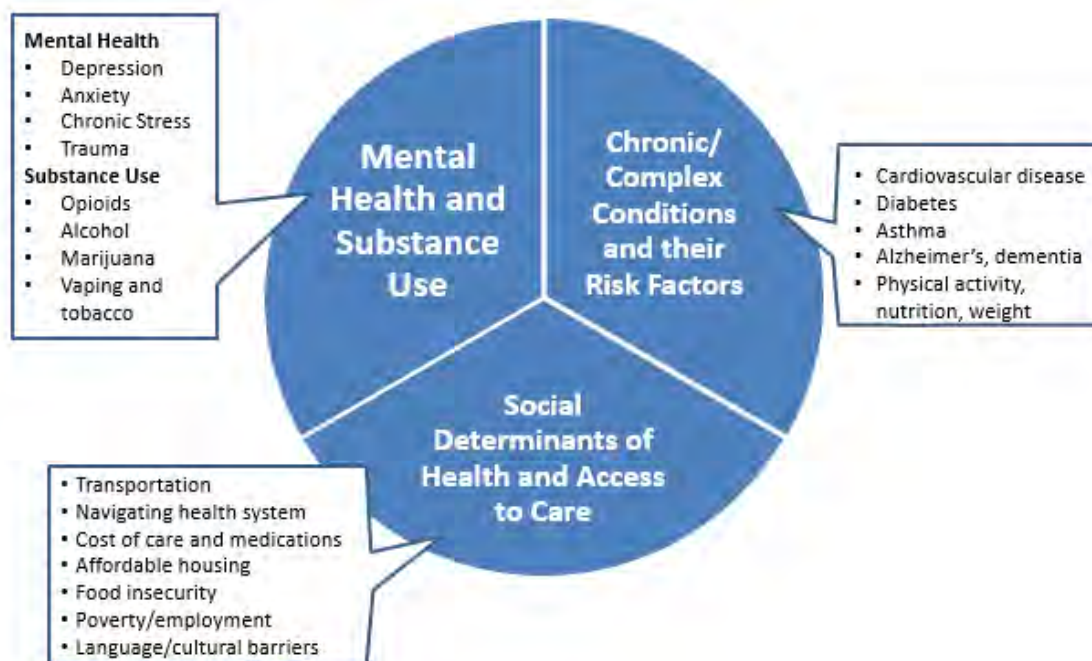
Community Health Priorities

BID–Needham’s CHNA was conducted as a population-based assessment. The goal was to engage the community and compile quantitative and qualitative information to identify the leading health-related issues affecting individuals in the CBSA, including social determinants of health, service gaps, and barriers to care. The priorities that have been identified have been framed broadly to ensure that the full breadth of unmet needs and community health issues are recognized. These priorities were identified through an integrated and thorough review of all of the quantitative and qualitative

information captured for the assessment. The priorities have been identified to maximize impact, reduce disparities, and promote collaboration and cross-sector partnership.

During the later stages of the CHNA process, significant efforts were made to vet the priority issues with leadership and the community-at large, through meetings with the CBAC, the CBLT, and a public forum. BID–Needham is confident that these priorities reflect the sentiments of those who were involved in the assessment and community engagement processes. Based on the findings from the breadth of BID–Needham’s CHNA activities, the CBAC and the CBLT voted to prioritize 1) Mental health and substance use, 2) Chronic / complex conditions, and their risk factors, and 3) Social determinants of health.

BID–Needham CHNA Priority Areas 2020-2022



The community health priorities that have been prioritized by the CHNA in the figure above are described in detail in the body of this report, along with a listing of the goals related to these priority areas that BID–Needham’s Community Benefits staff, the CBAC, and CBLT believe will drive achievement. The objectives and strategic initiatives, by priority area, that will be part of BID–Needham’s IS are included in BID–Needham’s Summary Implementation Strategy, included in Appendix D.

Community Health Needs not Prioritized by BID–Needham’s CBAC

It is important to note that there are community health needs that were identified by BID–Needham’s assessment that, due to the limited burden that these issues present and/or the feasibility of having an impact in the short- or long-term on these issues, were not prioritized for investment. Namely, affordable housing was identified as a community need but these issues were deemed by the CBAC and the CBLT to be outside of BID–Needham’s primary sphere of influence and have opted to allow others in its CBSA and the Commonwealth to focus on these issues. This is not to say that BID–Needham will not

support efforts in these areas. BID–Needham remains open and willing to work with hospitals across Beth Israel Lahey Health’s network and other public and private partners to address these issues, particularly as part of a broad, strong collaborative.

Summary Implementation Strategy

The following outlines BID–Needham’s goals for addressing the priority populations and community health priorities identified above.

Priority Area 1: Mental Health and Substance Use
Goal 1: Educate About and Reduce Stigma Associated with Mental Health and Substance Use
Goal 2: Enhance Access to Mental Health and Substance use Screening, Assessment, and Treatment Services
Goal 3: Decrease the number of prescription drugs and other harmful drugs from the community
Priority Area 2: Chronic/Complex Conditions and their Risk Factors
Goal 1: Enhance Access to Health Education, Screening, Referral, and Chronic Disease Management Services in Clinical and Non-Clinical Settings
Goal 2: Reduce the Prevalence of Tobacco Use
Priority Area 3: Social Determinants of Health and Access to Care
Goal 1: Enhance Access to Care and Reduce the Impact of Social Determinants
Goal 2: Reduce Elder Falls and Promote Aging in Place

Acknowledgements

This report is the culmination of nearly a year of work, involving hundreds of community residents, service providers, community advocates, Commonwealth and local public officials, and staff throughout Beth Israel Deaconess Hospital–Needham (BID–Needham) and many of its community partners. While it was not possible for the assessment to involve all residents and community stakeholders, there were substantial efforts made to ensure that all segments of the community had the opportunity to participate. BID–Needham’s Community Benefits staff, the Community Benefits Advisory Committee (CBAC), and the BID–Needham Community Benefits Leadership Team (CBLT) would like to extend its sincere appreciation to everyone who invested their time, effort, and expertise to ensure the development of BID–Needham’s Community Health Needs Assessment (CHNA) and its associated Community Health Implementation Strategy (IS).

This assessment was overseen by a Steering Committee, comprised of Community Benefits staff at BID–Needham, Beth Israel Deaconess Medical Center, and other BID–affiliate hospitals, as well as the CBAC, and the CBLT. The CBAC was newly established by BID–Needham in October 2019 to guide and oversee all of BID–Needham’s Community Benefits efforts moving forward, with respect to the Hospital’s periodic community health assessment, ongoing program implementation activities, and its monitoring, evaluation, and performance improvement efforts. The CBAC is comprised of Community Benefits staff, local social service providers, community health advocates, and other community leaders. BID–Needham would like to extend special thanks to the CBAC membership for their commitment to the Hospital, the community, and to a comprehensive assessment and planning process.

The Community Benefits Leadership Team (CBLT) was also newly established in October 2019 to ensure that BID–Needham’s leadership was fully apprised of the Hospital’s community benefits activities and was given the opportunity to provide their feedback regarding all aspects of the Hospital’s program. BID–Needham’s CBLT is comprised of Community Benefits Department staff, selected senior administrators and clinicians at the Hospital, and representatives from the Board of Trustees. The Steering Committee, CBAC, and CBLT met periodically to inform the approach, oversee progress, and provide critical feedback on preliminary and final results. BID–Needham would like to thank all individuals that served, and will continue to serve, on these vital committees.

BID–Needham was supported in this work by John Snow, Inc. (JSI), a public health consulting and research organization dedicated to improving the health of individuals and communities in the United States and around the world. BID–Needham appreciates the contributions that JSI has made in collecting and analyzing data, engaging the community, and conducting research throughout CHNA and IS development process. Finally, BID–Needham would like to express immense gratitude to community residents who contributed to this process. Since the beginning of the assessment in September of 2018, hundreds of individuals shared their needs, experiences, and expertise via interviews, focus groups, surveys, and community listening sessions and these proved to be tremendous contributions towards the creation of the CHNA and IS.

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Ryan Stanton, Marketing and Communications Representative, BID–Plymouth

Beth Israel Deaconess Hospital–Needham Community Benefits Advisory Committee 2019

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Acronyms

ACA	Affordable Care Act
BID–Needham	Beth Israel Deaconess Hospital–Needham
CBAC	Community Benefits Advisory Committee
CBSA	Community Benefits Service Area
CBLT	Community Benefits Leadership Team
CHIA	Center for Health Information and Analysis
CHNA	Community Health Needs Assessment
HMOs	Health Maintenance Organizations
IS	Implementation Strategy
JSI	John Snow, Inc.
LEP	Limited English Proficiency
MassCHIP	Massachusetts Community Health Information Profile
MDPH	Massachusetts Department of Public Health
MHPC	Massachusetts Health Policy Commission
MWAHS	MetroWest Adolescent Health Survey
PHIT	Population Health Information Tool

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Introduction and Purpose

Introduction

Beth Israel Deaconess Hospital-Needham (BID–Needham) is a 58-bed acute care community hospital in Needham, Massachusetts that has been nationally recognized for quality and safety. BID–Needham’s mission is to provide, safe, high-quality community- based healthcare and access to tertiary care in close collaboration with Beth Israel Deaconess Medical Center, regardless of the patient’s ability to pay, race, color, ethnicity, religion, gender, gender identity, sexual orientation, national origin, ancestry, age, genetics, or disability. BID–Needham is committed to its mission by providing the highest quality care focused on patient safety, and has been fulfilling this vision for more than 100 years. The entire BID–Needham team, including employees, physicians, volunteers and students, are committed to exceeding the expectations of their patients and their families, the community and each other. In 2019, as part of a merger of two health systems in the greater Boston region, BID–Needham became part of Beth Israel Lahey Health (BILH) - a system of academic medical centers, teaching hospitals, community hospitals, and specialty hospitals that employ more than 4,000 physicians and 35,000 staff members combined.

In addition to its commitment to clinical excellence, BID–Needham is committed to being an active partner and collaborator with the communities it serves. This Community Health Needs Assessment (CHNA) and the associated Implementation Strategy (IS) were completed in close collaboration with BID–Needham’s staff, more than one hundred health and social service partners, and the community at-large. The assessment efforts that took place over the past year engaged hundreds of community residents, as well as a wide range of other community stakeholders, including service providers, community advocates, Commonwealth and local public officials, faith leaders, and representatives from community-based organizations. The process that was applied to conduct the CHNA and develop the IS exemplifies the spirit of collaboration and community engagement that is such a vital part of BID–Needham’s mission.

Purpose

This community health needs assessment report is an integral part of BID–Needham’s population health and community engagement efforts. It supplies vital information that is applied to make sure that the services and programs that BID–Needham provides are appropriately focused, delivered in ways that are responsive to those in its service area, and address unmet community needs. This assessment and the associated prioritization and strategic planning processes also provide a critical opportunity for BID–Needham to engage the community and to strengthen the community partnerships that are essential to BID–Needham’s success now and in the future. Finally, this report allows BID–Needham to meet its Commonwealth and Federal Community Benefits requirements per the Massachusetts Attorney General’s Office and the Federal Internal Revenue Service (IRS) as part of the Affordable Care Act. The primary goals for the CHNA and this report are to:

- Assess community health need, defined broadly to include health status, social determinants, environmental factors, and service system strengths and weaknesses;
- Engage the community, including local health departments, service providers across sectors and community residents, as well as BID–Needham leadership and staff; and
- Identify the leading health issues and the population segments most at-risk based on a review of the quantitative and qualitative information gathered by the assessment

This CHNA is also a vital source of information and guidance to:

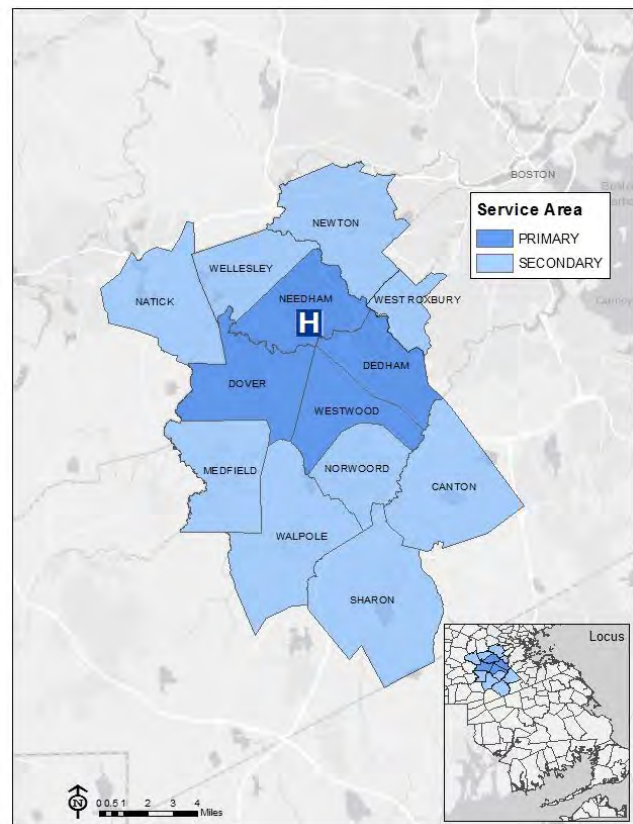
- Clarify issues related to community characteristics, barriers to care, existing service gaps, unmet community need and other health-related factors;
- Prioritize and promote community health investment;
- Inform and guide a comprehensive, collaborative community health improvement planning process; and
- Facilitate discussion within and across and sectors regarding community need, community health improvement, and health equity.

Community Benefits Service Area & Community Benefits Priorities

BID–Needham’s primary Community Benefits Service Area (CBSA) includes Dedham, Dover, Needham, and Westwood. Its secondary service area includes Newton, Wellesley, Natick, Medfield, Walpole, Norwood, Sharon, Canton, and West Roxbury (Boston) (Figure 1). This assessment focused on identifying the leading community health needs and priority populations within the Hospital’s primary service area, which is how the Hospital defines its CBSA.

BID–Needham’s community benefits activities support all of the people who live in its CBSA, across all geographic, demographic, and socio-economic segments. However, in recognition of the considerable health disparities that exist in some segments of the CBSA, BID–Needham focuses the bulk of its community benefits resources on improving the health status of low income and underserved populations living in the more underserved communities of its CBSA. By prioritizing these population segments, BID–

Figure 1: BID–Needham Community Benefits Service Area



Needham is able to maximize the impact of its community benefits resources. BID–Needham currently supports and collaborates on many educational, outreach, and community-strengthening initiatives aimed at reaching those who live in its CBSA. In the course of these efforts, BID–Needham collaborates with many of the area’s leading healthcare, public health, and social service organizations.

Approach and Methods

Approach

The assessment began with the creation of a Steering Committee comprised of representatives from BID–Needham, Beth Israel Deaconess Medical Center (BIDMC) in Boston, and the other BID affiliate hospitals (BID–Milton and BID–Plymouth), who worked together to ensure a collaborative, transparent, and robust process, across the BID hospital system. In October 2018, the Steering Committee hired John Snow, Inc. (JSI), a public health research and consulting firm based in Boston, to support their efforts and to work with them to complete the CHNA and IS. This Steering Committee provided vital oversight of the CHNA approach and methods. This Committee met monthly, in-person and via conference call, to review project activities, vet preliminary findings, address challenges, and to ensure alignment in the CHNA approach and methods across the BID Hospital system.

BID–Needham formed a Community Benefits Advisory Committee (CBAC), made up of hospital staff, local service providers, and key community stakeholders. This group met three times over the course of the assessment; they provided input on the assessment approach, vetted preliminary findings, and helped to prioritize community health issues and priority populations. The hospital also formed a Community Benefits Leadership Team (CBLT) made up of key Hospital administrative and clinical staff and members from the Board of Trustees. The Steering Committee, the CBAC, and the CBLT reviewed this CHNA report and the subsequent IS before it was submitted to the Board of Trustees for approval.

Community engagement is integral to BID–Needham’s mission towards providing exceptional, personalized care with dignity, compassion, and respect. Substantial efforts were taken to ensure that the assessment activities implemented included efforts to engage community residents, local public health officials, and other community stakeholders. These engagement efforts spanned all phases of the assessment from assessment planning, to data collection and assessment, to prioritization and planning, to reporting. These engagement efforts will continue during the ongoing monitoring and evaluation activities. BID–Needham recognizes the importance of collaborating with residents, advocates, service providers, Commonwealth and local public officials, representatives from community-based organizations, and other stakeholders when conducting assessment and planning projects of this kind.

The assessment was completed in three phases. Below is a summary of the activities that were associated with each Phase of the assessment and planning process. A detailed description of BID–Needham’s approach to community engagement is included in Appendix A.

Phase One involved preliminary assessment and engagement activities, including:

- Collection and analysis of quantitative data to characterize community characteristics and disease burden
- Key informant interviews with hospital leadership, local service providers, and community stakeholders
- An evaluation of BID–Needham’s current portfolio of Community Benefits activities

Phase Two involved targeted engagement activities, including:

- Focus groups with hospital leadership, clinical providers, community stakeholders and residents
- A community meeting with residents, service providers, public health officials, and other community stakeholders from the CBSA
- Dissemination and analysis of a Community Health Survey to capture residents’ perceptions of barriers to good health, leading health issues, vulnerable populations, accessibility of health services, and opportunities for the hospital to improve the services they offer to the community

Phase III involved a series of strategic planning and reporting activities, including:

- Meetings with the CBAC and CBLT (including members of the Board of Trustees) to present CHNA findings, prioritize community health issues, identify vulnerable populations, and discuss potential responses
- Creation of a Resource Inventory to catalogue local organizations, service providers, and community assets that have the potential to address identified needs
- Literature review of evidence-based strategies to respond to identified health priorities
- Development of final a Community Health Needs Assessment report and Implementation Strategy

Methods

Quantitative Data Collection and Analysis

Quantitative data from a broad range of sources was collected and analyzed to characterize communities in BID–Needham’s CBSA, measure health status, and inform a comprehensive understanding of the health-related issues. Sources included:

- U.S. Census Bureau, American Community Survey 5-Year Estimates (2013-2017)
- Massachusetts Department of Elementary and Secondary Education: School and District Profiles (2017, and 2018-2019)
- FBI Uniform Crime Reports (2017)
- Massachusetts Department of Public Health, Registry of Vital Records and Statistics (2015)
- Massachusetts Department of Public Health, Bureau of Substance Abuse Services (2017)
- Massachusetts Department of Public Health, Annual Reports on Births (2016)
- Massachusetts Bureau of Infectious Disease and Laboratory Sciences (2017)
- Massachusetts Center for Health Information Analysis (CHIA) Hospital Profiles (FY 2013-2017)
- Massachusetts Healthy Aging Collaborative, Community Profiles (2018)

To augment the quantitative data that was compiled from MDPH, JSI worked with the Massachusetts Health Data Consortium (MHDC) and the Massachusetts Center for Health Information and Analysis (CHIA) to obtain 2017 inpatient hospital discharge data for all of the municipalities in BID–Needham’s service area. CHIA aggregates detailed hospital inpatient data from all hospitals in Massachusetts and makes it available to hospitals and other researchers to understand morbidity, mortality, and health services utilization trends. These data are made available on an annual basis and allow for both hospital specific analyses based on where the patient was hospitalized as well as patient origin analyses based on the patient’s address of residents. Related to the CHNA activities, these data were used to identify the leading causes of illness for adults (18+) by municipality based on a review of selected diagnostic categories.

Whenever possible, confidence intervals were analyzed to test for statistically significant differences between municipal and Commonwealth data points. A comprehensive Data Book is included in Appendix B. In this Data Book, data points are color-coded to visualize which municipal-level data points were significantly higher or lower compared to the Commonwealth overall. Data from the Massachusetts Department of Elementary and Secondary Education, the Bureau of Substance Abuse Services, the Annual Report on Births, and the Bureau of Infectious Disease and Laboratory Sciences did not include confidence intervals and could not be tested for statistical significance.

Quantitative Data Limitations

Relative to most states, Massachusetts does an exemplary job at making comprehensive data available at the Commonwealth, county, and municipal levels through various reports and mechanisms provided by the Massachusetts Department of Public Health (MDPH). Historically, these data have been made available through the Massachusetts Community Health Information Profile (MassCHIP) data system, an automated and interactive resource provided by MDPH; MassCHIP is no longer updated. To replace this system, MDPH is creating the Population Health Information Tool (PHIT), which will include municipal level data stratified by demographic and socioeconomic variables (e.g. gender, age, race/ethnicity, poverty level). At the time this report was produced, community profiles were not available via the PHIT. The most significant limitation this caused was the availability of timely data related to morbidity, mortality, and service utilization. The data sets used in this report are the most up-to-date provided by MDPH. This data was still valuable and allowed for identification of health needs relative to the Commonwealth and specific communities, however, these data sets may not reflect recent trends in health statistics.

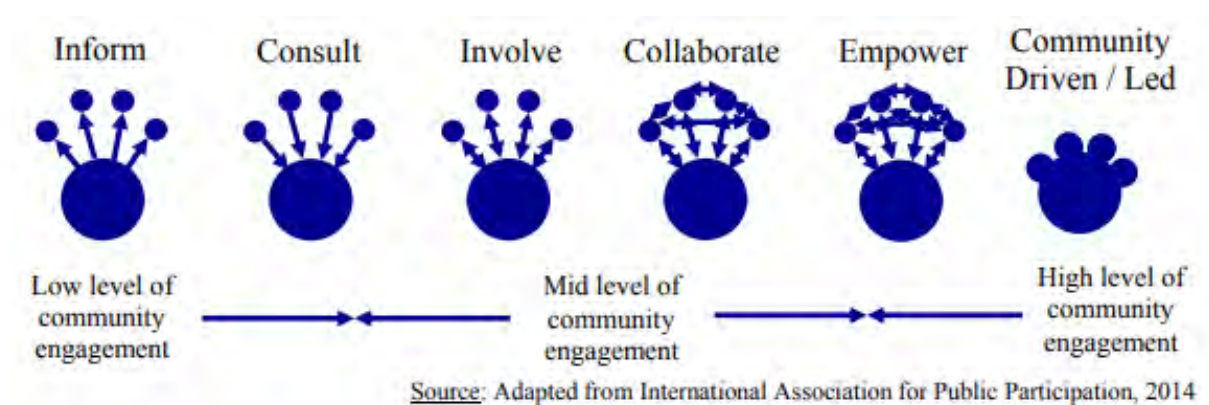
Additionally, quantitative data was not stratified by age, race/ethnicity, income, or other characteristics, which limited the ability to identify health disparities in an objective way. Qualitative activities allowed for exploration of these issues, but the lack of objective quantitative data constrained this effort.

Qualitative Data Collection and Analysis

BID–Needham recognizes that authentic community engagement is critical to assessing community need, identifying health priorities and priority populations, and crafting a robust Implementation Strategy. BID–Needham was committed to engaging the community throughout this process.

In collaboration with its assessment and community engagement partners, BID–Needham applied MDPH’s Community Engagement Standards for Community Health Planning as a guide.¹ As a result, BID–Needham employed a variety of strategies to ensure that community members were informed, consulted, involved, and empowered throughout the assessment process.

Figure 1: Community Engagement Continuum



Informed: BID–Needham informed the community of assessment activities (e.g. key informant interviews, Community Health Survey, focus groups) and provided summary quantitative and qualitative data findings in a public meeting.

Consulted: BID–Needham consulted the community by posting its current CHNA for public comment, holding focus groups with service providers, hospital leadership, community stakeholders, and community residents; completing key informant interviews; organizing a community meeting with residents, service providers, public health officials, and other community stakeholders from the CBSA; and disseminating a Community Health Survey.

Involved: BID–Needham formed advisory bodies, including the CBAC and CBLT, to provide input and feedback on the assessment approach and to vet preliminary findings. These bodies included hospital leadership, clinical staff, representatives from community organizations, social service providers, community advocates, and community residents.

Collaborated: The CBAC, which included many community residents and service providers, collaborated with one another and with staff and leadership at BID–Needham to prioritize health needs and vulnerable populations. This advisory body was also consulted in the drafting of the Implementation Strategy. BID–Needham’s Community Benefits staff also worked with staff at the Needham Public

¹ <https://www.mass.gov/files/documents/2017/01/vr/guidelines-community-engagement.pdf>

Health Department to share information from their respective needs assessment efforts, the Hospital's CHNA activities and the Health Department's needs assessment activities relative to their efforts to become an accredited health department.

Below are descriptions of the approach to community engagement activities. Associated tools, lists of participants, and other materials are included in the Detailed Community Engagement Summary in Appendix A.

Key Informant Interviews (14 completed) – JSI conducted key informant interviews with community stakeholders. Interviewees included representatives from public health departments, legislators, clinical providers, elder service providers, behavioral health providers, and first responders. Key informant interviews were done to confirm and refine findings from secondary data, to provide community context, and to clarify needs and priorities of the community. JSI worked with BID–Needham to identify a representative group of interviewees. Interviews were 30-60 minutes long and were conducted by-phone using a structured interview guide created by JSI. Detailed notes were taken for each interview. For a list of interviewees and interview dates, the interview guide, and a summary of findings, please see Appendix A: Detailed Community Engagement Approach.

Focus Groups (4 completed) – JSI facilitated focus groups with the Needham Operations/Executive Leadership Team, made of up hospital leadership and clinical providers, and older adult residents at the Needham Senior Center. The Needham Health Department, working in collaboration with BID–Needham, facilitated focus groups with the Interfaith Clergy Association and the Youth Resource Network (two organizations that work directly with underserved populations in the CBSA), as well as providers who serve older adults. BID–Needham worked with the Needham Health Department to ensure that questions for the needs assessment were incorporated into their focus group guide. Notes were shared between the two organizations to inform each other's processes.

Focus groups allowed for the collection of information to augment findings from secondary data and key informant interviews, and exploration of strategic and programmatic options to address identified health issues, service gaps, and/or barriers to care. Participants were recruited by BID–Needham, the Needham Public Health Division, and representatives from host organizations. Focus groups were approximately 60 minutes and were conducted in-person using structured interview guides. Notes were taken at each session. Appendix A includes session dates and a focus group guide.

Community Meeting (1) – JSI presented at a Community Meeting at the YMCA in Needham. This event was co-sponsored by the Needham Public Health Division. JSI presented a summary of key quantitative and qualitative data findings from the CHNA and solicited feedback and input from community members. Notes were taken by the Needham Public Health Division and shared with JSI.

The community meeting allowed for the capture of information directly from community residents, representatives from local community organizations, and local service providers. Participants were asked to share their reactions to the data presented, their thoughts on community health needs and priorities, barriers to care, and vulnerable populations. BID–Needham and the Needham Public Health Division determined that the YMCA was an appropriate host, a neutral space, a trusted community

organization, and had ample public parking. Translation services and transportation to the event were available upon request. Appendix A includes a discussion guide.

Community Health Survey (410 responses) – The Community Health Survey allowed JSI to capture information directly from community residents. Respondents were asked for their opinion on leading social determinants of health, clinical health issues, vulnerable populations, access to care, and opportunities for the hospital to improve community health programming. JSI worked with BID–Needham and the Steering Committee to develop this survey. Surveys were available online, through the SurveyMonkey platform, in English. Hard copies of the survey were made available in English, Chinese, Spanish, and Russian. BID–Needham worked with local community organizations, businesses, and stakeholders to distribute the survey to community residents, including those who are typically hard-to-reach (e.g. older adults, non-English speakers). Findings from online and hard copy surveys were integrated for a full analysis. Appendix A contains a copy of the Community Health Survey and a list of survey distribution channels.

Community Benefits Evaluation

JSI reviewed the Fiscal Year 2017 Community Benefits Report to the Attorney General (AG Report) submitted by BID–Needham to help the hospital evaluate and plan for future Community Benefits activities. Activities reported in the AG Report, defined as “actions undertaken in accordance to the community benefits which contributed to achieving the strategic objective of supporting community health”, were abstracted from this report and individually scored by an evaluator at JSI. An activity was scored if it:

- Occurred at least once during FY 2017
- Was defined as a media, event/program, or a policy, systems, or environmental change
- Targeted the hospital’s community benefits service areas

An activity was not scored if it was in the planning phase. JSI determined the intensity of each activity by coding three specific attributes, according to methodology reported in previous research:

- Behavioral intention: providing information; enhancing skills, services, or support; modifying access, barriers, and opportunities; modifying policies and broader conditions
- Duration: one-time, occurring more than once, or ongoing
- Reach: proportion-high, medium, low of the total priority population involved in or touched through the activity

Two evaluation team members rated each activity attribute on a scale of 0.1 (minimum) to 1 (maximum) and calculated a single intensity score using the protocol outlined in Table 1. A second trained evaluation team member coded a randomly selected number of activities to ensure inter-rater reliability. Two factors were considered in scoring both the duration and reach. A score of 0.1 – 0.5 was given dependent upon how many times and/or how long the activity was implemented during FY2017. If the duration or reach was unclear, the evaluators scored the attribute the lowest possible score (0.1). The formula used to calculate an intensity score for each activity was:

Σ behavioral value + duration value + reach value.

Scores could range from 0.3 (lowest intensity and least likely to impact long-term outcomes) to 3.0 (highest intensity and most likely to impact long-term outcomes). A total composite score for all activities was then summed across all activities. A full summary of findings can be found in Appendix E.

Table 1: Community Benefits Evaluation Scoring Protocol

Dimension	Rubric for Scoring Intensity (0=low;1=high)
Behavioral Intervention Strategy	High (1.0): Modifying policies, systems and access Med (0.55): Enhancing services and support Low (0.1): Providing information; enhancing skills
Duration (Yearly)	High (0.5): Ongoing, throughout the year Med (0.275): More than once per year Low (0.1): One time event
Duration (Sustainability)	High (0.5): Ongoing, institutional practice Med (0.275): Ongoing, demonstrated commitment (e.g., partnership, MOU, multi-organizational involvement) Low (0.1): Would end without community-benefits dollars
Reach (Community)	High (0.5): >20% or more of the total population* Med (0.275): 5-20% of the population Low (0.1): 0-<5% of the population
Reach (Priority Population)	High (0.5): >20% or more of the total priority population^ Med (0.275): 5-20% of the population Low (0.1): 0-<5% of the population

*total population was based on the number of people living in the hospital's primary service area or the community within which the activity was implemented

^priority populations were based on the strategy's targeted population and may have been a calculation based on the prevalence of a condition across the U.S. or Massachusetts

Resource Inventory

Federal and Commonwealth requirements indicate that a Resource Inventory should be created to inform the extent to which there are gaps in health-related services. To meet this obligation, JSI compiled a list of resources across the broad continuum of services, including clinical health care services, community health and social services, and public health resources. This was done primarily by compiling information from existing resource inventories and partner lists from BID–Needham. Information was also compiled from membership lists of the existing community health coalitions and from CHNA interviews and focus groups. JSI reviewed the hospital's prior annual report of community benefits activities to the Massachusetts Attorney General, which included a listing of partners, as well as publicly available lists of local resources. The goal of this process was to identify key partners who may or may not be already partnering with the hospital. The resource inventory can be found in Appendix C.

Prioritization and Reporting

At the end of Phase II, JSI held a prioritization meeting with the CBAC. During this meeting, JSI presented quantitative and qualitative data findings, including key themes from key informant interviews, focus groups, community meeting, and the Community Health Survey. After the presentation of key findings,

the CBAC broke into small groups to discuss findings and were asked to prioritize, within their small groups:

- Leading barriers to care (i.e. social determinants of health and issues related to access to care)
- Leading clinical health issues
- Vulnerable populations

JSI aggregated priorities chosen within small groups and presented full lists to the entire group. CBAC members were then asked to choose their top three priorities within each category. Final prioritization results from the CBAC meeting are included in Table 2.

Table 2: BID–Needham CBAC Prioritization Results

Leading Barriers to Good Health	Leading Health Issues	Target Populations
High cost of health care (21%)	Mental health (27%)	Older adults (30%)
Transportation (20%)	Physical activity, nutrition, and weight (22%)	Youth and adolescents (24%)
Lack of providers (e.g. behavioral health, primary care) (17%)	Older adult health/Healthy aging (19%)	Low income (24%)
Stigma stops people from seeking certain services (14%)	Substance use (19%)	LGBTQ (14%)

JSI then presented full assessment results, including key findings from quantitative and qualitative data analysis, and results of the CBAC prioritization meeting, to the CBLT. Using the fully integrated analysis and prioritization from the CBAC, JSI drafted a set of priority and sub-priorities presented these to the CBLT for review and approval. Using the priority areas and populations as a guide, JSI worked with BID–Needham, the CBAC, and the CBLT to draft and finalize an Implementation Strategy.

Finally, JSI worked with BID–Needham in drafting and finalizing the CHNA report and IS. These documents were presented to the Board of Trustees, the authorized body of the Hospital, for approval on September 5, 2019. At this meeting, the Board of Trustees formally approved this community health needs assessment report and the associated IS. BID–Needham will be responsible for reporting on, and if necessary, updating and resubmitting their IS to the Massachusetts Attorney General’s Office on an annual basis until the next assessment cycle in 2022.

As required by Federal and Commonwealth guidelines, this CHNA will be posted on BID–Needham’s website and is available in hardcopy by request. Community members and service providers were encouraged to share their thoughts, concerns, or questions throughout the CHNA process; they are encouraged to continue to share their thoughts and ideas moving forward.

There was no written feedback on BID–Needham’s previous CHNA or IS since its posting in 2016. There was also no feedback on the Massachusetts Attorney General’s website, which publishes the Hospital’s community benefits reports and provides an opportunity for public comment. Any feedback received will be taken into account when updates and changes are made to the IS or to inform future CHNA processes.

Key Findings: Demographics

To understand community needs and health status for BID–Needham’s service area, we begin with a description of the population’s geographic and demographic characteristics, as well as the underlying social, economic and environmental factors that affect health status and equity. This information is critical to recognizing inequities, identifying target populations and health related disparities, and targeting strategic responses.

The CHNA captured a range of quantitative and qualitative data related to age, race/ethnicity, income and poverty, employment, education, and other determinants of health. The following is a summary of key findings related to community characteristics and the social, economic and environmental determinants of health for BID–Needham’s CBSA. Conclusions were drawn from quantitative data and qualitative information collected through interviews, focus groups, and the Community Health Survey. Summary data is included below; more expansive data tables are included in the BID–Needham Data Book (Appendix B).

Age

Age is a fundamental factor to consider when assessing individual and community health status. Older individuals typically have more physical and mental health vulnerabilities and are more likely to rely on immediate community resources for support compared to young people.

- All communities in BID–Needham’s CBSA had a significantly high median age compared to the Commonwealth overall.
- The percentage of the population over 65 is significantly higher than the Commonwealth in all communities, as is the percentage of the population under 18, with the exception of Dedham.

Table 3: Age Distribution

	Massachusetts	Dedham	Dover	Needham	Westwood
Median age (years)	39	43.3	44.7	43.6	45
Age under 18 (%)	20.4	19.3	27.6	26.9	26.8
Age over 65 (%)	15.5	19.8	16.1	18.2	19.3

Source: US Census Bureau, American Community Survey, 2013-2017

Shading represents statistical significance compared to the Commonwealth. Figures highlighted in orange are statistically higher compared to the Commonwealth overall, while figures highlighted in blue are significantly lower.

Race, Ethnicity, and Foreign-Born

An extensive body of research illustrates the health disparities and differences in health care access and utilization that exist for racial/ethnic minorities and foreign-born populations. According to the CDC, non-Hispanic Blacks have higher rates of premature death, infant mortality and preventable hospitalization than non-Hispanic Whites.² Hispanic/Latinos have the highest uninsured rates of any

² Centers for Disease Control and Prevention, “CDC Health Disparities and Inequalities Report (CHDIR),” Centers for Disease Control and Prevention Web Site, <https://www.cdc.gov/minorityhealth/chdireport.html>, September 10, 2015

racial or ethnic group in the United States.³ Asians are at a higher risk for developing diabetes than those of European ancestry, despite a lower average BMI.⁴ These disparities show the disproportionate and often avoidable inequities that exist within communities and reinforce the importance of understanding the demographic makeup of a community to identify populations more likely to experience adverse health outcomes. Residents of the service area were predominantly white and born in the United States (4), though there were racial/ethnic minorities and foreign-born populations in all communities.

- The percentage of residents that identified as Asian was significantly high in Dover (8.0) and Needham (8.2) compared to the Commonwealth overall (6.3).

Table 4: Race/Ethnicity and Foreign Born

	Massachusetts	Dedham	Dover	Needham	Westwood
White alone (%)	78.9	84	87.2	86.6	89.5
Black or African American alone (%)	7.4	8.6	3.0	2.1	0.3
Asian alone (%)	6.3	2.6	8	8.2	7.6
Hispanic or Latino of Any Race (%)	11.2	8.3	4.7	2.7	1.9
Foreign Born (%)	16.2	14.7	15.3	14	12.8

Source: US Census Bureau, American Community Survey, 2013-2017

Shading represents statistical significance compared to the Commonwealth. Figures highlighted in orange are statistically higher compared to the Commonwealth overall, while figures highlighted in blue are significantly lower.

Language

Language barriers pose significant challenges to providing effective and high-quality community services and health care. While many larger health care institutions, including BID–Needham, have medical interpreter services available at their facilities, research has found that the health care providers’ cultural competency is key to reducing racial and ethnic health disparities. While most residents of BID–Needham’s CBSA speak English, there are residents who speak languages other than English in all communities. Some focus group and key informant interviewees identified language and cultural issues as barriers to accessing health care services that meet their needs, especially for Asian residents who speak Chinese and have limited English proficiency.

The percentage of residents who spoke Asian and Pacific Islander languages was significantly high in Westwood (6.0) compared to the Commonwealth (4.2).

³ US Department of Health and Human Services: Office of Minority Health. Hispanic/Latino profile. <https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=3&lvlid=64>

⁴ <https://asiandiabetesprevention.org/what-is-diabetes/why-are-asians-higher-risk> Why are Asians at a Higher Risk?

Key Findings: Social Determinants of Health

The social determinants of health (SDOH) are the conditions in which people live, work, learn and play.⁵ These conditions influence and define quality of life for many segments of the population in the CHNA service area.

It is important to note that there is limited data to characterize the social determinants of health at the community level. To augment the lack of quantitative data, key informant interviews, focus groups, a community meeting, and a Community Health Survey were conducted specifically to solicit feedback on SDOH and barriers to care, among other issues. A dominant theme from these qualitative data collection activities was the tremendous impact that the underlying social determinants, particularly housing, transportation, and income/employment have on residents in the service area.

Socioeconomic Characteristics

Socioeconomic status (SES), as measured by income, employment status, occupation, education and the extent to which one lives in areas of economic disadvantage, is closely linked to morbidity, mortality and overall well-being. Lower than average life expectancy is highly correlated with low income status.⁶

Education

Higher education is associated with improved health outcomes and social development at the individual and community levels.⁷ Compared to individuals with more education, people with less education are more likely to experience health issues, such as obesity, substance use and injury.⁸ The health benefits of higher education typically include better access to resources, safer and more stable housing and better engagement with providers. Proximate factors associated with low education that affect health outcomes include the inability to navigate the health care system, educational disparities in personal health behaviors and exposure to chronic stress.⁹ It is important to note that, while education affects health, poor health status may also be a barrier to education.

- The percentage of residents with a high school degree or higher, and the percentage of the population with a Bachelor's degree or higher, was significantly high in all communities in BID–Needham's service area compared to the Commonwealth overall (Table 5).

⁵ Centers for Disease Control and Prevention, "Social Determinants of Health: Know What Affects Health," Centers for Disease Control and Prevention Web Site, <https://www.cdc.gov/socialdeterminants/>, January 29, 2018.

⁶ Raj Chetty, Michael Stepner, Sarah Abraham, Shelby Lin, Benjamin Scuderi, Nicholas Turner, Augustin Bergeron, and David Cutler, "The Association Between Income and Life Expectancy in the United States, 2001-2014," *Journal of the American Medical Association* 315, no. 16 (April 26, 2016): 1750-1766.

⁷ Emily B. Zimmerman, Steven H. Woolf, and Amber Haley, "Population Health: Behavioral and Social Science Insights – Understanding the Relationship Between Education and Health," Agency for Healthcare Research and Quality Web Site, <https://www.ahrq.gov/professionals/education/curriculum-tools/population-health/zimmerman.html>, September 2015

⁸ Centers for Disease Control and Prevention, "Adolescent and School Health: Health Disparities," Centers for Disease Control and Prevention Web Site, <https://www.cdc.gov/healthyyouth/disparities/index.htm>, August 17, 2018

⁹ Zimmerman, *Population Health*

Table 5: Educational Attainment

	Massachusetts	Dedham	Dover	Needham	Westwood
High school degree or higher (%)	90.3	93.6	98.3	97.7	97.5
Bachelor's degree or higher (%)	42.1	48.9	82.7	74.6	70.4

Source: US Census Bureau, American Community Survey, 2013-2017

Shading represents statistical significance compared to the Commonwealth. Figures highlighted in orange are statistically higher compared to the Commonwealth overall, while figures highlighted in blue are significantly lower.

The Massachusetts Department of Elementary and Secondary Education provides data on public school enrollment, attendance, retention and student characteristics (Table 6). In all communities in BID–Needham’s CBSA, the dropout rate, percentage of English language learners, and percentage of economically disadvantaged students were lower than the Commonwealth overall. The percentage of students with disabilities was higher than the Commonwealth in Dedham.

Table 6: School Enrollment, by District

	Massachusetts	Dedham	Dover	Needham	Westwood
Dropout rate(%), 2017	4.9	2.5	0	0.2	0.4
English language learners (%), 2018-19	10.5	7.3	3.2	2.9	0.9
Students with Disabilities(%), 2018-19	18.1	23.2	13.1	17.2	16.9
Economically disadvantaged(%), 2018-19	31.2	23	2	9.1	4.8

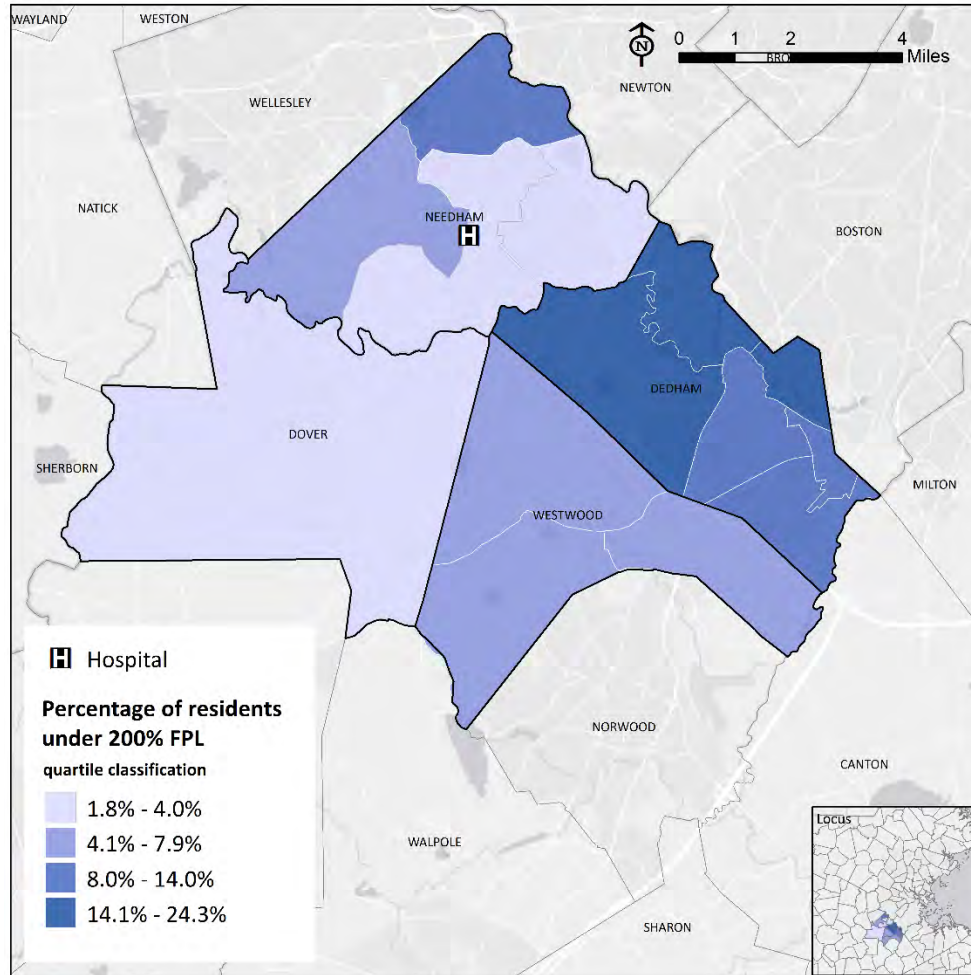
Source: Massachusetts Department of Elementary and Secondary Education School and District Profiles

Employment, Income, and Poverty

Lack of gainful and reliable employment is linked to several barriers to care, including lack of health insurance, inability to pay for health care services and copays, and inability to pay for transportation to enable individuals to receive services. In key informant interviews and focus groups, participants stressed that while unemployment may be low across the service area, many live on fixed incomes or are “underemployed.” Certain populations struggle to find and retain employment for a variety of reasons—ranging from mental and physical health issues, to lack of childcare, to transportation issues and other factors.

Like education, income impacts all aspects of an individual’s life, including the ability to secure housing, needed goods (e.g. food, clothing), and services (e.g. transportation, healthcare, childcare). It may also affects one’s ability to maintain good health. While many of the municipalities in BID–Needham’s CBSA had median household incomes that were significantly higher than the Commonwealth overall, key informant interviewees and focus group participants reported that there were pockets of poverty throughout the service area, even in towns that were considered to be affluent.

Figure 2: Percent of Population Under 200% Federal Poverty Level



Housing

Lack of affordable housing and poor housing conditions contributes to a wide range of health issues, including respiratory diseases, lead poisoning, infectious disease and poor mental health.¹⁰ At the extreme are those without housing, including those who are homeless or living in unstable or transient housing situations. They are more likely to delay medical care and have mortality rates four times higher than those who have secure housing.¹¹

According to a 2013 study of America's 25 largest cities, lack of affordable housing was the leading cause of homelessness. Adults who are homeless or living in unstable situations are more likely to experience mental health issues, substance use, intimate partner violence and trauma; children in similar situations have difficulty in school and are more likely to exhibit antisocial behavior.¹² Many key informants and

¹⁰ James Krieger and Donna L. Higgins, "Housing and Health: Time Again for Public Health Action," *American Journal of Public Health* 92, no. 5 (2002): 758-768.

¹¹ Thomas Kottke, Andriana Abariotes, and Joel B. Spoonheim, "Access to Affordable Housing Promotes Health and Well-Being and Reduces Hospital Visits," *The Permanente Journal* 22, (2018): 17-079.

¹² Kottke, *Access to Affordable*

focus group/forum participants expressed concern over the limited options for affordable housing throughout the service area. This was particularly an issue for older adults, who often bear the burden of household costs (e.g. taxes, maintenance, adaptabilities) while living on fixed incomes. Lack of access to affordable assisted living facilities and transitional housing was also identified as an issue. Finally, some key informants and focus group participants felt as though public housing in options were in need of renovation.

- The percentage of owner occupied housing units was significantly high in all communities compared to the Commonwealth overall. The percentage of residents whose monthly owner costs exceed 30% of total household income was similar to the Commonwealth overall (31.5) in Dover (34.0), Needham (27.8), and Westwood (29.7), and was significantly lower in Dedham (27.)
- The percentage of rent occupied housing units was significantly low in all communities compared to the Commonwealth overall. The percentage of residents whose monthly rent exceeds 30% of total household income was similar to the Commonwealth in all communities.

Table 7: Housing

	Massachusetts	Dedham	Dover	Needham	Westwood
Vacant housing units (%)	9.7	3.7	4.8	2.8	6.1
Owner-occupied (%)	62.4	69.1	95.7	82.6	86.1
Monthly owner costs exceed 30% of household income (%)	31.5	27.0	34.0	27.8	29.7
Renter-occupied (%)	37.6	30.9	4.3	17.4	13.9
Gross rent exceeds 30% of household income (%)	50.1	56.2	53.8	49.2	46.4

Source: US Census Bureau, American Community Survey, 2013-2017

Shading represents statistical significance compared to the Commonwealth. Figures highlighted in orange are statistically higher compared to the Commonwealth overall, while figures highlighted in blue are significantly lower.

Transportation

Lack of transportation has a significant impact on access to health care services and is a determinant of whether an individual or family has the ability to access the basic resources that allow them to live productive and fulfilling lives. Access to affordable and reliable transportation widens opportunity and is essential to addressing poverty and unemployment; it allows access to work, school, healthy foods, recreational facilities and a myriad of other community resources.

There is very limited quantitative data to characterize issues related to transportation. Interviewees, focus group participants, and survey respondents felt that transportation was a critical barrier to health and access to care, especially for those who lived outside of Needham, and for older adults without access to a personal vehicle. BID–Needham’s CBAC identified transportation as the second leading barrier to good health.

- The mean commute time to work was significantly high in Dover (34.8 minutes) and Westwood (34.0) minutes compared to the Commonwealth overall (29.3).
- The percentage of residents who work outside of their county of residence was significantly high in all communities compared to the Commonwealth overall.

Table 8: Transportation

	Massachusetts	Dedham	Dover	Needham	Westwood
Takes car, truck, van (alone) to work (%)	70.7	70.9	70.5	71.4	67.6
Mean commute time (minutes) to work	29.3	30.5	34.8	30.4	34.0
Worked outside county of residence (%)	30.8	51.4	50.0	55.5	52.1

Source: US Census Bureau, American Community Survey, 2013-2017

Shading represents statistical significance compared to the Commonwealth. Figures highlighted in orange are statistically higher compared to the Commonwealth overall, while figures highlighted in blue are significantly lower.

Food Access

Issues related to food insecurity, food scarcity and hunger were discussed as risk factors to poor physical and mental health for both children and adults. There is an overwhelming body of evidence to show that many families, particularly low income families of color, struggle to access food that is affordable, high-quality and healthy. While it is important to have grocery stores placed throughout a community to promote access, research shows that there are a number of factors that influence healthy eating, including quality and price of fruits and vegetables, marketing of unhealthy food and cultural appropriateness of food offerings.¹³ Food pantries are often used as long-term strategies to supplement monthly shortfalls in food. Pantries and community meal programs have evolved from providing temporary or emergency food assistance to providing ongoing support for individuals, families, seniors living on fixed income, people with disabilities and adults working multiple low-wage jobs to make ends meet. Key informant interviewees and focus group participants mentioned local efforts to combat food insecurity and provide education on healthy choices, and felt there was a strong network of organizations working in this realm. Key informants also identified that there were no grocery stores or pharmacies in Dover.

- The percentage of residents who had received food stamp/SNAP benefits in the past 12 months was significantly low in all communities compared to the Commonwealth overall.

Crime/Violence

Crime and violence are public health issues that influence health status on many levels, from death and injury, to emotional trauma, anxiety, isolation and absence of community cohesion. Across the service area, violent and property crime rates were similar or lower compared to the Commonwealth (Table 9).

¹³ The Food Trust, "Access to Healthy Food and Why It Matters: A Review of the Research,"

http://thefoodtrust.org/uploads/media_items/executive-summary-access-to-healthy-food-and-why-it-matters.original.pdf

Table 9: Crime Rates, 2017

	Massachusetts	Dedham	Dover	Needham	Westwood
Violent crime rate (per 100,000)	353	39	17	29	116
Murder/non-negligent manslaughter	3	0	0	3	0
Forcible rape	30	8	0	6	37
Robbery	70	24	0	0	6
Aggravated assault	250	8	17	19	73
Property crime rate (per 100,000)	1,398	1684	297	625	1009
Burglary	247	59	17	19	61
Larceny-theft	1,041	1566	248	602	936
Motor vehicle theft	110	59	33	3	12
Arson	6	0	0	3	0

Source: FBI Uniform Crime Statistics, 2017

Built Environment

The built environment—buildings, streets, parks, open spaces and other forms of physical infrastructure—have major influences on physical activity and lifestyle. Creating safe outdoor spaces for people to exercise, relax, and commute is an important component in establishing healthy lifestyle habits that protect against poor health outcomes. While concerns related to the built environment were not key themes of this assessment, these issues can work to either prevent or contribute to disease and disability in the community. There are a number of valuable community resources in the service area, including playgrounds, parks, athletic fields, walking trails, bike paths, dog parks, waterways, and recreational centers.

Key Findings: Behavioral Risk Factors and Health Status

At the core of the CHNA process is understanding access-to-care issues, leading causes of morbidity and mortality, and the extent to which populations and communities participate in certain risky behaviors. This information is critical to assessing health status, clarifying health-related disparities and identifying health priorities. This assessment captures a wide range of quantitative data from federal and municipal data sources. Qualitative information gathered from key informant interviews, focus groups, and the community health survey informed this section of the report by providing perspective on the confounding and contributing factors of illness, health priorities, barriers to care, service gaps and possible strategic responses to the issues identified. This data augmented the quantitative data and allowed for the identification of vulnerable population cohorts.

Health Insurance and Access to Care

Whether an individual has health insurance—and the extent to which it helps to pay for needed acute services and access to a full continuum of high-quality, timely and accessible preventive and disease management or follow-up services—has been shown to be critical to overall health and well-being.¹⁴ Access to a usual source of primary care is particularly important, since it greatly affects the individual's ability to receive regular preventive, routine and urgent care and to manage chronic diseases.

While Massachusetts has one of the highest health insurance coverage rates in the U.S., there are still pockets of individuals without coverage, including young people, immigrants and refugees, and those who are unemployed. Many key informants and focus group/forum participants identified issues around navigating the health system, including health insurance, as a critical issue. This was especially an issue for older adults attempting to navigate Medicaid eligibility, costs, and coverage; low-to-moderate income populations—those who do not meet eligibility requirements for public insurance and/or public assistance programs and struggle to afford the rising costs of health care premiums; and non-English speakers who may face language and cultural barriers. BID–Needham's CBAC identified the high cost of healthcare as the leading barrier to good health for residents of the service area.

Table 10: Health Insurance Coverage

	Massachusetts	Dedham	Dover	Needham	Westwood
Uninsured (%)	3.0	2.3	1.4	1.4	0.9
Public health insurance (%)	35.5	32.5	23.2	22.7	23.7
Private health insurance (%)	74.2	81.7	90.8	94.0	90.3

Source: US Census Bureau, American Community Survey, 2013-2017

Shading represents statistical significance compared to the Commonwealth. Figures highlighted in orange are statistically higher compared to the Commonwealth overall, while figures highlighted in blue are significantly lower.

¹⁴ National Center for Health Statistics, "Health Insurance and Access to Care." February 2017. Retrieved from https://www.cdc.gov/nchs/data/factsheets/factsheet_hiac.pdf

Physical Activity, Nutrition, and Weight

Lack of physical fitness and poor nutrition are among the leading risk factors associated with obesity and chronic health issues. Adequate nutrition helps prevent disease and is essential for the healthy growth and development of children and adolescents, while overall fitness and the extent to which people are physically active reduce the risk for many chronic conditions and are linked to good emotional health. Over the past two decades, obesity rates in the United States have doubled for adults and tripled for children. Overall, these trends have spanned all segments of the population, regardless of age, sex, race, ethnicity, education, income or geographic region.

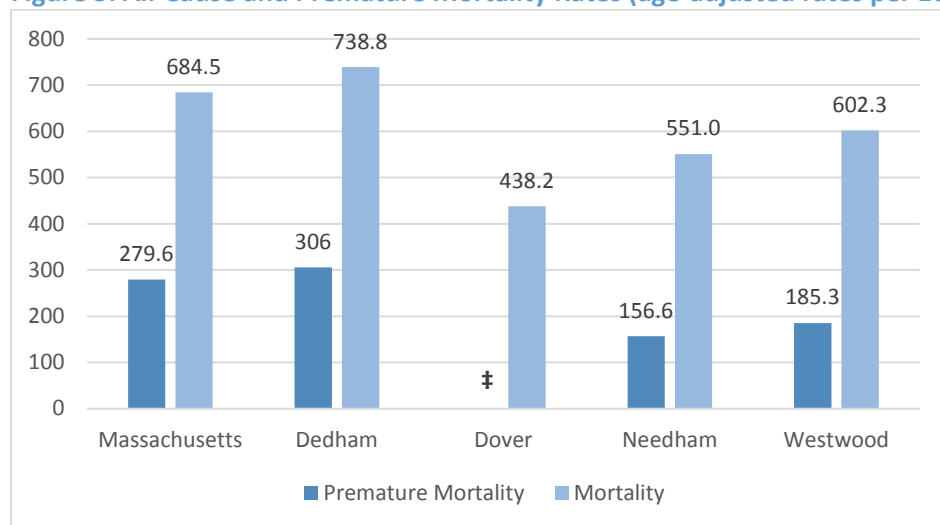
Data on the percentage of the population who are obese or overweight is available through the Behavioral Risk Factor Surveillance Survey, but is not available at the municipal level. However, lack of physical activity, poor nutrition, and obesity were identified as key risk factors for chronic and complex conditions by key informant interviewees and focus group/community forum participants. Physical inactivity and sedentary lifestyle was identified as the second leading barrier to good health amongst those who took the Community Health Survey.

All-Cause Mortality and Premature Mortality

The all-cause and premature mortality rates do not indicate that all residents of a municipality have equal or similar access to care simply based on proximity to services. For example, not all residents in Needham have better access to health services, and therefore lower rates, than those in other municipalities, simply because they live closer to the hospital.

- All-cause mortality rates were lower in Dover (438.2), Needham (551.0), and Westwood (602.3) compared to the Commonwealth overall (684.5); significantly lower in Dover and Needham.
- Premature mortality rates were significantly low in Needham (156.6) and Westwood (185.3) compared to the Commonwealth overall (279.6). The premature mortality rate in Dover was suppressed due to small numbers.

Figure 3: All-Cause and Premature Mortality Rates (age-adjusted rates per 100,000)



Source: MDPH Registry of Vital Records and Statistics, 2015

Chronic and Complex Conditions

Chronic conditions such as heart disease, cancer, stroke, Alzheimer’s disease, and diabetes are the leading causes of death and disability in the United States, and are the leading drivers of the nation’s \$3.3 trillion annual healthcare costs.¹⁵ Over half of American adults have at least one chronic condition, while 40% have two or more.¹⁶ Perhaps most significantly, chronic diseases are largely preventable despite their high prevalence and dramatic impact on individuals and society. This underscores the need to focus on health risk factors, primary care engagement and evidence-based chronic disease management. There was broad, if not universal, acknowledgement and awareness of these pervasive health issues among interviewees and forum participants.

Key informants, focus group/forum participants, and members of the CBAC were also concerned about the lack of specialty care providers in the service area. The CBAC identified lack of providers- particularly behavioral health and primary care providers – as the third leading barrier to good health for residents of the CBSA. Access to specialty care plays a role in the prevention, treatment, and management of many chronic and complex conditions.

Cardiovascular and Cerebrovascular Diseases

Cardiovascular and cerebrovascular diseases, such as heart disease and stroke, are affected by a number of health and behavioral risk factors, including obesity and physical inactivity, tobacco use, and alcohol use. Hypertension, or high blood pressure, increases the risk of more serious health issues including heart failure, stroke and other forms of major cardiovascular disease. Racial disparities in heart disease and hypertension are well-documented; black/African Americans are two to three times as likely as whites to die of preventable heart disease and stroke.¹⁷ The age of onset for stroke is earlier for African Americans and Hispanic/Latinos compared to non-Hispanic whites.¹⁸

Though the heart disease mortality rate was higher than the Commonwealth (138.7) in Dedham (149.3) and Westwood (164.1), neither rates were significant (Figure 5).

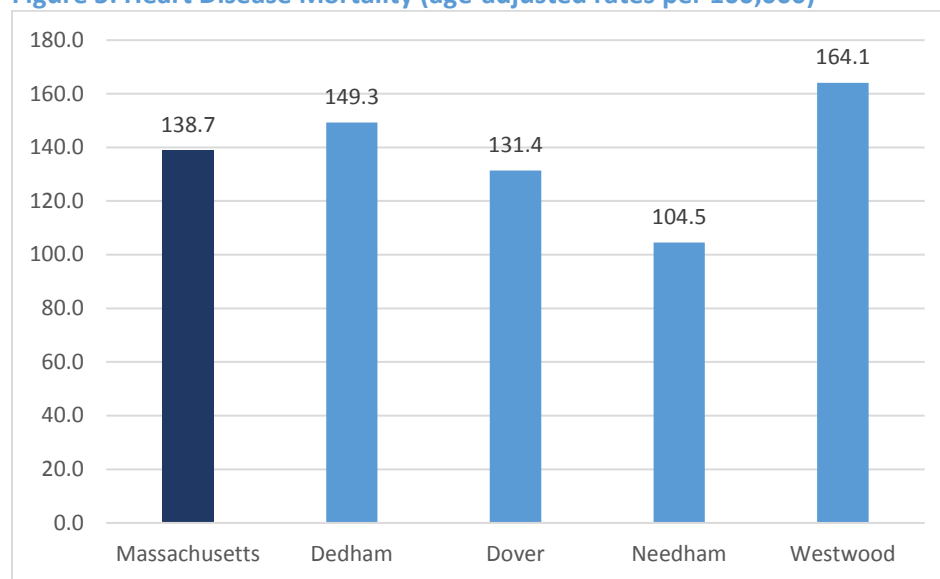
¹⁵ Centers for Disease Control and Prevention, “Chronic Diseases in America,” US Census Bureau, 2013-2017 ACS 5-Year Estimates, last updated April 15, 2019.

¹⁶ CDC, *Chronic Diseases in America*

¹⁷ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5638710/>

¹⁸ <https://www.stroke.org/understand-stroke/impact-of-stroke/minorities-and-stroke/>

Figure 5: Heart Disease Mortality (age-adjusted rates per 100,000)



Source: MDPH Registry of Vital Records and Statistics, 2015

Diabetes

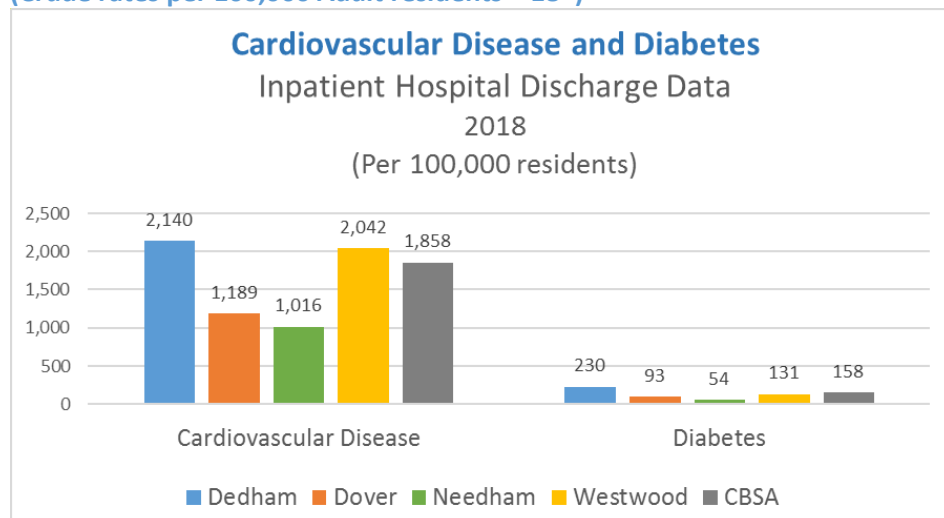
Over the course of a lifetime, approximately 40% of adults in the U.S. are expected to develop type 2 diabetes.¹⁹ Several factors increase the risk of developing type 2 diabetes, including being overweight, physical inactivity, age, and family history. Having diabetes increases the risk of cardiovascular comorbidities (e.g. hypertension, atherosclerosis), may limit ability to engage in physical activity, and may have negative impacts on metabolism.²⁰ Key informants and focus group participants identified diabetes as a health issue in the service area, especially for those who are unable to manage the condition or who struggle with other chronic health issues.

Relative to the CBSA average, Dedham has the highest rate of hospital inpatient discharge per 100,000 adults for cardiovascular disease, and Westwood's rate is a close second. With respect to diabetes, Dedham's and Westwood's rates are also the highest in the service area but in this case Dedham's rate of hospital inpatient discharge is nearly twice as high as Westwood's rate, the next highest municipality. Needham has the lowest rates of discharge for both cardiovascular disease and diabetes compared to the towns in BID–Needham's CBSA.

¹⁹ ³⁸ Centers for Disease Control and Prevention, "Hispanic Health: Prevention Type 2 Diabetes," Centers for Disease Control and Prevention Web Site, <https://www.cdc.gov/features/hispanichealth/index.html>, September 18, 2017

²⁰ <http://outpatient.aace.com/type-2-diabetes/management-of-common-comorbidities-of-diabetes>

**Figure 6: Cardiovascular Disease and Diabetes, Inpatient Hospital Discharge Rates
(Crude rates per 100,000 Adult residents – 18+)**



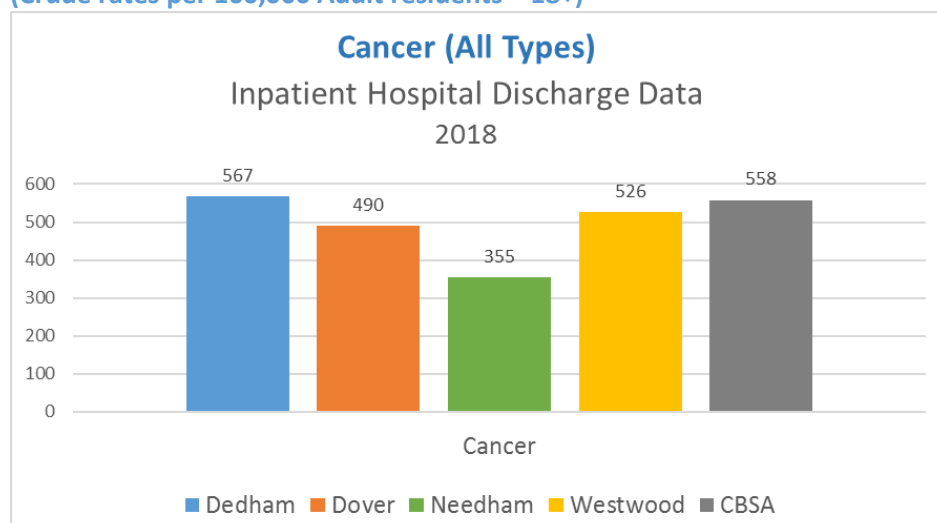
Source: Massachusetts Center for Health Information and Analysis, Case Mix Data. Hospital Inpatient Discharge Data. 2017

Cancer

The most common risk factors are well known: age, family history of cancer, alcohol and tobacco use, diet, exposure to cancer causing substances, chronic inflammation, and hormones. Chronic and complex conditions, including cancer, and their risk factors were prioritized by key informants and focus group/forum participants.

With respect to cancer (all types), once again Dedham and Westwood have the highest rates of hospital inpatient discharge (nearly identical rates), and Needham's rate is the lowest. Needham's rate is two-thirds of the service area average.

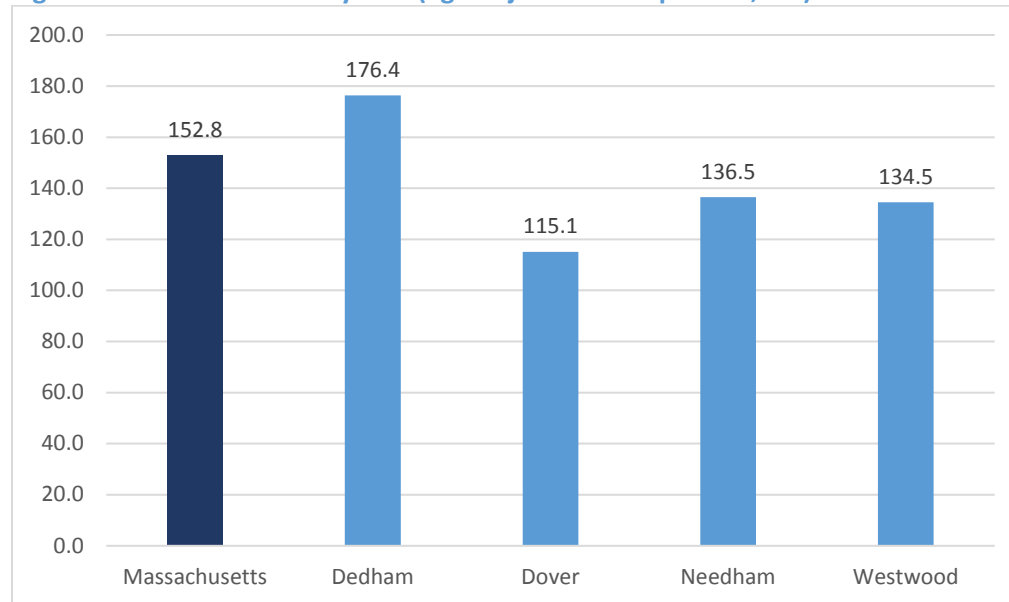
**Figure 7: Cancer (All Types) Inpatient Hospital Discharge Rates
(Crude rates per 100,000 Adult residents – 18+)**



Source: Massachusetts Center for Health Information and Analysis, Case Mix Data. Hospital Inpatient Discharge Data. 2017

The all-cause cancer mortality rate was higher than the Commonwealth (152.8) in Dedham (176.4) though not significantly higher. Rates were lower in Dover (115.1), Needham (136.5), and Westwood (134.5) compared to the Commonwealth, though not significantly lower.

Figure 8: All-cause mortality rate (age-adjusted rates per 100,000)



Source: MDPH Registry of Vital Records and Statistics, 2015

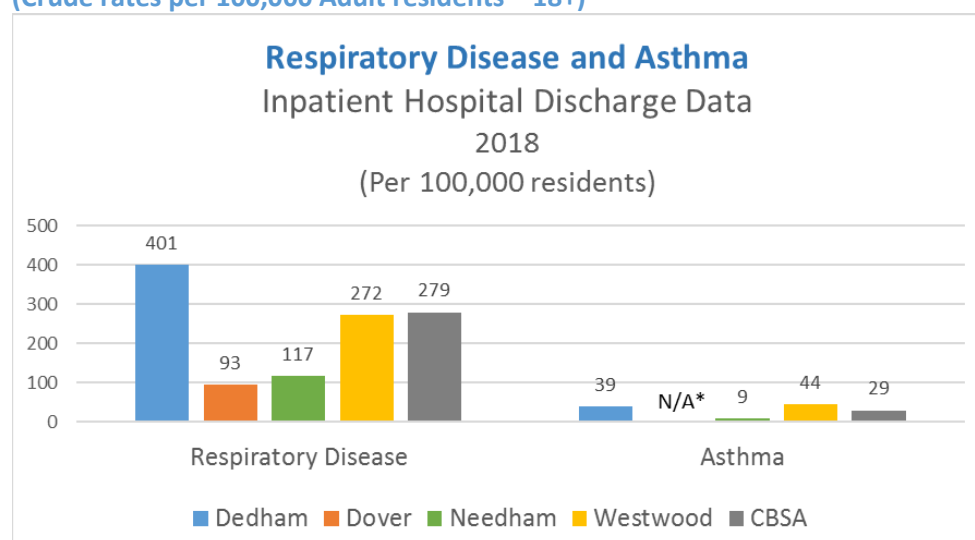
Respiratory Diseases

Respiratory diseases such as asthma and chronic obstructive pulmonary disorder (COPD) are exacerbated by behavioral, environmental and location-based risk factors, including smoking, diet and nutrition, substandard housing and environmental exposures (e.g., air pollution, secondhand smoke). They are the third leading cause of death in the United States. In many scenarios, quality of life for those with respiratory diseases can improve with proper care and management.²¹

With respect to chronic lower respiratory disease (CLRD) and asthma, once again, Dedham and Westwood have the highest rates of hospital inpatient discharge per 100,000 residents. With respect to CLRD, Dedham's rate is 50% higher than Westwood's rate, which is the second highest, and four times higher than Dover's rate, which is the lowest in BID–Needham's CBSA.

²¹ Office of Disease Prevention and Health Promotion, "Respiratory Diseases," Retrieved from <https://www.healthypeople.gov/2020/topics-objectives/topic/respiratory-diseases>

**Figure 9: Respiratory Disease and Asthma, Inpatient Hospital Discharge Rates
(Crude rates per 100,000 Adult residents – 18+)**



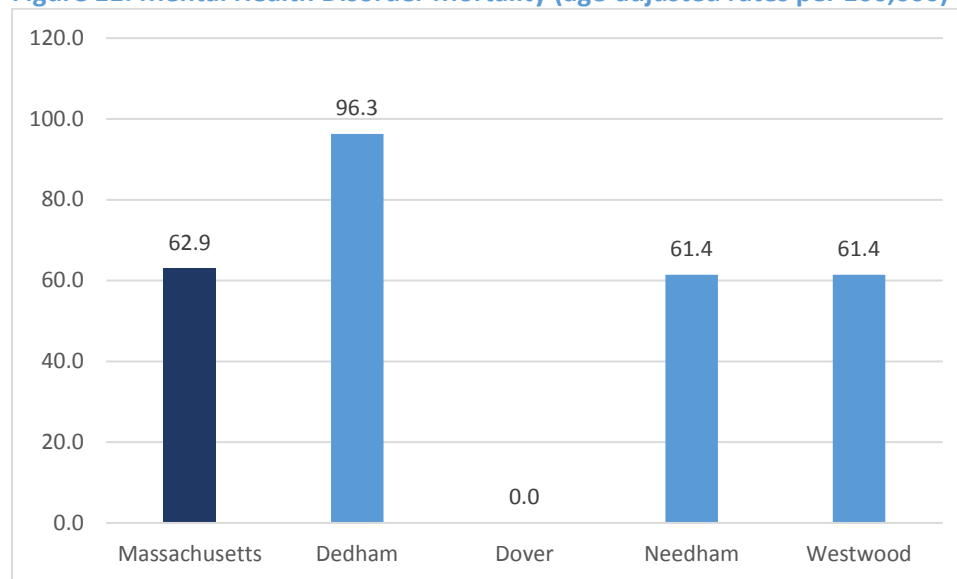
Source: Massachusetts Center for Health Information and Analysis, Case Mix Data. Hospital Inpatient Discharge Data. 2017

Mental Health

Mental health—including depression, anxiety, stress, serious mental illness and other conditions—was overwhelmingly identified as one of the leading health issue for residents of BID–Needham’s service area. Individuals from across the health service spectrum discussed the burden of mental health issues for all segment of the population, specifically the prevalence of mild to moderate depression and anxiety. Key informants and focus group participants also identified issues of chronic stress and anxiety amongst youth, theorizing that the impact of social media, interpersonal relationships, and the pressure to succeed in school and activities were the main contributors to this issue.

- The mental disorder mortality rate was significantly high in Dedham (96.3) compared to the Commonwealth overall (62.9) (Figure 11). The rate was significantly lower than the Commonwealth in Dover (0). Note that this data set is limited to only one year of data and that these rates are not a true reflection of the burden of mental health issues in the CBSA; while mental health disorders underlie many other medical conditions, including substance misuse, they are often not the primary cause of death.

Figure 11: Mental Health Disorder Mortality (age-adjusted rates per 100,000)



Source: MDPH Registry of Vital Records and Statistics, 2015

The MetroWest Adolescent Health Survey (MWAHS) is a regional initiative of the MetroWest Health Foundation. The survey intends to monitor trends, identify emergent adolescent health issues, and to mobilize and empower schools and communities to make data-informed decisions. The survey is administered on a biannual basis to 25 public school districts, including Dedham, Dover-Sherborn, and Needham.

Table 11: MetroWest Adolescent Health Survey Data

% of High School students who:	Massachusetts	Dedham	Dover-Sherborn	Needham
Experienced depressive symptoms in last 12 months	30	22	14.3	14
Reported life was very stressful in past 30 days	N/A	34	33.5	38
Seriously considered suicide in last 12 months	18	16	10.6	10
Were often or very often stressed about:				
School issues	N/A	65	71	69
Social issues	N/A	31	N/A	32
Family issues	N/A	30	N/A	22
Safety issues	N/A	6	N/A	4
Appearance issues	N/A	30	N/A	28
Physical/emotional health	N/A	27	N/A	25

Source: MetroWest Adolescent Health Survey, 2016

Key informants and focus group participants were also concerned about social isolation and depression amongst older adults, especially frail elders living alone or who did not have a regular caregiver.

According to community profiles put together by the Massachusetts Healthy Aging Collaborative:

- The percentage of older adults with depression in Dedham (34.8) was significantly higher than the Commonwealth overall (31.5). The percentages in Dover (20.2) and Needham (29.5) were significantly lower.
- The percentage of older adults with anxiety disorders in Dover (15.5) and Needham (22.7) were significantly lower than the Commonwealth overall (25.4).

Table 12: Mental health of older adults

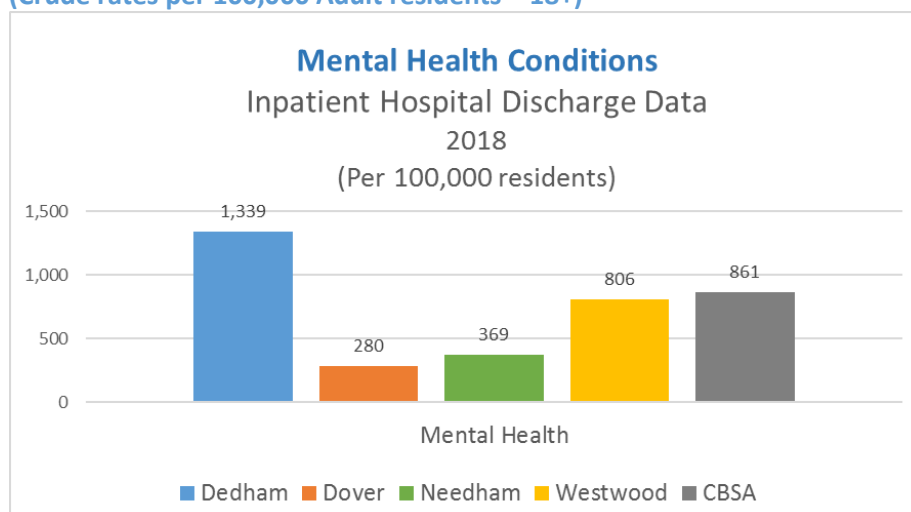
	Massachusetts	Dedham	Dover	Needham	Westwood
% 65+ with depression	31.5	34.8	20.2	29.5	31.7
% 65+ with anxiety disorders	25.4	26.9	15.5	22.7	24.9

Source: Massachusetts Healthy Aging Collaborative, Massachusetts Healthy Aging Community Profiles, 2018

Beyond the concern around specific conditions and vulnerable segments of the population, key informants and focus group/forum participants were concerned about barriers to mental health care, including stigma, lack of services across the spectrum (inpatient, outpatient, and specialty providers), and lack of support services (counselors, licensed social workers). Inpatient mental health services and outpatient mental health services were the #1 and #2 most difficult services to access among those who took the Community Health Survey.

Based on a review of hospital inpatient discharge rates per 100,000 adults (18+) for the leading mental health diagnoses by the municipalities in BID–Needham’s CBSA, Dedham, once again, has a substantially higher rate of discharge than the other towns in the service area. Dover’s rate is the lowest rate, followed by Needham. Dover’s rate is one-third the CBSA average.

Figure 12: Mental Health Conditions, Inpatient Hospital Discharge Rates (Crude rates per 100,000 Adult residents – 18+)



Source: Massachusetts Center for Health Information and Analysis, Case Mix Data. Hospital Inpatient Discharge Data. 2017

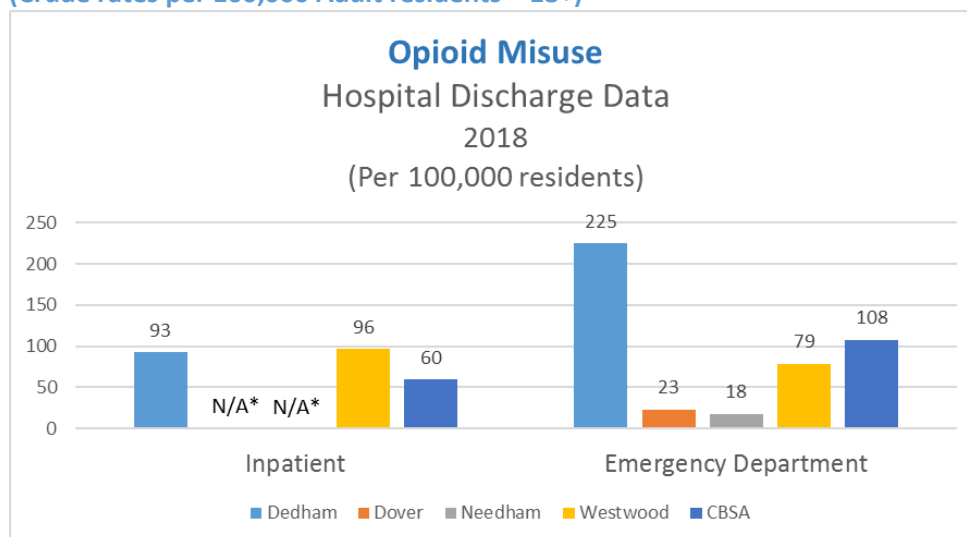
Substance Use

Along with mental health, substance use was named as a leading health issue among key informants and focus group/forum/survey participants. Behavioral health providers reported that individuals continue to struggle to access care services, including rehabilitation and detox, outpatient treatment and medication-assisted treatment. As with mental health services, there are a number of community partners working to fill service gaps and address the needs of both individuals and the at-large community, although some individuals may face delays or barriers to care due to limited providers and specialists, limited treatment beds and social determinants that impede access (e.g., insurance coverage, transportation, employment, health literacy).

Key informants and focus group participants were concerned about the opioid epidemic and the effects it has not only on those struggling with addiction, but on families, communities, and society.

Based on a review of hospital inpatient and emergency department discharge rates per 100,000 adults (18+) for opioid misuse, Dedham's and Westwood's rates are the highest and drive up the service area average. Dover's and Needham's rates are only a fraction of Dedham's and Westwood's and in the case of inpatient discharge have been suppressed due to the small number. Dedham's rate is particularly high in the case of emergency department inpatient discharge, with its rate being ten times higher than the rate for the lowest town in the service area.

Figure 13: Opioid Misuse, Inpatient Hospital Discharge Rates
(Crude rates per 100,000 Adult residents – 18+)



Source: Massachusetts Center for Health Information and Analysis, Case Mix Data. Hospital Inpatient Discharge Data. 2017

* Dover's and Needham's rates are not available because they have been suppressed due to the low number of discharges.

Several participants offered that while alcohol misuse is not as "acute" an issue as opioids, it is more prevalent and is a major contributor to rates of chronic disease (e.g. cancer, liver disease, cardiovascular disease). Among those from the service area treated in facilities licensed by the Massachusetts Bureau of Substance Abuse Services (BSAS), alcohol was the primary substance of use in Dover, Needham, and Westwood (Table 13).

Table 13: Substance Use

	Massachusetts	Dedham	Dover	Needham	Westwood
Opioid death count (by city/town of residence), 2017	8,188	25	1	3	8
Opioid death count (by city/town of occurrence), 2017	8,349	10	0	4	8
BSAS admissions (#), 2017	80,896	234	0-100	0-100	0-100
Primary substance of use (%)	Heroin (53.1)	Heroin (54.5)	Alcohol (80.0)	Alcohol (50.8)	Alcohol (45.0)

Source: Massachusetts Department of Public Health, Bureau of Substance Abuse Services, Utilization and Program Data, 2017

Vaping, or e-cigarette use, was a primary concern for youth. Key informants referred to e-cigarette use as an epidemic and were concerned not only with education and prevention efforts, but treating those who had developed nicotine addictions. Changing community norms around marijuana, especially in light of legalizing in Massachusetts, was also a concern amongst key informants and focus group participants, especially for young people.

The MWAHS monitors trends around substance use. According to 2016 survey results, the percentage of high school students in Dedham, Dover-Sherborn, and Needham public school districts who had ever used cigarettes, alcohol, marijuana, and e-cigarettes was lower than the Commonwealth overall (Table 14). The percentage of students who report currently using e-cigarettes was also lower than the Commonwealth across all three districts.

Table 14 Substance Use Amongst High School Students

% of High School students who:	Massachusetts	Dedham	Dover-Sherborn	Needham
Ever used cigarettes	28	17	12	13
Ever used alcohol	61	54	58	49
Ever used marijuana	41	32	29	24
Ever used prescription drugs without a doctor's prescription	N/A	6	7	5
Ever used e-cigarette	45	31	29	26
Currently use e-cigarette	24	11	14	16

Source: MetroWest Adolescent Health Survey, 2016

Infectious Disease

Though great strides have been made to control the spread of infectious diseases in the U.S., they remain a major cause of illness, disability and even death. STIs, diseases transmitted through drug use, vector-borne illnesses, tuberculosis, pneumonia and influenza are among the infectious diseases that have the greatest impact on modern American populations. Though not named as a major health concern by interviewees or participants of forums and focus groups, disease burden is tracked to

prevent outbreaks and identify patterns in morbidity and mortality. Young children, older adults, individuals with compromised immune systems, injection drug users and those having unprotected sex are most at risk for contracting infectious diseases.

Table 15: Infectious Disease

	Massachusetts	Dedham	Dover	Needham	Westwood
Chlamydia cases (lab confirmed), 2017	29203	70	7	47	24
Gonorrhea cases (lab confirmed), 2017	7307	18	0	6	<5
Syphilis cases (probable and confirmed), 2017	1091	8	0	<5	<5
Hepatitis A cases (confirmed), 2017	53	0	0	0	0
Chronic Hepatitis B (confirmed and probable), 2017	2023	6	0	<5	<5
Hepatitis C cases (confirmed and probable), 2017	7765	42	<5	11	5
Pneumonia/influenza mortality (age-adjusted per 100,000)*	17.1	18.7	0	11	20.2

Source: MDPH Bureau of Infectious Disease and Laboratory Services, 2017 || *MDPH Registry of Vital Records and Statistics, 2015

Community Health Priorities and Priority Population Segments

Between October 2018 and April 2019, BID–Needham conducted a comprehensive CHNA that included an extensive review of quantitative data and qualitative information gathered through interviews, focus groups, a community meeting, and a Community Health Survey. A resource inventory was also completed to identify existing health-related assets and service gaps. A detailed review of the CHNA approach, data collection methods, and key findings are included in the body and Appendices of this report.

Once BID–Needham’s CHNA activities were completed, BID–Needham’s Community Benefits staff convened the BID–Needham CBAC and CBLT and conducted a series of strategic planning meetings. These meetings allowed Hospital staff and a representative group of external community health stakeholders to review the quantitative and qualitative findings from the CHNA, prioritize the leading community health issues, identify segments of the population most at-risk, review existing community benefits programming, and begin to develop BID–Needham’s 2020–2022 Implementation Strategy (IS). After these strategic planning meetings, BID–Needham’s Community Benefits staff continued to work with the CBAC, CBLT, and other community partners to develop draft and final versions of BID–Needham’s IS.

A Summary Implementation Strategy, with goals, priority populations, objectives, and strategies may be found in Appendix D.

Core IS Planning Principles and State Priorities

In developing the IS, care was taken to ensure that BID–Needham’s community health priorities were aligned with the Commonwealth of Massachusetts priorities set by the MDPH and the MA AGO (Table 16). Care was also taken to ensure that the IS was aligned with broader principals drawn from the Commonwealth’s Community Benefit Guidelines and the literature on how to best promote community health improvement and prevention efforts.

Table 16: Massachusetts Community Health Priorities

<i>Community Benefit Priorities</i>	<i>Determination of Need Priorities</i>
<ul style="list-style-type: none">• Housing stability and homelessness• Mental illness and mental health• Substance Use Disorders• Chronic disease, with a focus on cancer, heart disease, and diabetes	<ul style="list-style-type: none">• Built environments• Social environments• Housing• Violence• Education• Employment

Priority Populations

BID–Needham is committed to improving the health status and well-being of all residents living throughout its service area. Certainly all geographic, demographic, and socioeconomic segments of the

population face challenges of some kind that can hinder their ability to access care or maintain good health. Regardless of age, race/ethnicity, income, family history, or other characteristics, everyone is impacted in some way by health-related risks. With this in mind, BID–Needham’s IS includes activities that will support residents throughout its service area, across all segments of the population. However, based on the assessment’s quantitative and qualitative findings, there was broad agreement that BID–Needham’s IS should prioritize certain demographic and socio-economic segments of the population that have complex needs or face especially significant barriers to care, service gaps, or adverse social determinants of health that put them at greater risk. The assessment identified 1) Youth, 2) Older adults, 3) Low to moderate income individuals and families, and 4) Individuals with chronic and complex conditions as priority populations to be included in the IS.

Figure 14: BID–Needham Priority Populations 2020-2022



Youth

Youth and adolescents were identified as among the most vulnerable and at-risk populations in the region. Participants’ reasons for believing this group should be prioritized varied, but centered on the impacts of mental health and substance use. Adolescence is a critical transitional period that includes biological and developmental milestones that are important to establishing long-term identity and independence, but can lead to conflict, isolation and tension between adolescents and parents or caregivers. During this time, young people may struggle to access health education and information, social services, or may be seen by providers that misunderstand the needs of those in this age group. Although adolescents are generally healthy, they do struggle with health and social issues, such as obesity (e.g., poor nutrition and lack of physical activity), mental health (e.g., depression, anxiety, stress), substance use (e.g., cigarettes/vaping, marijuana, alcohol, opiates), sexually transmitted infections, and injuries due to accidents.

Older Adults

The challenges faced by older adults came up in nearly every interview and focus group. Chronic disease, social isolation/lack of family support, living on fixed incomes, affordable housing, and transportation were identified as significant issues. In the U.S. and the Commonwealth, older adults are among the fastest growing age groups. The first “baby boomers” (adults born between 1946 and 1964) turned 65 in 2011. Over the next 20 years, these baby boomers will gradually enter the older adult cohort.

Chronic/complex conditions are the leading cause of death among older adults, and older adults are more likely to develop chronic illnesses such as hypertension, diabetes, COPD, congestive heart failure, depression, anxiety, Alzheimer’s disease, Parkinson’s disease and dementia than younger adult cohorts. By 2030, the CDC and the Healthy People 2020 Initiative estimate that 37 million people nationwide,

60% of the older adult population ages 65 and over, will need to manage more than one chronic medical condition. Significant proportions of this group experience hospitalizations, are admitted to nursing homes, and receive home health services and other social supports in home and community settings. Addressing these concerns demands a service system that is robust, diverse, and responsive.

Low-to-Moderate Income Individuals and Families

Key informants, focus group participants, and hospital leadership discussed the challenges that individuals and families face when they are forced to decide between housing, food, heat, health care services, childcare, transportation or other essentials. These choices often lead to missed care or delays in care, either due to the direct costs of care (co-pays and deductibles) or the indirect costs of transportation, childcare, or missed wages. There was near consensus that lack of affordable housing was a leading issue in the region. Participants also spoke of the intense challenges that many moderate income individuals and families face due to the high cost of living, combined with the fact that most of those in the middle-income group are not eligible for public programs like Medicaid, food stamps, Healthy Start, and other subsidized services.

Individuals with Chronic and Complex Conditions

Though substance use and mental health were the focus for many key informants, providers, and residents, one cannot ignore that heart disease, stroke and cancer are the leading causes of death in the nation and the Commonwealth. Along with other conditions, including asthma and diabetes, these conditions are considered to be chronic and complex and can strike early in one's life, possibly ending in premature death. It is also important to note that the risk and protective factors for many chronic/complex conditions are the same, including tobacco use, lack of physical activity, poor nutrition, obesity, and alcohol use. Individuals with chronic/complex conditions often face significant barriers to care (e.g., transportation, lack of health literacy, fragmented care). These issues are exacerbated for older adults and those that are disabled. Many key informants cited a need for care management, navigation, and care coordination for these populations. Several residents also suggested needs for caregiver support and resource programs.

Community Health Priority Areas

BID–Needham's CHNA was conducted as a population-based assessment. The goal was to engage the community and compile quantitative and qualitative information to identify the leading health-related issues affecting individuals in the CBSA, including social determinants of health, service gaps, and barriers to care. The priorities that have been identified have been framed broadly to ensure that the full breadth of unmet needs and community health issues are recognized. These priorities were identified through an integrated and thorough review of all of the quantitative and qualitative information captured for the assessment. The priorities have been identified to maximize impact, reduce disparities, and promote collaboration and cross-sector partnership.

During the later stages of the CHNA process, significant efforts were made to vet the priority issues with leadership and the community-at large, through meetings with the CBAC, the CBLT, and a community meeting. BID–Needham is confident that these priorities reflect the sentiments of those who were involved in the assessment and community engagement processes. Based on the findings from the

breadth of BID–Needham’s CHNA activities, the CBAC and the CBLT voted to prioritize 1) Mental health and substance use, 2) Chronic / complex conditions, and their risk factors, and 3) Social determinants of health and access to care.

Figure 15: BID–Needham CHNA Priority Areas 2020-2022



The community health priorities that have been prioritized by the CHNA in Figure 15 above are described in detail in the next section of this report, along with a listing of the goals related to these priority areas that BID–Needham’s Community Benefits staff, the CBAC, and CBLT believe will drive achievement. The objectives and strategic initiatives, by priority area, that will be part of BID–Needham’s Implementation Strategy are included in BID–Needham’s Summary Implementation Strategy, included in Appendix D.

Community Health Needs not Prioritized by BID–Needham’s CBAC

It is important to note that there are community health needs that were identified by BID–Needham’s assessment that, due to the limited burden that these issues present and/or the feasibility of having an impact in the short- or long-term on these issues, were not prioritized for investment. Namely, housing was identified as a community need but these issues were deemed by the CBAC and the CBLT to be outside of BID–Needham’s primary sphere of influence and have opted to allow others in its CBSA and the Commonwealth to focus on these issues. This is not to say that BID–Needham will not support efforts in these areas or other areas that are not prioritized. BID–Needham remains open and willing to work with hospitals across Beth Israel Lahey Health’s network and other public and private partners to address these issues, particularly as part of a broad, strong collaborative.

BID–Needham Implementation Strategy & Community Benefits Resources

BID–Needham’s current 2017-2019 Implementation Strategy was developed in 2016 and addresses all of the priority areas identified by this CHNA. Certainly, this CHNA has provided new guidance and invaluable insight on the characteristics of the population, social determinants of health, barriers to care, and leading health issues that has informed and allowed BID–Needham to update its current IS.

Included below, organized by priority area, are the core elements of BID–Needham’s 2020 – 2022 Implementation Strategy. The content of the strategy is designed to address the underlying social determinants of health, barriers to care, and promote health equity. The content is also designed to address the leading community health priorities, including activities geared to health education and wellness (primary prevention), identification, screening, and referral (secondary prevention), and disease management and treatment (tertiary prevention) (e.g. access to care, self-management support, harm reduction, treatment of acute illness, and recovery).

Below is a brief discussion of the resources that BID–Needham will invest to address the priorities identified by the CBAC and CBLT. Following the discussion of resources are summaries of each of the selected priority areas and a listing of the goals that have been established for each priority area.

Community Benefit Resources

In fiscal year 2018, BID–Needham contributed \$540,833 in direct, in-kind and grant funding to support community initiatives operated by BID–Needham and its partners to improve the health of some of the CBSA’s most underserved, vulnerable communities. Additionally, BID–Needham has leveraged \$6,000 in grant and other funds to address health disparities and health inequities, and provided more than \$690,000 in charity care to low income individuals who were unable to pay for care and services at BID–Needham.

This year, BID–Needham will commit a comparable amount if not more through uncompensated, “charity” care, direct, community health program investments, and in-kind resources of staff time and materials. BID–Needham will also generate leveraged funds through grants from public and private sources on behalf of its own programs or services as well as on behalf of its community partners.

BID–Needham and its leadership is committed to Community Benefits budget planning which ensures the funds and resources available to carry out its community benefits mission and to implement activities to address the needs identified by this CHNA. Recognizing that community benefits planning is ongoing and will change with continued community input, BID–Needham’s IS will evolve. Circumstances may change with new opportunities, requests from the community, community and public health emergencies, and other issues may arise, which may require a change in the IS or the strategies documented within it. The CBAC, the CBLT, and BID–Needham’s Board of Trustees are committed to assessing information and updating the plan as needed.

Following are brief descriptions of each priority area, along with the goals that were established by BID–Needham to respond to the CHNA findings and the planning process. Please refer to the Summary

Implementation Strategy in Appendix D for more details.

PRIORITY AREA 1: MENTAL HEALTH AND SUBSTANCE USE

As it is throughout the Commonwealth and the nation, the burden of mental and substance use on individuals, families, communities and service providers in BID–Needham’s service area is overwhelming. Nearly every key informant interview, focus group and community meeting included discussions on these topics. From a review of the quantitative and qualitative information, depression, anxiety/stress, social isolation, opioids, alcohol, and e-cigarette/vaping were the leading issues in this domain.

Despite increased community awareness and sensitivity about the underlying issues and origins of mental health and substance use issues, there is still a great deal of stigma related to these conditions. There is a general lack of appreciation for the fact that these issues are often rooted in genetics, physiology and environment, rather than an inherent, controllable character flaw. There is, however, a deep appreciation and a growing understanding for the role that trauma plays for many of those with mental and/or substance use issues, with many people using illicit or controlled substances to self-medicate and cope with loss, stress, abuse, pain, and other unresolved traumatic events.

The following goals were established by BID–Needham to respond to the CHNA and the strategic planning process. Please refer to the summary IS for more details (Appendix D).

Priority Area 1: Mental Health and Substance Use
Goal 1: Educate About and Reduce Stigma Associated with Mental Health and Substance Use Issues
Goal 2: Enhance Access to Mental Health and Substance use Screening, Assessment, and Treatment Services
Goal 3: Decrease the number of prescription drugs and other harmful drugs from the community

PRIORITY AREA 2: CHRONIC/COMPLEX CONDITIONS AND THEIR RISK FACTORS

While mental health and substance use were perceived to be the leading issues in BID–Needham’s service area, one cannot lose sight of the fact that heart disease, stroke and cancer are the leading causes of death in the nation and the Commonwealth. Roughly, 6 in 10 deaths may be attributed to these three conditions combined. If you include respiratory disease (e.g., asthma, COPD) and diabetes, which are in the top 10 leading causes across all geographies, then one can account for the vast majority of causes of death. All of these conditions are typically considered to be chronic and complex and can often strike early in one’s life, quite often ending in premature death. Within this priority area, according to those who participated in interviews, focus groups, the community meeting, and the Community Health Survey, cardiovascular disease, cancer, diabetes, and Alzheimer’s disease and other dementias were thought to be of the highest priority. It is also important to note that the risk factors for nearly all chronic/complex conditions are much the same, including lack of physical activity, poor nutrition, obesity, tobacco use, and alcohol use.

The following goals were established by BID–Needham to respond to the CHNA and the strategic planning process. Please refer to the summary IS for more details (Appendix D).

Priority Area 2: Chronic/Complex Conditions and their Risk Factors
Goal 1: Enhance Access to Health Education, Screening, Referral, and Chronic Disease Management Services in Clinical and Non-Clinical Settings
Goal 2: Reduce the Prevalence of Tobacco Use

PRIORITY AREA 3: SOCIAL DETERMINANTS OF HEALTH AND ACCESS TO CARE

A dominant theme from the assessment was the tremendous impact that underlying social determinants of health, particularly access to affordable housing, transportation, poverty/employment, and food insecurity have on the entire population. The social determinants of health are often the drivers or underlying factors that create or exacerbate mental health issues, substance misuse, and chronic/complex conditions. These social determinants of health, particular poverty, underlie the access to care issues that were prioritized in the assessment: navigating the health system (including health insurance), chronic disease management, and access to culturally and linguistically competent care.

The following goals were established by BID–Needham to respond to the CHNA and the strategic planning process. Please refer to the summary IS for more details (Appendix D).

Priority Area 3: Social Determinants of Health and Access to Care
Goal 1: Enhance Access to Care and Reduce the Impact of Social Determinants
Goal 2: Reduce Elder Falls and Promote Aging in Place

Appendices

[Appendix A: Detailed Community Engagement Summary](#)

[Appendix B: Data Book](#)

[Appendix C: Resource Inventory](#)

[Appendix D: Implementation Strategy](#)

[Appendix E: Community Benefits Evaluation](#)

Appendix A: Detailed Community Engagement Summary

KEY INFORMANT INTERVIEWS

Name	Title/Affiliation	Sector(s) Represented/Population Served
Representative Denise Garlick	State Representative, 13 th Norfolk District	Political leaders
Timothy Muir McDonald	Director, Needham Department of Public Health	Public Health/Municipal leadership
Jessica Tracy	Public Health Nurse, Dedham Department of Public Health	Public Health/Municipal leadership
Linda Shea	Director, Westwood Department of Public Health	Public Health/Municipal leadership
Carol Read	Director, Regional Substance Abuse Prevention Coalition	Community coalition; Substance use
Dr. David Buckle	Medical Director, Affiliated Physician Group	Clinical care
Marsha Medalie	Vice President and Chief Operating Officer, Riverside Community Care	Behavioral health
Latanya Steele	Director, Needham Council on Aging	Older adult health/healthy aging
Janet Claypoole	Director, Dover Council on Aging	Older adult health/healthy aging
Sheila Pransky	Director, Dedham Council on Aging	Older adult health/healthy aging
Lina Arena DeRosa	Director, Westwood Council on Aging	Older adult health/healthy aging
Sandra Robinson	Executive Director, Needham Community Council	Social services
Dennis Catalado	President, Cataldo Ambulance	First responders/EMS
Barbara Waterhouse	Founder/Executive Director, Circle of Hope	Social services; Housing

Key Informant Interview Guide

Introduction: As you may know, the Hospital is conducting a Community Health Needs Assessment (CHNA) to better understand the health needs of those living in its service area. This assessment, and a subsequent Implementation Strategy, is required of all non-profit hospitals to meet state Attorney General and Federal IRS requirements. The Implementation Strategy will outline how the hospital will work to address health needs and factors leading to poor health, as well as ways in which it will build on the community's strengths. It is therefore extremely important that the Hospital hear from a broad range of people living, working, and learning in the community. JSI has been contracted by the Hospital to conduct the assessment, which will include interviews, a Community Health Survey, and focus groups. This interview is part of the data collection and should take between 30-60 minutes. To ensure our data reflect your community or the community you serve, it is important that you speak openly and honestly. We'll be taking notes during the conversation, but will not link your name or personal information to your quotes without your permission. Do you have any questions before I get started?

- Question 1: Could you tell me more about yourself? How long have you worked at [name of organization]? Are you also a resident of a community within the service area? *Probe for information on programs/services offered through their organization, populations they work with, etc.*
- Question 2: The assessment is looking at health defined broadly – beyond clinical health issues, we're also looking at the root causes most commonly associated with ill-health (e.g. housing, transportation, employment/workforce, etc.) What do you see as the major contributors to poor health for those in the service area? *Try to identify top 2-3*

- Question 3: What clinical health issues (e.g. substance use, mental health, cancer, overweight/obesity, etc.) do you think are having the biggest impact on those in the service area? *Try to identify top 2-3*
- Question 4: What segments of the population have the most significant health needs or are most vulnerable? (e.g. young children, low-income, non-English speakers, older adults, etc.) *Do you see this changing in the future? Improving? Getting worse?*
- Question 5: How effectively do you think [Hospital] is currently meeting the needs of the community? Are there specific programs offered by [Hospital] that stand out to you as working well to address the needs of the community?
- Question 6: Where do you see opportunities for [Hospital] to implement programs/services to address community health needs?
- Question 7: Are there programs or services offered by other community organizations that you think are working well to address the needs of the community? *Mention that we will be compiling a list of community organizations/resources for the Resource Inventory*
- Question 8: As we explained at the beginning of this interview, we will be making an effort to gather input from community residents as part of this assessment. Can you recommend any strategies to engage hard-to-reach populations? *Any coalitions or advocacy groups that work with hard-to-reach populations? Any existing meeting groups you think it would be appropriate to reach out to?*
- Question 9: Finally, we are working to gather quantitative data to characterize health status – this includes demographic and socioeconomic data, and disease-specific incidence, hospitalization, emergency department, and mortality data wherever it is available. Do you know of, or use, any local data sources (e.g. reports, other needs assessments, etc.)?

FOCUS GROUPS

Name of group	Population/Sector Represented	Date	Location	Number of attendees (approx.)
Needham Operations Team	BID-Needham's Operations Team is comprised of senior clinical and administrative leadership at the hospital. BID facilitated a focus group with this group at the beginning of the assessment process to review the purpose, approach and methods; discuss leading health issues and vulnerable populations; and strategic initiatives for BID-Needham.	December 3, 2018	Beth Israel Deaconess-Needham	15
Interfaith Clergy Association	This focus group was facilitated by the Needham Public Health Department, using a focus group that included questions from BID-Needham's focus group guide, and questions from the Needham Public Health Department. A representative from BID-Needham's Community Benefits staff attended to co-facilitate and take notes. Participants included representatives from faith-based communities in Needham.	December 11, 2018	Christ Church, Needham	12
Youth Resource Network	The Youth Resource Network is comprised of representatives from numerous organizations that serve youth and families in Needham, including schools, behavioral health providers, youth and family services, law enforcement, and community coalitions. This session was facilitated by the Needham Department of Public Health. A representative from BID-Needham's Community Benefits staff attended to co-facilitate and take notes.	February 6, 2019	Needham Town Hall	11
Aging population (residents)	JSI facilitated a focus group with older adults at the Needham Senior Center. Residents were engaged to share their thoughts on leading health issues for older adults, barriers to care (e.g. housing, transportation, cost of care), and the availability of health-related services in their community. A representative from the Needham Department of Public Health took notes for this session.	March 8, 2019	Needham Senior Center	15
Aging population (service providers)	The Needham Department of Public Health facilitated a focus group with representatives from organizations that serve older adults. Participants were	March 8, 2019	Needham Senior Center	12

	asked to share their thoughts on leading social determinants, clinical health issues, and vulnerable population segments within the older adult cohort. Participants were also asked to share thoughts on opportunities for the hospital and Town of Needham.			
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Focus Group Guide

Introduction & Purpose of Focus Group: Beth Israel Deaconess Hospital–Needham is conducting a Community Health Needs Assessment (CHNA) to better understand the health needs of those living in its service area. This assessment, and a subsequent Implementation Strategy (IS) is required of all non-profit hospitals to meet state Attorney General and Federal IRS requirements.

The IS will outline how the hospital will work to address health needs and factors leading to poor health, as well as ways in which it will build on the community's strengths. It is therefore extremely important that the Hospital hear from a broad range of people living, working, and learning in the community. To ensure our data reflect your community or the community you serve, it is important that you speak openly and honestly. We'll be taking notes during the conversation, but will not link your name or personal information to your quotes without your permission.

- Question 1: The assessment is looking at health defined broadly – beyond clinical health issues, we're also looking at the root causes of ill-health (e.g. housing, transportation, employment/workforce, poverty), also called the "social determinants of health." What social determinants do people struggle with the most in your community? *Try to identify top 2-3*
- Question 2: What clinical health issues (e.g. substance use, mental health, cancer, overweight/obesity) are having the biggest impact on those in your community? *Try to identify top 2-3*
- Question 3: What segments of the population have the most significant health needs or are most vulnerable for poor health? (e.g. young children, low-income, non-English speakers, older adults, racial/ethnic minorities) *Do you see this changing in the future? Improving? Getting worse?*
- Question 4: How effectively do you think the Hospital is currently meeting the needs of your community?
- Question 5: Where do you see opportunities for the Hospital to implement programs/services to address community health needs?
- Question 6: Are there programs or services offered by other community organizations that you think are working well to address the needs of the community?
- Question 7: We will be making an effort to gather input from community residents as part of this assessment. Can you recommend any strategies to engage hard-to-reach populations?

COMMUNITY MEETING

Name of group	Population/Sector Represented	Date	Location	Number of attendees (approx.)
Community Meeting	Community residents	March 27, 2019	Charles River YMCA (Needham)	27

JSI facilitated a community forum with residents of BID-Needham's service area at the Charles River YMCA. This location was chosen as it represented a safe, neutral, and accessible location for community residents to share their thoughts. The forum was advertised via the following distribution channels:

- Local papers in Needham, Dedham, Dover, and Westwood
- Online through the BID-Needham social media channels
- Online through the Needham Department of Public Health
- Postings at local housing authorities, food pantries, and community/social service organizations (translated into Russian and Chinese)

JSI facilitated this session by presenting a high-level overview of quantitative data findings from the BID-Needham Community Health Needs Assessment. Translation/interpretation in Russian and Chinese were offered but were not needed. Transportation to/from the Needham Housing Authority to the session was offered, as was free childcare. A question and answer session was then facilitated.

Community Meeting Discussion Topics

- What are the leading social determinants of health (e.g. transportation, housing, food insecurity, poverty/employment) that people struggle with in your community?
- What are the leading clinical health issues that people struggle with in your community? (e.g. mental health, substance use, chronic/complex conditions)
- What populations are particularly vulnerable or at-risk for poor health?
- Where are there opportunities for BID-Needham to improve community health?
- What services/programs provided by the Town of Needham are working well, and where are there opportunities to improve?

COMMUNITY HEALTH SURVEY

Distribution channels:

Community Health Survey Questions

Beth Israel Deaconess Hospital Needham is conducting a Community Health Needs Assessment to better understand the most pressing health-related issues for residents in the communities they serve. It is important that the hospital gathers input from people living, working, and learning in the community. The information gathered will help the hospital to improve its services.

Please take about 10 minutes to complete this survey. Your responses will be anonymous.

This survey has been shared widely. **Please complete this survey only once.**

Please email Madison MacLean (madison_maclean@jsi.com) with questions.

Question 1: Do you live, work, and/or learn in Dedham, Dover, Needham, or Westwood?

- ☐ YES, I live, work, and/or learn in DEDHAM
 ☐ YES, I live, work, and/or learn in DOVER
☐ YES, I live, work, and/or learn in NEEDHAM
 ☐ YES, I live, work, and/or learn in WESTWOOD
☐ NO, I do not live, work, and/or learn in any of those towns.

Question 2: What is your age?

☐ Under 18 ☐ 18 to 24 ☐ 23 to 34 ☐ 35 to 44
☐ 45 to 54 ☐ 55 to 64 ☐ 65 to 74 ☐ 75 or older

Question 3: Are you Hispanic, Latino/a, or of Spanish origin? ☐ Yes ☐ No

Question 4: What race best describes you? Select all that apply.

☐ White ☐ Black or African American ☐ Asian
☐ Native Hawaiian or Pacific Islander ☐ American Indian or Alaska Native ☐ Other

Please answer Questions 5-7 with your community and/or the population(s) you serve in mind.

Question 5A: Choose the top three (3) challenges that prevent people in your community from achieving and maintaining good health. Rank your top three (3) answers, with 1 being the greatest challenge.

☐ Lack of affordable/safe housing ☐ Lack of access to transportation
☐ Long commute to and from work or school ☐ Crime or violence
☐ Limited or no education ☐ Lack of social support / social isolation
☐ Physical inactivity or sedentary lifestyles ☐ No or limited health insurance
☐ High cost of health care ☐ Food insecurity / unable to acquire healthy foods
☐ Co-payments for medication
☐ Social attitudes (e.g. discrimination, racism, distrust of providers)
☐ Socioeconomic conditions (e.g. poverty, low wages, limited job opportunities)
☐ Lack of health care providers that meet cultural, language, and/or social needs of patients
☐ Limited access to health care (lack of providers or availability of appointments)
☐ Inability to walk/ride a bike due to bad road conditions and/or no sidewalks

Question 5B: Are there other things that prevent people in your community from achieving and maintain good health? Please specify.

Question 6A: Choose the three (3) health conditions that have the greatest impact on your community. Rank your top three answers, with 1 being the condition that has the most impact.

☐ Cancer
☐ Cardiovascular conditions (e.g. hypertension/high blood pressure, heart disease, stroke)
☐ Respiratory diseases (e.g. asthma, chronic obstructive pulmonary disease [COPD], emphysema)
☐ Mental health (e.g. depression, anxiety, stress, trauma)
☐ Substance use (e.g. alcohol, opioids, tobacco, e-cigarettes/vaping, marijuana)

- ☐ Physical inactivity, nutrition, and/or obesity
- ☐ Infectious disease (e.g. influenza, HIV/AIDS, sexually transmitted infections, hepatitis C)
- ☐ Maternal and child health issues (e.g. prenatal care, teen pregnancy, infant mortality)
- ☐ Diabetes
- ☐ Oral health
- ☐ Neurological disorders (e.g. Alzheimer's, Parkinson's, dementia)
- ☐ Mobility impairments (e.g. falls, arthritis, fibromyalgia)

Question 6B: Are there other health conditions that impact your community? Please specify.

Question 7A: Choose the top three (3) populations that you think have the most significant health-related needs. Rank your top three (3), with 1 being the group with the most significant needs.

- ☐ Young children (0-5 years of age)
- ☐ School age children (6-11 years of age)
- ☐ Adolescents (12-17 years of age)
- ☐ Young Adults (18-24 years of age)
- ☐ Older Adults (older than 65 years of age)
- ☐ Immigrants/Refugees
- ☐ Racial/Ethnic Minorities
- ☐ Non-English Speakers
- ☐ Homeless/Unstably housed
- ☐ Low-income populations
- ☐ Those with disabilities (physical, cognitive, development, emotional)
- ☐ Lesbian, Gay, Bisexual, Transgender, Queer/Questioning (LGBTQ)

Question 7B: Are there other populations that have significant health-related needs?

Question 8: Which (if any) programs or services offered by Beth Israel Deaconess Needham have you attended? Check all that apply.

- ☐ Diabetes Fair
- ☐ Cancer screenings
- ☐ Cholesterol/blood pressure screenings
- ☐ Community education lectures
- ☐ CPR courses
- ☐ Support groups

Question 9: Which (if any) of these programs do you think works well to address the needs of your community? Check all that apply.

- ☐ Diabetes Fair
- ☐ Cancer screenings
- ☐ Cholesterol/blood pressure screenings
- ☐ Community education lectures
- ☐ CPR courses
- ☐ Support groups
- ☐ None

Question 10: Which health services in your community are hard to access? Check all that apply.

- ☐ Primary care (e.g. family, general practice, internal medicine physicians)

- ☐ Emergency care
- ☐ Urgent care (e.g. immediate care centers, Minute Clinics)
- ☐ Oral health care (e.g. dentists, oral surgeons)
- ☐ Specialty care (e.g. cardiology, dermatology, oncology, endocrinology)
- ☐ OB/GYN (e.g. female reproductive system, maternity care)
- ☐ Pharmacies
- ☐ Inpatient or residential drug and alcohol treatment (e.g. rehabilitation and detoxification)
- ☐ Outpatient drug and alcohol treatment (e.g. medication-assisted treatment, outpatient clinics)
- ☐ Inpatient mental health treatment (e.g. residential treatment, psychiatric hospitals, hospital inpatient units)
- ☐ Outpatient mental health treatment (e.g. community mental health centers, mental health counseling)
- ☐ Long term care (e.g. assisted living, skilled nursing facilities/nursing homes, convalescent homes)

Question 11: Are there other health services in your community that are hard to access? Please specify.

Question 12: What programs or services should Beth Israel Deaconess Hospital–Needham offer or support to improve community health? Please specify.

Question 13: How did you hear about this survey?

- ☐ Beth Israel Deaconess Needham
- ☐ Community Health Network Area 18 (CHNA 18)
- ☐ Council on Aging or Senior Center
- ☐ Housing Authority
- ☐ Newspaper
- ☐ Other (Please specify):

Question 14: Please provide any additional thoughts on how Beth Israel Deaconess Hospital–Needham could improve health in your community.

Thank you for your input. Please contact Madison MacLean (Madison_Maclean@jsi.com) with questions.

Key

Statistically higher than statewide rate
Statistically lower than statewide rate

Appendix B: Beth Israel Deaconess Hospital–Needham Data Book

		Primary Service Area				Source	
		MA	Dedham	Dover	Needham		Westwood
Demographics							
Population		6,789,319	25377	5922	30429	15597	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Median age (years)		39.4	43.3	44.7	43.6	45	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Age under 18 (%)		20.4	19.3	27.6	26.9	26.8	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Age over 65 (%)		15.5	19.8	16.1	18.2	19.3	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Race / Ethnicity / Culture							
White alone (%)		78.9	84	87.2	86.6	89.5	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Black or African American alone (%)		7.4	8.6	3	2.1	0.3	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Asian alone (%)		6.3	2.6	8	8.2	7.6	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Native Hawaiian and Other Pacific Islander (%)		0	0	0	0	0	US Census Bureau, 2013-2017 ACS 5-Year Estimates
American Indian and Alaska Native (%)		0.2	0.2	0	0	0	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Some Other Race (%)		4.1	2.4	0	0.5	1.1	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Two or More Races (%)		3.1	2.2	1.7	2.7	1.6	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Hispanic or Latino of Any Race (%)		11.2	8.3	4.7	2.7	1.9	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Foreign Born (%)		16.2	14.7	15.3	14	12.8	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Language Spoken at Home by Population 5 Years and Older							
Language other than English		23.1	18.6	17.3	16.6	16.5	US Census Bureau, 2013-2017 ACS 5-Year Estimates
speak English less than "very well" (%)		9.1	5.5	3.0	4.4	4.3	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Speak Spanish at home (%)		8.8	6.7	4.3	1.8	1.6	US Census Bureau, 2013-2017 ACS 5-Year Estimates
speak English less than "very well" (%)		3.6	2.3	1.2	0.3	0.2	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Other Indo-European languages (%)		8.8	8.1	8.8	8.6	7.4	US Census Bureau, 2013-2017 ACS 5-Year Estimates
speak English less than "very well" (%)		3.1	2.0	0.2	2.1	1.5	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Asian and Pacific Islander Languages (%)		4.2	2.1	4.1	4.1	6.0	US Census Bureau, 2013-2017 ACS 5-Year Estimates
speak English less than "very well" (%)		2.0	0.4	1.6	1.5	2.2	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Household							
Total households		2,585,715.0	9,872.0	2,011.0	10,652.0	5,521.0	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Family households (families) (%)		63.7	62.7	87.3	77.3	76.6	US Census Bureau, 2013-2017 ACS 5-Year Estimates
In married couple family (%)		47.2	49.8	78.6	68.2	67.9	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Average family size		3.1	3.2	3.2	3.2	3.3	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Income/Poverty							
Unemployment Rate among Civilian Labor Force (%)		6.0	5.0	2.8	4.3	3.9	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Median household income (dollars)		74,167	89,514	204,018	141,690	145,799	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Below federal poverty line - all residents (%)		11.1	5.0	0.8	3.0	1.9	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Below federal poverty line - families (%)		7.8	2.2	-	2.5	1.4	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Below federal poverty line - under 18 years (%)		14.6	4.7	-	1.2	2.4	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Below federal poverty line - age 65+ (%)		9.0	5.3	-	6.8	2.1	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Below federal poverty line - female head of household, no husband present (%)		24.4	9.8	-	13.1	5.8	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Below 200% of poverty level		23.7	14.6	1.8	5.8	5.3	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Below 300% of poverty level		36.4	25.5	5.5	11.1	11.1	US Census Bureau, 2013-2017 ACS 5-Year Estimates

		Primary Service Area				Source
		MA	Dedham	Dover	Needham	
Demographics						
Below 400% of poverty level	48.6	37.0	13.7	17.0	20.4	US Census Bureau, 2013-2017 ACS 5-Year Estimates
With cash public assistance income (%)	2.8	1.3	0.6	1.0	1.1	US Census Bureau, 2013-2017 ACS 5-Year Estimates
With Food Stamp/SNAP benefits in the past 12 months (%)	12.3	6.4	-	2.8	1.3	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Health Insurance						
Without insurance (%)	3.0	2.3	1.4	1.4	0.9	US Census Bureau, 2013-2017 ACS 5-Year Estimates
With public insurance (%)	35.5	32.5	21.2	22.7	23.7	US Census Bureau, 2013-2017 ACS 5-Year Estimates
With private insurance (%)	74.2	81.7	90.8	90.0	90.3	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Transportation						
Takes car, truck, van (alone) to work (%)	70.7	70.9	70.5	71.4	67.6	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Takes car, truck, van (carpool) to work (%)	7.5	8.2	6.1	6.0	4.8	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Takes public transportation (excluding cab) to work (%)	10.2	10.8	8.4	10.6	17.2	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Mean commute time (minutes)	29.3	30.5	34.8	30.4	34.0	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Worked outside county of residence (%)	30.8	51.4	50.0	55.5	52.1	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Housing						
Vacant housing units (%)	9.7	3.7	4.8	2.8	6.1	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Owner-occupied (%)	62.4	69.1	95.7	82.6	86.1	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Avg household size of owner occupied	2.7	2.7	2.9	3.0	3.0	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Monthly owner costs exceed 30% of household income (%)	31.5	27.0	34.0	27.8	29.7	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Renter-occupied (%)	37.6	30.9	4.3	17.4	13.9	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Avg household size of renter occupied	2.3	2.0	3.1	1.7	1.5	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Gross rent exceeds 30% of household income (%)	50.1	56.2	53.8	49.2	46.4	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Educational Attainment (Population 25 Years and Older)						
High school degree or higher (%)	90.3	93.6	98.3	97.7	97.5	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Bachelor's degree or higher (%)	42.1	48.9	82.7	74.6	70.4	US Census Bureau, 2013-2017 ACS 5-Year Estimates
School Enrollment						
Graduation rate(%), 2017	88.3	92.9	98.8	97.6	96.1	Massachusetts Department of Elementary and Secondary Education School and District Profiles
Drop out rate(%), 2017	4.9	2.5	0	0.2	0.4	Massachusetts Department of Elementary and Secondary Education School and District Profiles
First language not English, 2018-19	21.9	14.9	5.8	9.6	5.2	Massachusetts Department of Elementary and Secondary Education School and District Profiles
English language learners(%), 2018-19	10.5	7.3	3.2	2.9	0.9	Massachusetts Department of Elementary and Secondary Education School and District Profiles
Students with Disabilities(%), 2018-19	18.1	23.2	13.1	17.2	16.9	Massachusetts Department of Elementary and Secondary Education School and District Profiles
High Needs, 2018-19	47.6	42.4	19.7	24.2	22.4	Massachusetts Department of Elementary and Secondary Education School and District Profiles
Economically disadvantaged(%), 2018-19	31.2	23	2	9.1	4.8	Massachusetts Department of Elementary and Secondary Education School and District Profiles
Total Expenditures per Pupil, 2017	\$15,911.38	\$19,638.73	\$23,288.60	\$17,306.62	\$17,594.98	Massachusetts Department of Elementary and Secondary Education School and District Profiles
Crime						
Violent crime counts	23,393	10.00	1	9	19	FBI Uniform Crime Reports 2017
Murder/non-negligent manslaughter	171	0	0	1	0	FBI Uniform Crime Reports 2017
Forcible rape	2,012	2	0	2	6	FBI Uniform Crime Reports 2017
Robbery	4,643	6	0	0	1	FBI Uniform Crime Reports 2017
Aggravated assault	16,567	2	1	6	12	FBI Uniform Crime Reports 2017
Property crime counts	92,614	427	18	194	165	FBI Uniform Crime Reports 2017

		Primary Service Area					Source
		MA	Dedham	Dover	Needham	Westwood	
Demographics							
Burglary		16,371	15	1	6	10	FBI Uniform Crime Reports 2017
Larceny-theft		68,955	397	15	187	153	FBI Uniform Crime Reports 2017
Motor vehicle theft		7,288	15	2	1	2	FBI Uniform Crime Reports 2017
Arson		373	0	0	1	0	FBI Uniform Crime Reports 2017
Violent crime rate (per 100,000)		353	39	17	29	116	FBI Uniform Crime Reports 2017
Murder/non-negligent manslaughter		3	0	0	3	0	FBI Uniform Crime Reports 2017
Forcible rape		30	8	0	6	37	FBI Uniform Crime Reports 2017
Robbery		70	24	0	0	6	FBI Uniform Crime Reports 2017
Aggravated assault		250	8	17	19	73	FBI Uniform Crime Reports 2017
Property crime rate (per 100,000)		1,398	1684	297	625	1009	FBI Uniform Crime Reports 2017
Burglary		247	59	17	19	61	FBI Uniform Crime Reports 2017
Larceny-theft		1,041	1566	248	602	936	FBI Uniform Crime Reports 2017
Motor vehicle theft		110	59	33	3	12	FBI Uniform Crime Reports 2017
Arson		6	0	0	3	0	FBI Uniform Crime Reports 2017

MOE = Margin of Error

TABLE C16001: LANGUAGE SPOKEN AT HOME BY ABILITY TO SPEAK ENGLISH FOR THE POPULATION 5 YEARS AND OLDER, 2013-2017 AMERICAN COMMUNITY SURVEY 5-YEAR ESTIMATES

	DEDHAM			DOVER			NEEDHAM			WESTWOOD		
	Estimate	MOE (+/-)	% of Total Pop 5+	Estimate	MOE (+/-)	% of Total Pop 5+	Estimate	MOE (+/-)	% of Total Pop 5+	Estimate	MOE (+/-)	% of Total Pop 5+
Population 5 years and over	23,737	244		5,663	101		28,680	250		14,964	143	
Speak only English at home	19,332	632	81.44	4,685	284	82.73	23,905	595	83.35	12,502	398	83.55
SPANISH or SPANISH CREOLE	1602	425	6.75	241	121	4.26	516	211	1.80	232	161	1.55
Speak English less than "very well"	556	252	2.34	67	57	1.18	84	69	0.29	25	32	0.17
FRENCH (Incl. Haitian, Cajun)	381	152	1.61	70	61	1.24	163	115	0.57	89	61	0.59
Speak English less than "very well"	135	93	0.57	7	11	0.12	42	62	0.15	10	16	0.07
GERMAN or WEST GERMANIC	94	58	0.40	89	85	1.57	100	68	0.35	76	52	0.51
Speak English less than "very well"	8	13	0.03	0	17	0.00	48	50	0.17	0	19	0.00
RUSSIAN, POLISH, OTHER SLAVIC LANGUAGES	282	137	1.19	89	74	1.57	952	337	3.32	207	127	1.38
Speak English less than "very well"	77	53	0.32	0	17	0.00	323	137	1.13	9	15	0.06
OTHER INDO-EUROPEAN LANGUAGES	1173	336	4.94	250	109	4.41	1245	413	4.34	734	239	4.91
Speak English less than "very well"	247	93	1.04	7	13	0.12	176	136	0.61	210	100	1.40
KOREAN	0	23	0.00	56	69	0.99	69	71	0.24	60	49	0.40
Speak English less than "very well"	0	23	0.00	30	45	0.53	10	16	0.03	36	30	0.24
CHINESE (Incl. Mandarin, Cantonese)	121	93	0.51	140	134	2.47	932	280	3.25	620	290	4.14
Speak English less than "very well"	41	62	0.17	46	54	0.81	380	180	1.32	234	145	1.56
VIETNAMESE	21	25	0.09	0	17	0.00	92	119	0.32	0	19	0.00
Speak English less than "very well"	0	23	0.00	0	17	0.00	50	75	0.17	0	19	0.00
TAGALOG (Incl. Filipino)	40	36	0.17	0	17	0.00	27	36	0.09	40	37	0.27
Speak English less than "very well"	0	23	0.00	0	17	0.00	1	2	0.00	0	19	0.00
OTHER ASIAN LANGUAGES	310	194	1.31	36	43	0.64	69	67	0.24	185	182	1.24
Speak English less than "very well"	62	49	0.26	13	20	0.23	1	3	0.00	55	70	0.37
ARABIC	319	229	1.34	0	17	0.00	193	222	0.67	218	164	1.46
Speak English less than "very well"	169	148	0.71	0	17	0.00	16	25	0.06	70	62	0.47
OTHER AND UNSPECIFIED LANGUAGES	62	49	0.26	7	11	0.12	417	225	1.45	1	2	0.01
Speak English less than "very well"	6	9	0.03	0	17	0.00	143	111	0.50	1	2	0.01

MAH SERVICE AREA: TOP 5
ANCESTRIES BY TOWN

DEDHAM	Estimate	MOE	%
Total Pop	25,377	30	
Irish	7,827	625	30.84
Italian	3,077	392	12.13
English	2,291	393	9.03
German	1,528	385	6.02
Polish	969	210	3.82

DOVER	Estimate	MOE	%
Total Pop	5,922	20	
Irish	1,233	269	20.82
English	812	165	13.71
German	778	230	13.14
Italian	544	182	9.19
Russian	305	171	5.15

NEEDHAM	Estimate	MOE	%
Total Pop	30,429	37	
Irish	6,799	835	22.34
Italian	3,372	521	11.08
English	3,145	448	10.34
German	2,574	438	8.46
Russian	2,434	459	8.00

WESTWOOD	Estimate	MOE	%
Total Pop	15,597	34	
Irish	4,938	541	31.66
Italian	2,430	422	15.58
English	1,695	358	10.87
German	1,034	276	6.63
American	732	246	4.69

*All data from US Census Bureau
American Community Survey,
2013-2017 5-Year Estimates;
B04006: People Reporting
Ancestry*

MASSACHUSETTS	Estimate	MOE	%
Total Pop	6,789,319		
Irish	1,403,567	11,116	20.67
Italian	871,822	8,323	12.84
English	647,855	6,278	9.54
French (except Basque)	437,190	5,490	6.44
German	400,519	4,838	5.90

Key
Statistically higher than statewide rate
Statistically lower than statewide rate

		Primary Service Area				Source	
		MA	Dedham	Dover	Needham		Westwood
Demographics							
All cause							
Deaths, 2015		684.5	738.8	438.2	551	602.3	MDPH Registry of Vital Records and Statistics
Premature mortality for <75 yr population, 2015		279.6	306	--1	156.6	185.3	MDPH Registry of Vital Records and Statistics
Injuries and Poisonings							
Deaths, 2015		58.0	57.3	--1	21.7	--1	MDPH Registry of Vital Records and Statistics
Motor Vehicle Related							
Deaths, 2015		5.4	--1	0	0	0	MDPH Registry of Vital Records and Statistics
Assault							
Deaths, 2015		2.0	0	0	0	0	MDPH Registry of Vital Records and Statistics
Behavioral Health							
Admissions to BSAS Contracted/Licensed Programs FY17							
Number of people served		81,006	235	0-100	0-100	0-100	MA Bureau of Substance Abuse Services (BSAS)
Number of admissions		109,001	250	0-100	0-100	0-100	MA Bureau of Substance Abuse Services (BSAS)
% Male		67.8	79.2	80	63.3	54.8	MA Bureau of Substance Abuse Services (BSAS)
% Black of African American		7.3	5.2	0	0	0	MA Bureau of Substance Abuse Services (BSAS)
% Multi-Racial		6.3	7.7	0	*	14.5	MA Bureau of Substance Abuse Services (BSAS)
% Other		9.4	3.2	0	*	*	MA Bureau of Substance Abuse Services (BSAS)
% White		77.1	83.9	100	93.2	83.9	MA Bureau of Substance Abuse Services (BSAS)
% Hispanic		14.0	4	0	*	*	MA Bureau of Substance Abuse Services (BSAS)
% No Education/Less Than High School Education		25.5	20.5	*	*	20	MA Bureau of Substance Abuse Services (BSAS)
% College Degree or Higher		7.4	7.7	70	22.8	18.2	MA Bureau of Substance Abuse Services (BSAS)
% Less Than 18		1.3	0	*	*	*	MA Bureau of Substance Abuse Services (BSAS)
% 18 to 25		14.7	20.4	*	35	11.3	MA Bureau of Substance Abuse Services (BSAS)
% 26 to 30		21.7	26	0	26.7	43.5	MA Bureau of Substance Abuse Services (BSAS)
% 31 to 40		30.9	28	*	11.7	*	MA Bureau of Substance Abuse Services (BSAS)
% 41 to 50		17.6	12.8	*	*	*	MA Bureau of Substance Abuse Services (BSAS)
% 51 and older		13.9	12.8	*	18.3	21	MA Bureau of Substance Abuse Services (BSAS)
% Employed at Enrollment		44.9	49.6	100	60.5	62.5	MA Bureau of Substance Abuse Services (BSAS)
% Homeless at Enrollment		30.1	27.2	0		18.9	MA Bureau of Substance Abuse Services (BSAS)
% At Risk of Homelessness		38.1	38.1	0		15	MA Bureau of Substance Abuse Services (BSAS)
% Past Year Needle Use		47.6	47.7	*	27.1	36.7	MA Bureau of Substance Abuse Services (BSAS)
% Prior Mental Health Treatment		46.2	42.6	*	39	51.7	MA Bureau of Substance Abuse Services (BSAS)
Primary Substance of Use 2017							

		Primary Service Area					Source
		MA	Dedham	Dover	Needham	Westwood	
Demographics							
Total Admissions		98,948	235	0-100	0-100	0-100	MA Bureau of Substance Abuse Services (BSAS)
% Alcohol		32.8	31.9	80	50.8	45	MA Bureau of Substance Abuse Services (BSAS)
% Crack/Cocaine		4.1	3	*	*	*	MA Bureau of Substance Abuse Services (BSAS)
% Heroin		52.8	54.9	*	30.5	43.3	MA Bureau of Substance Abuse Services (BSAS)
% Marijuana		3.4	2.6	*	*	*	MA Bureau of Substance Abuse Services (BSAS)
% Other		0.3	*	*	*	*	MA Bureau of Substance Abuse Services (BSAS)
% Other Opioids		4.6	5.5	*	*	*	MA Bureau of Substance Abuse Services (BSAS)
% Other sedatives/hypnotics		1.5	*	*	*	*	MA Bureau of Substance Abuse Services (BSAS)
% Other stimulants		0.5	*	*	*	*	MA Bureau of Substance Abuse Services (BSAS)
Mental Disorders (age adjusted per 100,000)							
Deaths, 2015		62.9	96.3	0	61.4	61.4	MDPH Registry of Vital Records and Statistics
Suicide Deaths, 2015		9.0	--1	--1	--1	--1	MDPH Registry of Vital Records and Statistics
Opioids (age adjusted per 100,000)							
Fatal Overdoses, 2015		24.6	--1	0	--1	--1	MDPH Registry of Vital Records and Statistics
Opioid-related overdose death count by city/town of residence for the decedent, 2014-2018		9,114	27	1	5	8	MDPH Registry of Vital Records and Statistics
Opioid-related overdose death count by city/town of death occurrence, 2014-2018		9,443	14	0	4	3	MDPH Registry of Vital Records and Statistics
Chronic Disease (age-adjusted rates per 100,000)							
Diabetes							
Deaths, 2015		16.8	27.8	0	--1	0	MDPH Registry of Vital Records and Statistics
Hypertension							
Deaths, 2015		6.9	--1	0	--1	--1	MDPH Registry of Vital Records and Statistics
Major cardiovascular disease							
Deaths, 2015		180.8	182.5	131.4	136.4	209.1	MDPH Registry of Vital Records and Statistics
Heart Disease							
Deaths, 2015		138.7	149.3	131.4	104.5	164.1	MDPH Registry of Vital Records and Statistics
Coronary Heart Disease							
Deaths, 2015		82.3	99	--1	65.1	108.4	MDPH Registry of Vital Records and Statistics
Cerebrovascular							
Deaths, 2015		28.4	25.6	0	22.9	30.4	MDPH Registry of Vital Records and Statistics
Chronic lower respiratory diseases							
Deaths, 2015		33.0	20.1	0	18.1	27.8	MDPH Registry of Vital Records and Statistics
Asthma							
Deaths, 2015		1.0	0	0	--1	--1	MDPH Registry of Vital Records and Statistics
Chronic Liver Disease							
Deaths, 2015		8.1	--1	0	--1	--1	MDPH Registry of Vital Records and Statistics
Cancer (age-adjusted rates per 100,000)							

		Primary Service Area					Source
		MA	Dedham	Dover	Needham	Westwood	
Demographics							
All-cause Deaths, 2015		152.8	176.4	115.1	136.5	134.5	MDPH Registry of Vital Records and Statistics
Breast (invasive, female) Deaths, 2015		9.8	--1	0	13.6	0	MDPH Registry of Vital Records and Statistics
Colorectal Deaths, 2015		12	--1	0	--1	0	MDPH Registry of Vital Records and Statistics
Lung Deaths, 2015		39	46	--1	37.3	37	MDPH Registry of Vital Records and Statistics
Prostate Deaths, 2015		7	--1	--1	28.4	--1	MDPH Registry of Vital Records and Statistics
Maternal and Child Health							
Infant Mortality, 2015 (rate per 1,000)		4.3	--1	0.0	0	0.0	MDPH Registry of Vital Records and Statistics
Infectious Disease							
Chlamydia cases (lab confirmed), 2017		29203	70	7	47	24	MDPH Bureau of Infectious Disease and Laboratory Services
Gonorrhea cases (lab confirmed), 2017		7307	18	0	6	<5	MDPH Bureau of Infectious Disease and Laboratory Services
Syphilis cases (probable and confirmed), 2017		1091	8	0	<5	<5	MDPH Bureau of Infectious Disease and Laboratory Services
Hepatitis A cases (confirmed), 2017		53	0	0	0	0	MDPH Bureau of Infectious Disease and Laboratory Services
Chronic Hepatitis B (confirmed and probable), 2017		2023	6	0	<5	<5	MDPH Bureau of Infectious Disease and Laboratory Services
Hepatitis C cases (confirmed and probable), 2017		7765	42	<5	11	5	MDPH Bureau of Infectious Disease and Laboratory Services
Pneumonia/Influenza Confirmed Influenza cases, 2017		24278	93	15	95	35	MDPH Bureau of Infectious Disease and Laboratory Services
Deaths, 2015		17.1	18.7	0	11	20.2	MDPH Registry of Vital Records and Statistics
HIV/AIDS (age-adjusted rate per 100,000) Incidence, 2017		1870	<5	0	0	<5	MDPH Bureau of Infectious Disease and Laboratory Services
Deaths, 2015		1.1	0	0	0	0	MDPH Registry of Vital Records and Statistics
Infectious and Parasitic Disease (age-adjusted rate per 100,000) Deaths, 2015		18.9	14.2	--1	--1	--1	MDPH Registry of Vital Records and Statistics
Older Adult Health (age-adjusted rate per 100,000)							
Alzheimers deaths		20.2	21.5	--1	24.6	--1	MDPH Registry of Vital Records and Statistics
Parkinson's deaths		7.7	13.4	0	--1	--1	MDPH Registry of Vital Records and Statistics

Key

Statistically higher than statewide rate

Statistically lower than statewide rate

Source: Massachusetts Vital Statistics, 2015

				Primary Service Area			
	MA	Norfolk County	Middlesex County	Dedham	Dover	Needham	Westwood
Cancer Mortality (Age-adjusted per 100,000), 2015							
All Types (invasive)	152.8	145.1	140.8	176.4	115.1	136.5	134.5
Bladder	4.7	4.0	4.0	--1	--1	--1	--1
Bone	0.3	--1	0.4	0.0	0.0	0.0	0.0
Brain/Central Nervous System	4.7	4.7	4.2	--1	0.0	--1	0.0
Breast (female)	9.8	16.6	16.2	--1	0.0	13.6	0.0
Cervical	0.6	1.3	1.0	0.0	0.0	0.0	0.0
Colorectal	12	12.6	11.8	--1	0.0	--1	0.0
Esophageal	4.9	4.1	4.3	--1	0.0	--1	--1
Kaposi's Sarcoma	0	0.0	0.0	0.0	0.0	0.0	0.0
Kidney	3.5	3.1	4.1	0.0	0.0	--1	--1
Larynx	0.8	0.8	0.6	0.0	0.0	--1	0.0
Leukemia	5.7	4.8	5.9	13.9	0.0	--1	--1
Liver	6	5.5	6.0	--1	0.0	--1	0.0
Lung	39	39.2	35.2	46.0	--1	37.3	37.0
Lymphoma (Hodgkin)	0.2	--1	--1	0.0	0.0	0.0	0.0
Lymphoma (Non-Hodgkin)	5.2	5.0	4.9	--1	--1	--1	--1
Melanoma of Skin	2.3	2.0	1.9	--1	0.0	0.0	0.0
Multiple Myeloma	3.1	3.4	3.1	0.0	0.0	--1	--1
Oral Cavity	2.4	1.3	3.2	--1	0.0	0.0	0.0
Ovary	3.9	6.5	6.6	--1	0.0	--1	--1
Pancreatic	11.3	10.4	10.6	28.7	0.0	--1	0.0
Prostate	7	17.7	14.8	--1	--1	28.4	--1
Soft Tissue	1.5	1.1	1.7	0.0	0.0	--1	--1
Stomach	3.2	3.0	3.5	0.0	0.0	--1	0.0
Testis	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Thyroid	0.5	--1	0.4	0.0	0.0	0.0	0.0
Uterine	2.7	4.7	3.9	--1	0.0	--1	--1

Massachusetts Healthy Aging Community Profile

Key

Statistically higher than statewide rate

Statistically lower than statewide rate

POPULATION CHARACTERISTICS

	MA	Norfolk County	Middlesex County	Dedham	Dover	Needham	Westwood	Source
Total population 65 years or older	1049751	110873	228153	5014	952	5543	3016	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Population 65 years or older (% of total population)	15.5	16.0	14.4	19.8	16.1	18.2	19.3	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Population 65-74 years (% of total population)	8.7	8.6	8.0	8.2	9.7	9.4	7.7	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Population 75-84 years (% of total population)	4.5	4.8	4.3	7.6	4.9	5.2	7.3	US Census Bureau, 2013-2017 ACS 5-Year Estimates
Population 85 years or older (% of total population)	2.3	2.5	2.1	4.0	1.5	3.6	4.3	US Census Bureau, 2013-2017 ACS 5-Year Estimates
% of 65+ population living alone	29.9	28.8	28.5	32.2	14.0	29.0	30.0	US Census Bureau, 2013-2017 ACS 5-Year Estimates
% of only English speakers 65 years or older	17.7	18.0	16.7	22.7	17.7	20.2	19.9	US Census Bureau, 2013-2017 ACS 5-Year Estimates
% Language other than English over 65 years or older	11.9	12.8	11.1	14.1	12.5	14.8	21.7	US Census Bureau, 2013-2017 ACS 5-Year Estimates
% of Spanish at home speakers 65 years or older	7.0	6.8	6.5	11.4	4.6	3.9	15.9	US Census Bureau, 2013-2017 ACS 5-Year Estimates

WELLNESS & PREVENTION

% 60+ injured in a fall within last 12 months	10.6			9.8	8.8	9.1	8.8	2018 Massachusetts Healthy Aging Community Profile
% 65+ had hip fracture	3.7			4.7	3.4	4.6	4.2	2018 Massachusetts Healthy Aging Community Profile
%60+ with self-reported fair or poor health status	18.0			18.2	16.5	9.9	16.5	2018 Massachusetts Healthy Aging Community Profile
% 60+ with physical exam/check-up in past year	89.3			91.5	91.3	88	91.3	2018 Massachusetts Healthy Aging Community Profile

BEHAVIORAL HEALTH

% 60+ with 15+ days poor mental health last month	7.0			7.1	4.7	5.8	4.7	2018 Massachusetts Healthy Aging Community Profile
% 65+ with depression	31.5			34.8	20.2	29.5	31.7	2018 Massachusetts Healthy Aging Community Profile
% 65+ with anxiety disorders	25.4			26.9	15.5	22.7	24.9	2018 Massachusetts Healthy Aging Community Profile
% 65+ with substance use disorders (drug use +/- alcohol abuse)	6.6			6.7	5	4.7	6.1	2018 Massachusetts Healthy Aging Community Profile

CHRONIC DISEASE

% 65+ with Alzheimer’s disease or related dementias	13.6			18	8.8	15.1	16.2	2018 Massachusetts Healthy Aging Community Profile
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LIVING WITH DISABILITY

% 65+ with clinical diagnosis of deafness or hearing impairment	16.1			19.8	19.3	24	22.7	2018 Massachusetts Healthy Aging Community Profile
% 65+ with clinical diagnosis of blindness or visual impairment	1.5			1.8	1.1	1.4	1.2	2018 Massachusetts Healthy Aging Community Profile
% 65+ with clinical diagnosis of mobility impairments	3.9			4.7	3.7	3.3	3.6	2018 Massachusetts Healthy Aging Community Profile

ACCESS TO CARE

% Medicare managed care enrollees	23.1			21.2	15.2	17.3	18.3	2018 Massachusetts Healthy Aging Community Profile
% dually eligible for Medicare and Medicaid	16.7			11.8	2.1	7.1	7	2018 Massachusetts Healthy Aging Community Profile
% 60+ with a regular doctor	96.4			97.9	98.4	98	98.4	2018 Massachusetts Healthy Aging Community Profile
% 60+ who did not see doctor when needed due to cost	4.1			2.8	1.8	1.4	1.8	2018 Massachusetts Healthy Aging Community Profile
# of nursing homes within 5 miles	399			12	5	12	8	2018 Massachusetts Healthy Aging Community Profile
# of home health agencies	299			47	14	34	25	2018 Massachusetts Healthy Aging Community Profile
# of adult day health centers	131			0	0	1	1	2018 Massachusetts Healthy Aging Community Profile

COMMUNITY VARIABLES & CIVIC ENGAGEMENT

% of grandparents raising grandchildren	0.8			0.4	0	0.6	0.3	2018 Massachusetts Healthy Aging Community Profile
# of assisted living sites	238			3	0	3	2	2018 Massachusetts Healthy Aging Community Profile
Total of all crashes involving adult age 60+/town	132351			693	113	642	638	2018 Massachusetts Healthy Aging Community Profile
# of medical transportation services for older people	268			22	11	17	17	2018 Massachusetts Healthy Aging Community Profile
# of nonmedical transportation services for older people	252			58	31	45	45	2018 Massachusetts Healthy Aging Community Profile

Notes:

1. Demographics: Each American Community Survey (ACS) estimate is accompanied by the upper and lower bounds of the 90 percent confidence interval. A 90 percent confidence interval can be interpreted roughly as providing 90 percent certainty that the true number falls between the upper and lower bounds.

2. Clinical indicators: All data provided by MassCHIP are estimates associated with some margin of error. Percentages are accompanied by 95% confidence intervals, meaning the true value of the measure falls within the range 95% of the time. The difference between two groups is statistically significant if the 95% confidence intervals surrounding these two estimates do not overlap

For CHIA data, confidence intervals for year over year reflect change within geography rather than difference from statewide benchmark

Appendix C: Resource Inventory

MULTI-SECTOR COLLABORATIVES AND COMMUNITY HEALTH PARTNERSHIPS	
ORGANIZATION	CITY
Substance Prevention Alliance of Needham	Needham
Needham Coalition for Suicide Prevention	Needham
Needham Youth Coalition	Needham
CHNA 18	
Green Needham Collaborative	Needham
Needham Human Rights Committee	Needham
Needham Area Immigration Justice Task Force	
LOCAL PUBLIC DEPARTMENTS	
ORGANIZATION	CITY
Local Health Departments and Boards of Health	
Local Fire Departments	
Local Police Departments	
Local School Departments	
BUSINESS AND COMMUNITY DEVELOPMENT	
ORGANIZATION	CITY
Local Chambers of Commerce	
ADULT EDUCATION	
ORGANIZATION	CITY
Needham Community Education	Needham
Bay State Learning Center	Dedham
Dover Community Education	Dover
YOUTH AND FAMILY SERVICES	
Organizations	City
Riverside Early Intervention	
Needham Early Childhood Council	Needham
Baby Basics, Inc.	Needham
Needham Youth Services	Needham
Parent Talk, Inc.	Needham
FOOD SECURITY AND HEALTHY EATING	
Organizations	City
Needham Community Council	Needham
Dedham Food Pantry	Dedhm
St. Dunstan's Episcopal Church	Dover
Westwood Food Pantry	Westwood
Needham Traveling Meals Program	Needham

FOOD SECURITY AND HEALTHY EATING (Continued)

Organizations	City
Needham Community Farm	Needham
Needham Garden Club	Needham

HOUSING

Organizations	City
Needham Housing Authority	Needham
Dedham Housing Authority	Dedham
Westwood Housing Authority	Westwood

DOMESTIC VIOLENCE SERVICES

Organizations	City
Domestic Violence Action Committee	Needham

MULTI SERVICE AGENCIES

Organizations	City
Needham Community Council	Needham
Westwood Community Chest	Westwood

DISABILITY SERVICES

Organizations	City
Autism Support Services at TILL	Dedham
Needham Commission on Disabilities	Needham

SERVICES FOR OLDER ADULTS

Organizations	City
Otrada	Needham Heights
Julia Ruth House	Westwood
The Center at the Heights	Needham
Retired Mens Club of Needham	Needham

FAITH-BASED ORGANIZATIONS

Organizations	City
My Brother's Keeper	
Needham Clergy Asociation	Needham

HEALTH CARE SERVICES

Organizations	City	Service type
Interface Community Resources & Referral	Needham	Behavioral Health
BID Needham	Needham	Inpatient and Emergency Services
VNA Care Network		Hospice and Palliative Care
Boston Foundation for Sight	Needham	Specialty Care

RECREATION AND COMMUNITY CENTERS

Organizations	City
Community Center of Needham	Needham
Friends of the Needham Rail Trail Greenway	Needham
YMCA of Greater Boston, Charles River Branch	Needham

Appendix D: Summary Implementation Strategy

Beth Israel Deaconess–Needham Implementation Strategy 2020 - 2022

Between October 2018 and April 2019, Beth Israel Deaconess Hospital–Needham (BID–Needham) conducted a comprehensive Community Health Needs Assessment (CHNA) that included an extensive review of existing quantitative data as well as the collection of qualitative information through interviews, focus groups and community meetings. A resource inventory was also completed to identify existing health-related assets and service gaps. During this process, the Hospital made substantial efforts to engage administrative and clinical staff at the Hospital (including senior leadership) and community health stakeholders throughout the Hospital’s community benefits service area. A detailed review of the CHNA approach, data collection methods, and community engagement activities are included in Appendix A of BID–Needham’s 2019 CHNA Report.

Once BID–Needham’s CHNA activities were completed, the Hospital’s Community Benefits (CB) staff convened the BID–Needham Community Benefits Advisory Committee (CBAC) and the Hospital’s Community Benefits Leadership Team (CBLT) and conducted a series of strategic planning meetings. These meetings allowed Hospital staff and a representative group of external community health stakeholders to review the quantitative and qualitative findings from the CHNA, prioritize the leading community health issues, identify segments of the population most at-risk (Priority Populations), review existing community benefits programming, and begin to develop the Hospital’s 2020 – 2022 Implementation Strategy (IS). After these strategic planning meetings, the Hospital’s CB Staff continued to work with the CBAC, CBLT, and other community partners to develop draft and final versions of BID–Needham’s 2020-2022 Implementation Strategy. Below is a summary of BID–Needham’s IS.

CORE IMPLEMENTATION STRATEGY PRINCIPLES AND STATE PRIORITIES

In developing the IS, care was taken to ensure that BID–Needham’s community health priorities were aligned with the Commonwealth of Massachusetts priorities set by the Commonwealth’s Department of Public Health (MDPH). The table below outlines the four Community Benefit focus issues identified by MDPH and the Executive Office of Health and Human Services. In addition to the four focus issues, MDPH identified six health priorities to guide investments funded through the Determination of Need Process. The Massachusetts Attorney General’s Office encourages hospitals to consider these priorities in the Community Benefits planning process.

Also included below is a brief discussion of a series of guiding principles that informed the Hospital’s IS development process.

State Community Health Priorities

Community Benefits Priorities	Determination of Need Priority Areas
Chronic disease with a Focus on Cancer, Heart Disease, and Diabetes	Built Environment
Housing Stability/Homelessness	Social Environment
Mental Illness and Mental Health	Housing
Substance Use Disorders	Violence
	Education
	Employment

The following are a range of programmatic ideas and principles that are critical to community health improvement and have been applied in the development of the IS provided below.

- **Social Determinants of Health:** With respect to community health improvement, especially for low income and disadvantaged populations, there is growing appreciation for the importance of addressing the underlying social determinants of health, “the conditions in which people are born, grow, live, work and age that may limit access, lead to poor health outcomes, and are at the heart of health inequities between and within communities.”¹ The leading social determinants of health include issues of poverty, housing, food access, violence, racism/bigotry, and transportation. It is important that hospital implementation strategies include collaborative, cross-sector initiatives that address these issues.
- **Health Education and Prevention:** Primary prevention aims to prevent disease or injury before it ever occurs by reducing risks, preventing exposures to hazards, or altering unhealthy behaviors that can lead to disease or injury. Secondary and tertiary prevention aims to reduce the

¹ O. Solar and A. Irwin, World Health Organization, “A Conceptual Framework for Action on the Social Determinants of Health,” Social Determinants of Health Discussion Paper 2 (Policy and Practice), 2010, available at http://www.who.int/social_determinants/corner/SDHDP2.pdf.

impact of chronic disease or health conditions through early detection as well as behavior change and chronic disease management geared to helping people to manage health conditions, lessen a condition's impact, or slow its progress. Targeted efforts across the continuum to raise awareness about a particular condition, educate people about risk factors and protective factors, change unhealthy behaviors, and manage illness are critical to improving health status.

- **Screening and Referral:** Early identification of those with chronic and complex conditions, followed by efforts to ensure that those in need of education, further assessment, counseling, and treatment, are critical to preventing illness before it takes hold or managing illness so as to lessen or slow its impacts. A critical component of screening and referral efforts is taking steps to ensure that people are fully engaged in treatment, including linkages to a primary care provider.
- **Chronic Disease Management:** Learning how to manage an illness or condition, change unhealthy behaviors, and make informed decisions about your health can help you live a healthier life. Evidence-based chronic disease management or self-management education (SME) programs, implemented in community-based setting by clinical and non-clinical organizations, can help people to learn skills to manage their health conditions, improve eating and sleeping habits, reduce stress, maintain a healthy lifestyle.
- **Care Coordination and Service Integration:** Efforts to coordinate care and integrate services across the health care continuum are critical to community health improvement. These efforts involve bringing together providers and information systems to coordinate health services, patient needs, and information to help better achieve the goals of treatment and care.
- **Patient Navigation and Access to Health Insurance:** One of the most significant challenges that people face in caring for themselves or their families across all communities is finding the services they need and navigating the health care system. Having health insurance that can help people to pay for needed services is a critical first step. The availability of insurance enrollment support, patient navigation, and resource inventories are important aspects of community health improvement.
- **Cross-sector Collaboration and Partnership:** When it comes to complex social challenges, such as community health improvement, there is a clear consensus that success will only be achieved through collective action, partnership and collaboration across organizations and health-related sectors. No one organization or even type of organization can have a sustained impact on these types of issues on their own. Hospital implementation strategies need to be collaborative and include partnerships with service providers across multiple sectors (e.g., health, public health, education, public safety, and community health).

COMMUNITY HEALTH PRIORITY POPULATIONS AND NEEDS

BID–Needham is committed to improving the health status and well-being of all residents living throughout its service area. All geographic, demographic, and socioeconomic segments of the population face challenges of some kind that can hinder their ability to access care or maintain good health. Regardless of age, race/ethnicity, income, family history, or other characteristics, everyone is impacted in some way by health-related risks. With this in mind, BID–Needham’s IS includes activities that will support residents throughout its service area, across all segments of the population.

However, based on the assessment’s quantitative and qualitative findings there was broad agreement that BID–Needham’s IS should prioritize certain demographic and socio-economic segments of the population that have complex needs or face especially significant barriers to care, service gaps, or adverse social determinants of health that put them at greater risk. More specifically, the assessment identified low to moderate income populations (including those who are uninsured or underinsured), individuals with chronic and/or complex conditions, older adults, and youth as priority populations that deserve special attention.



BID–Needham’s CHNA approach and process provided many opportunities to vet the quantitative and qualitative data compiled during the assessment. Based on this process, the Hospital’s Community Benefits staff, along with the CBAC, CBLT, and other stakeholders identified three community health priority areas, which together embody the leading health issues facing residents living in BID–Needham’s Community Benefit Service Area. These three strategic domains are: 1) Mental Health and Substance Use, 2) Chronic/Complex Conditions and Their Risk Factors, and 3) Social Determinants of Health and Access to Care.



Community Health Needs not Prioritized by BID–Needham’s CBAC

It is important to note that there are community health needs that were identified by BID–Needham’s assessment that, due to the limited burden that these issues present and/or the feasibility of having an impact in the short- or long-term on these issues, were not prioritized for investment. Namely, Housing and education were identified as community needs, but these issues were deemed by the CBAC and the CBLT to be outside of BID–Needham’s primary sphere of influence and have opted to allow others in its CBSA and the Commonwealth to focus on these issues. This is not to say that BID–Needham will not support efforts in these areas. BID–Needham remains open and willing to work with hospitals across Beth Israel Lahey Health’s network and other public and private partners to address these issues, particularly as part of a broad, strong collaborative.

The following is BID–Needham’s Implementation Strategy and provides details on BID–Needham’s goals, priority populations, objectives, strategic activities, and measures of performance by priority area. Also included, is a listing of the state priorities that align with the activities included in the IS as well as a listing of the core partners that BID–Needham has been and will continue to work with to implement these activities. With respect to the core community partners listed, this is certainly not a complete list but rather many of its core partners. BID–Needham collaborates and partners with dozens of public and private service providers, community-based organizations, and advocacy organizations spanning all sectors and CBSA communities. BID–Needham is extremely appreciative of the efforts of all of its partners and looks forward to continuing and furthering its community partnerships, as it implements its community benefits and CHI activities in the years to come.

I. Community Health Priorities

Priority Area 1: Mental Health and Substance Use

Brief Description: As it is throughout the Commonwealth and the nation, the burden of mental and substance use on individuals, families, communities and service providers in BID–Needham’s service area is overwhelming. Nearly every key informant interview, focus group and community meeting included discussions on these topics. From a review of the quantitative and qualitative information, depression, anxiety/stress, social isolation, opioids, alcohol, and e-cigarette/vaping were the leading issues in this domain. Despite increased community awareness and sensitivity about the underlying issues and origins of mental health and substance use issues, there is still a great deal of stigma related to these conditions. There is a general lack of appreciation for the fact that these issues are often rooted in genetics, physiology and environment, rather than an inherent, controllable character flaw. There is, however, a deep appreciation and a growing understanding for the role that trauma plays for many of those with mental and/or substance use issues, with many people using illicit or controlled substances to self-medicate and cope with loss, stress, abuse, pain, and other unresolved traumatic events.

Resources / Financial Investment: BID–Needham will commit direct, community health program investments, and in-kind resources of staff time and materials. BID–Needham will also generate leveraged funds through grants from public and private sources on behalf of its own programs or services as well as on behalf of its community partners.

Goal	Priority Populations	Programmatic Objectives	Community Activities / Strategies
Educate about and reduce stigma associated with mental health	<ul style="list-style-type: none"> Youth Older Adults Low to Moderate 	<ul style="list-style-type: none"> Increase community education and awareness of substance use/misuse and healthy mental, emotional, and social health 	<ul style="list-style-type: none"> Support Mental Health First Aid trainings in targeted community-based settings to raise awareness, reduce stigma, and educate residents and service providers about mental health and substance use

Goal	Priority Populations	Programmatic Objectives	Community Activities / Strategies
and substance use Issues	Income Populations • Individuals with Chronic/ Complex Conditions	<ul style="list-style-type: none"> • Reduce the stigma associated with mental illness/ mental health and substance use/misuse, and addiction 	<ul style="list-style-type: none"> • Provide Community Health Mini Grants to local departments of Health or other community-based partners to support evidence-based programs that promote mental health and substance use education and prevention • Support Mental Health and Substance Use Support Groups for those with or in recovery from mental health or substance use and their family/friends/caregivers to raise awareness, reduce stigma, educate, and promote coping/recovery • Support Community-based Health Education Events and programming with community partners to raise awareness, and educate on risk/protective factors, and services available in the community. • Support Substance Use Prevention Programming and curriculum in local schools.
Enhance access to mental health and substance use screening, assessment, and treatment services	<ul style="list-style-type: none"> • Youth • Older Adults • Low to Moderate Income Populations • Individuals with Chronic/ Complex Conditions 	<ul style="list-style-type: none"> • Promote cross-sector partnership, collaboration, and information sharing across the broad health system to address access to mental health and substance use services • Increase access to clinical and non-clinical support services for those with mental health and substance use issues, with an emphasis on priority populations • Increase access to peer support for those with mental health and substance use and their family, friends, and caregivers • Reduce inappropriate use of ED and other acute care services • Increase access to screening, education, referral, and patient engagement services for those identified with or at-risk of mental health and substance use issues in clinical and non-clinical 	<ul style="list-style-type: none"> • Participate in local and regional coalitions and task forces to promote collaboration, share knowledge, and coordinate community health improvement activities • Provide health insurance enrollment counseling/assistance and patient navigation support services to uninsured or underinsured residents and patients with mental health and substance use issues • Support the Interface Mental Health Hotline, which provides education and referral services for those seeking mental health counseling services • Look into developing integrated behavioral health services (mental health and substance use) in Primary Care and other specialty care settings (Impact Model) for those with or at-risk of mental health issues, including screening, assessment, and treatment • Explore partnerships with elder service providers that reach out to and serve isolated older adults not currently engaged in Council on Aging activities • Explore partnerships with Local Health Departments, substance use providers, and BID–Needham departments to implement Peer Recovery Coach Programs geared to linking those with substance use/misuse issues to peer recovery coaches who provide recovery, case management, and navigation support • Research implementation of a BID–Needham Bridge Program for those suffering from substance use disorder that screens, identifies, assesses, initiates treatment, and links participants to long-term SUD services in the community • Support the Community Crisis Intervention Team (CCIT), a partnership between hospital emergency departments, public safety officials, and behavioral health providers geared to reaching out to, referring, and engaging substance users/misusers in treatment

Goal	Priority Populations	Programmatic Objectives	Community Activities / Strategies
		<p>settings, with an emphasis on priority populations</p> <ul style="list-style-type: none"> • Increase access to insurance, patient navigation support, and other enabling/ supportive services for those with mental health and substance use issues, with an emphasis on priority populations • Increase access to peer recovery coaches for those with substance use/misuse issues • Reduce elder health isolation and depression • Increase the number of practice settings with integrated behavioral health and primary care/specialty care services • Increase primary care and specialty care follow-up after discharge from hospital settings 	<ul style="list-style-type: none"> • Explore partnerships with community-based organizations that provide social engagement activities for those who are isolated or struggling with mental health issues
<p>Decrease the number of prescription drugs and other harmful drugs from the community</p>	<ul style="list-style-type: none"> • Youth • Older Adults • Low to Moderate Income Populations • Individuals with Chronic/ Complex Conditions 	<ul style="list-style-type: none"> • Decrease the availability of unused prescription drugs • Increase the # of opportunities that residents of the service area can give back unused prescriptions 	<ul style="list-style-type: none"> • Support “Drug Take Back Days” with Commonwealth and local law enforcement and other community-based partners • Maintain Prescription Drug Disposal Kiosk in the lobby of the hospital to provide a safe place for the community to dispose of unwanted/ unneeded drugs • Continue BID–Needham Opioid Taskforce to decrease use of and prescribing of opioids in the hospital, and to educate patients on opioid use and alternatives for pain management.

Priority Area 2: Chronic and Complex Conditions and their Risk Factors

Brief Description: While mental health and substance use were perceived to be the leading issues in BID–Needham’s service area, one cannot lose sight of the fact that heart disease, stroke and cancer are the leading causes of death in the nation and the Commonwealth. Roughly, 6 in 10 deaths may be attributed to these three conditions combined. If you include respiratory disease (e.g., asthma, COPD) and diabetes, which are in the top 10 leading causes across all geographies, then one can account for the vast majority of causes of death. All of these conditions are typically considered to be chronic and complex and can often strike early in one’s life, quite often ending in premature death. Within this priority area, according to those who participated in interviews, focus groups, the community meeting, and the Community Health Survey, cardiovascular disease, cancer, diabetes, and Alzheimer’s disease and other dementias were thought to be of the highest priority. It is also important to note that the risk factors for nearly all chronic/complex conditions are much the same, including lack of physical activity, poor nutrition, obesity, tobacco use, and alcohol use.

Resources / Financial Investment: BID–Needham will commit direct, community health program investments, and in-kind resources of staff time and materials. BID–Needham will also generate leveraged funds through grants from public and private sources on behalf of its own programs or services as well as on behalf of its community partners.

Goal	Priority Populations	Programmatic Objectives	Community Activities / Strategies
Enhance access to health education, screening, referral, and chronic disease management services in clinical and non-clinical settings	<ul style="list-style-type: none"> Youth Older Adults Low to Moderate Income Populations Individuals with Chronic/Complex Conditions 	<ul style="list-style-type: none"> Increase the number of people who are educated about chronic disease risk factors and protective behaviors Increase the number of adults who are engaged in evidence-based screening, counseling, self-management support, chronic disease management, referral services, and/or specialty care services Increase the number of people with chronic/complex conditions whose conditions are under control 	<ul style="list-style-type: none"> Participate in coalitions and task forces to promote collaboration, share knowledge, and coordinate community health improvement activities Partner with community groups to offer wellness, fitness education and other events as part of comprehensive chronic disease management for underserved community members, and other priority population segments Provide First Aid, CPR and Stroke Management Trainings to residents, service providers, and first responders as part of comprehensive chronic disease prevention and management efforts Provide evidence-based health education on risk/protective factors, and self-management support programs through partnerships with community-based organizations Support screening, education, and referral programs in clinical and non-clinical settings Promote enhanced care transitions, care coordination and follow-up care programs targeting those with chronic/complex conditions after discharge from the Hospital

Goal	Priority Populations	Programmatic Objectives	Community Activities / Strategies
			<ul style="list-style-type: none"> • Provide Community Health Mini Grants to community partners to support evidence-based programs that promote health education, screening, referral, and chronic disease management for priority populations
Reduce the prevalence of tobacco use	<ul style="list-style-type: none"> • Youth • Older Adults • Low to Moderate Income Populations • Individuals with Chronic/ Complex Conditions 	<ul style="list-style-type: none"> • Increase the number of people who quit smoking cigarettes, vaping, or using e-cigarettes • Increase access to tobacco, vaping/e-cigarette cessation programs 	<ul style="list-style-type: none"> • Support Smoking Cessation Programs geared to reducing tobacco, vaping and e-cigarette use • Provide community education on the risks of vaping and tobacco use

Priority Area 3: Social Determinants of Health and Access to Care

Brief Description: A dominant theme from the assessment was the tremendous impact that underlying social determinants of health, particularly access to affordable housing, transportation, poverty/employment, and food insecurity have on the entire population. The social determinants of health are often the drivers or underlying factors that create or exacerbate mental health issues, substance misuse, and chronic/complex conditions. These social determinants of health, particular poverty, underlie the access to care issues that were prioritized in the assessment: navigating the health system (including health insurance), chronic disease management, and access to culturally and linguistically competent care.

Resources / Financial Investment: BID–Needham will commit direct, community health program investments, and in-kind resources of staff time and materials. BID–Needham will also generate leveraged funds through grants from public and private sources on behalf of its own programs or services as well as on behalf of its community partners.

Goal	Priority Populations	Programmatic Objectives	Community Activities / Strategies
Enhance access to care and reduce the	<ul style="list-style-type: none"> • Youth • Older Adults 	<ul style="list-style-type: none"> • Increase partnerships and collaboration with social service 	<ul style="list-style-type: none"> • Participate in regional and local task forces and coalitions to promote collaboration, share knowledge, and coordinate community health improvement activities

Goal	Priority Populations	Programmatic Objectives	Community Activities / Strategies
impact of social determinants	<ul style="list-style-type: none"> • Low to Moderate Income Populations • Individuals with Chronic/ Complex Conditions 	<p>and other community-based organizations</p> <ul style="list-style-type: none"> • Increase educational opportunities related to the importance and impact of social determinants • Decrease the number of people who struggle with financial insecurity • Increase access to low cost healthy foods with an emphasis on priority population segments • Increase access to affordable, safe transportation options with an emphasis on priority population segments • Increase training and employment opportunities for low to moderate income residents with an emphasis on priority population segments • Increase the number of people assisted with insurance and other public program enrollment, and patient navigation • Increase access to social experiences for those who are isolated and lack family/caregiver and other social supports 	<ul style="list-style-type: none"> • Provide Community Health Mini Grants to community partners to support evidence-based programs that address social determinants and access to care • Support farmers markets and other food access initiatives that provide fresh, locally-grown produce to low to moderate income, underserved populations • Support local food access organizations and Initiatives to provide nutrition education and food access to low and moderate income populations living in public housing, school-based after-school programs, Councils on Aging, and other community venues • Support wellness and nutrition education events in partnership with community partners • Provide enrollment counseling/ assistance and patient navigation support services to uninsured or underinsured residents to enhance access to care • Provide linguistically and culturally appropriate health education and care management support • Explore transportation access partnerships with regional transportation providers and other community partners to enhance access to affordable, safe, accessible transportation options • Organize and support workforce mentorship and training programs to enhance job training, skills development, and career advancement
Reduce Elder Falls and Promote Aging in Place	<ul style="list-style-type: none"> • Older Adults 	<ul style="list-style-type: none"> • Reduce fear of falling • Reduce Falls • Increase activity levels 	<ul style="list-style-type: none"> • Support Safety at Home Program for older adults to promote aging in place and reduce falls • Support the Fall Prevention Committee to reduce Falls • Organize Matter of Balance workshops for priority populations

Goal	Priority Populations	Programmatic Objectives	Community Activities / Strategies
		<ul style="list-style-type: none"> • Reduce preventable Emergency Department and inpatient visits • Increase the number of older adults living independently in their homes 	<ul style="list-style-type: none"> • Support other elder service programming to encourage aging in place • Continue 5-year commitment to address healthy aging, with Needham Public Health and Needham Council on Aging

Appendix E: Summary Community Benefits Evaluation

Evaluation Summary

Multi-component initiatives (MCIs) such as those implemented and supported by Beth Israel Deaconess Hospital – Needham’s Community Benefits Program (Needham CBP) are comprehensive in nature and show promise of being effective, equitable, and sustainable.^{1-8,9} Yet, the varying timelines, priorities, implementing departments and organizations, targeted populations, and available resources make evaluations challenging. Further complicating the assessment of an MCI is that population-level health behaviors and outcomes take time to achieve. While it may be hard to detect the impact of MCIs on the desired long-term outcomes, it is important to assess whether the initiative has the attributes known to support and sustain population health in due time.

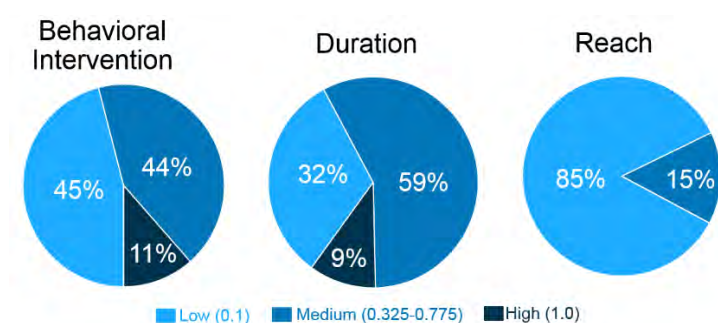
John Snow Inc. (JSI) employed an evidence-informed approach to evaluate the Needham CBP. Systematically, JSI scored three attributes found to be predictors of population health—the behavioral intervention, duration, and reach for each activity summarized in the *Fiscal Year 2017 Community Benefits Report to the Attorney General (AG Report)*. Intention is important because evidence suggests that when an activity improves access, reduces barriers, or changes broader conditions, there is a greater likelihood that individual behavior change will be sustainable (compared to simply enhancing their knowledge or skills).¹⁰⁻¹² Reach and duration are significant because research has found that when more people are exposed to a strategy, and for longer periods of time, there is a greater likelihood that the strategy will support the desired behaviors and outcomes.¹⁰⁻¹²

JSI abstracted and scored all activities defined as an action undertaken in accordance to the community benefits, and reported in the AG Report. An evaluation team member rated each activity attribute as low (0.1), medium (0.55), or high (1.0), and calculated an intensity score (\sum behavioral value + duration value + reach value). Scores could range from 0.3 (lowest intensity and least likely to impact long-term outcomes) to 3.0 (highest intensity and most likely to impact long-term outcomes). All activity scores were then summed to create a total composite score.

Findings

Among Needham’s activities (n=87), 44% had a medium intention score, 59% were scored medium in duration, and 15% had a medium reach score (Figure 1).

Figure 1. Activity Intensity Scores by Attribute



There were four priority areas within which these 87 activities were implemented: 1) Health Risk Factors; 2) Physical Health and Chronic Disease Management and Prevention; 3) Behavioral Health; and 4) Healthy Aging. The highest number of activities were implemented to address the “Health Risk Factors” priority area and the lowest number were targeting “Behavioral Health” (34 and 15, respectively) (Table 1).

Table 1. Summary of Activities by Priority Area

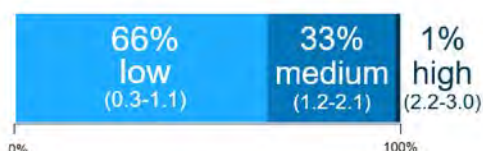
Goal/Priority Area	Number of Activities	Average Score	Total Score
Health Risk Factors	34	0.90	30.45
Physical Health and Chronic Disease Management and Prevention	18	1.01	18.23
Behavioral Health	15	0.84	12.6
Healthy Aging	20	0.90	17.93

The composite intensity score of the 87 activities was 79.2; the lowest possible score for all activities was a 26.1 (if all activities scored a 0.3) and the highest possible intensity score was a 261 (if all activities scored a 3.0). Each individual activity score ranged from 0.3 to 2.33; with a 0.91 average intensity score (Figure 2). About one-third (33%) of the activities had a medium score (1.2 – 2.1) and 66% had a low score (0.3 – 1.1) (Figure 3).

Figure 2. Individual Activity Intensity Score



Figure 3. Percentage of Activities with a Low, Medium, High Intensity Score



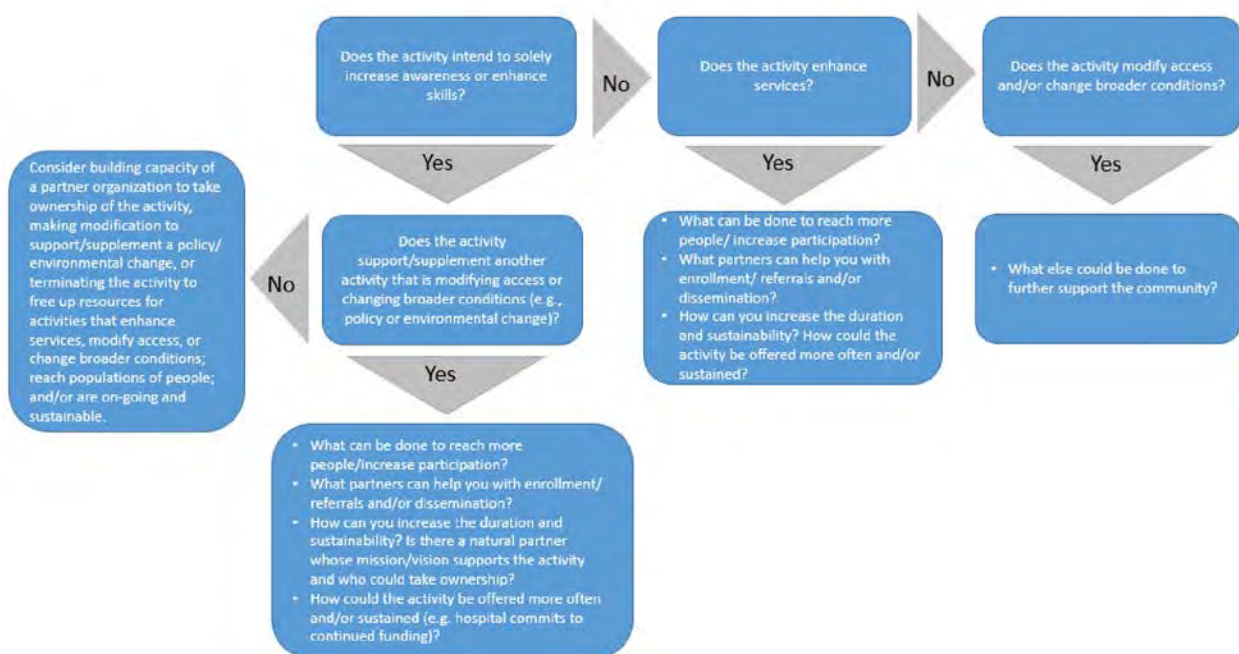
Recommendations

Per the requirements of the AG, Beth Israel Deaconess Hospital – Needham contracted with JSI to evaluate the FY17 CBP. The purpose of the evaluation was to understand the likely impact of each of the reported activities on long-term behaviors and outcomes related to the four priority areas, and to identify opportunities to ensure the CBP supports population health most effectively. Using intention, reach, and duration to score the various activities provides a systematic way of assessing the dynamic and evolving activities implemented as part of the Needham CBP. It also provides a platform for documenting progress toward the long-term goal of improved health, and differentiating between activities that may have more or less influence on long-term outcomes.

Intensity scores should inform how resources are used most effectively in the future, provide direction for strengthening efforts individually or collectively, and serve as a baseline for measuring change overtime. Activities that were implemented at a lower intensity included the various grants that were awarded to community organizations. To increase the intensity of CBP dollars, and to ensure activities result in improved population health behaviors and outcomes, future efforts should be made to ensure all grantees provide detailed information on the purpose, duration, and reach of grant funding. In the extent

possible, activities should also prioritize the enhancement of services, modification of access, and/or change broader conditions that support the health and well-being of the community-at-large. Other lower-intensity activities included a number of one-time events. These activities received lower scores because they: 1) intended to increase awareness and/or educate/enhance the knowledge or skills of individuals, 2) were offered once or a few times (versus ongoing); and 3) reached a small percentage of the population. In general, it is recommended that each priority have multiple activities that work simultaneously to increase awareness and improve skills; enhance services; modify access; and change broader conditions for populations of people. CBP staff and partners should use Figure 4 to assess each activities' contribution to the overall priority area and for modifications to be made to increase the intensity within which all activities are implemented.

Figure 4. Flow chart for increasing the intensity of the community benefits program



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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: DoN Application Type:

What CHI Tier is the project? ☒ Tier 1 ☐ Tier 2 ☐ Tier 3

1. DoN Applicant Information

Applicant Name:

Mailing Address:

City: State: Zip Code:

2. Community Engagement Contact Person

Contact Person: Title:

Mailing Address:

City: State: Zip Code:

Phone: Ext: E-mail:

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):

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
<div><div>+</div><div>-</div></div>	Needham Public Health CHNA	3	Timothy McDonald	7814557500	tmcdonald@needhamma.gov
<div><div>+</div><div>-</div></div>	Newton Wellesley Hospital 2022-2023 CHNA	1	Lauren Lele	6172436330	LLELE@PARTNERS.ORG

5. CHNA Analysis Coverage

Within the BID Needham FY22 CHNA/IS , 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

BID Needham is using a multifaceted approach to conduct its FY 22 CHNA/IS processes. Such efforts include extensive community engagement with residents, public health, municipal and community-based stakeholders and organizations. The guiding principles for BID Needham's FY 22 CHNA/IS process are equity, collaboration, engagement, and capacity building.

A triangulation of secondary and primary qualitative and quantitative data is building the foundation for identifying emerging needs and laying the cornerstone for a community-engaged and participatory prioritization process. Such efforts include key informant interviews, focus groups, surveys and community listening sessions. Specific data elements related to built environment include: FY22 BILH CHNA Key Informant Interviews, Focus Groups, and Community Survey; County Health Rankings; The Greater Boston Food Bank, 2019-2021; Massachusetts 211 Data, 2021; Behavioral Risk Factor Surveillance System, 2019; and the MA DPH COVID-19 Community Survey.

Top concerns for the community were identified through interviews and focus groups. Participants voiced concerns around food insecurity. County Health Rankings were used to identify the population with limited access to healthy foods (3% in Norfolk County). The American Community Survey (U.S. Census Bureau) was used to identify mode of transportation to work for workers aged 16+ and households with a broadband Internet subscription.

5.2 Education

The same multi-faceted approach with a triangulation of data is used to analyze the education issues, including: FY22 BILH CHNA Key Informant Interviews, Focus Groups, and Community Survey; American Community Survey (U.S. Census Bureau); School and District Profiles, Massachusetts Department of Elementary and Secondary Education, 2020-2021; Massachusetts 211 Data, 2021; Behavioral Risk Factor Surveillance System, 2019; MA DPH COVID-19 Community Survey; and the Youth Risk Behavior Survey.

The American Community Survey (U.S. Census Bureau) was used to identify educational attainment of adults 25 years and older, and the School and District Profiles, Massachusetts Department of Elementary and Secondary Education, 2020-2021 was used to identify percent of students across grades 9-12 who graduate (83%).

5.3 Employment

The same multi-faceted approach with a triangulation of data is used to analyze the employment issues, including: FY22 BILH CHNA Key Informant Interviews, Focus Groups, and Community Survey; MA Labor Market Information, 2020-2021; American Community Survey (U.S. Census Bureau); Massachusetts 211 Data, 2021; Behavioral Risk Factor Surveillance System, 2019; and the MA DPH COVID-19 Community Survey.

FY22 BILH CHNA Key Informant Interviews & Focus Groups were used to identify employment needs, with participants voicing concerns about economic insecurity and high cost of living. The MA Labor Market Information (2020-2021) was referenced to find the unemployment rate (4.60%). The American Community Survey (U.S. Census Bureau) was used for families below poverty level (%) and median household income (\$). Finally, the Massachusetts Department of Public Health COVID 19 Community Impact Survey was referenced for the percent of employed residents who experienced job loss (8%, unweighted %) or reduced work hours (13%, unweighted %).

5.4 Housing

The same multi-faceted approach with a triangulation of data is used to analyze the housing issues, including: FY22 BILH CHNA Key Informant Interviews, Focus Groups, and Community Survey; American Community Survey (U.S. Census Bureau); Eviction Lab, 2018; Massachusetts 211 Data, 2021; Behavioral Risk Factor Surveillance System, 2019; and the MA DPH COVID-19 Community Survey.

The FY22 BILH CHNA Community Survey was used to identify the percent who report affordable housing as a priority for their community (57%). The FY22 BILH CHNA Key Informant Interviews & Focus Groups were used to ask about housing, where participants voiced concerns about lack of affordable housing and homelessness. The American Community Survey (U.S. Census Bureau) will be referenced for median housing costs for owners and renters, as well as residents whose housing costs are 35% or more of household income.

5.5 Social Environment

The same multi-faceted approach with a triangulation of data is used to analyze the social environment issues, including: FY22 BILH CHNA Key Informant Interviews, Focus Groups, and Community Survey; American Community Survey (U.S. Census Bureau); The Food Bank of Western Massachusetts, SNAP Gap, 2021; Massachusetts 211 Data, 2021; Center for Health Information and Analysis (CHIA) Massachusetts Inpatient Discharges and Emergency Department Volume; Behavioral Risk Factor Surveillance System, 2019; MA DPH COVID-19 Community Survey; and the Youth Risk Behavior Survey.

The FY22 BILH CHNA Community Survey was used to garner feedback on the social environment, including percent who report being satisfied with quality of life in community (92%), percent who report community has good access to resources (92%), percent who report community is a good place to raise children, and percent who report community is a good place to grow old (68%). In addition, the data will reference the American Community Survey (U.S. Census Bureau) to identify population who speak language other than English at home, and population changes over time.

5.6 Violence and Trauma

The same multi-faceted approach with a triangulation of data is used to analyze the violence and trauma issues, including: FY22 BILH CHNA Key Informant Interviews, Focus Groups, and Community Survey; Federal Bureau of Investigation, Offenses Known to Law Enforcement, 2016; Massachusetts 211 Data, 2021; Center for Health Information and Analysis (CHIA) Massachusetts Inpatient Discharges and Emergency Department Volume; Massachusetts Deaths, 2017; Behavioral Risk Factor Surveillance System, 2019; MA DPH COVID-19 Community Survey; and the Youth Risk Behavior Survey.

The Federal Bureau of Investigation, Offenses Known to Law Enforcement 2016 was used to identify both property crime rate (total count: 891) and rate of offenses known to law enforcement (total count: 80).

5.7 The following specific focus issues

a. Substance Use Disorder

The same multi-faceted approach with a triangulation of data is used to analyze substance use disorders, including: FY22 BILH CHNA Key Informant Interviews, Focus Groups, and Community Survey; Massachusetts 211 Data, 2021; Center for Health Information and Analysis (CHIA) Massachusetts Inpatient Discharges and Emergency Department Volume; Massachusetts Deaths, 2017; Behavioral Risk Factor Surveillance System, 2019; MA DPH, Bureau of Substance Abuse Services, 2017; MA DPH COVID-19 Community Survey; and the Youth Risk Behavior Survey.

With regard to substance use, the FY22 BILH CHNA Key Informant Interviews, Focus Groups indicate that participants voiced concerns about substance use, especially in relation to mental health and access to services. Data from Center for Health Information and Analysis (CHIA) Massachusetts Inpatient Discharges and Emergency Department Volume was used to evaluate FY19 Inpatient Discharges rate per 100,000, age 18-64 (1,138) and FY19 ED Volume rate per 100,000, age 18-64 (1,836).

b. Mental Illness and Mental Health

The same multi-faceted approach with a triangulation of data is used to analyze mental illness and mental health issues, including: FY22 BILH CHNA Key Informant Interviews, Focus Groups, and Community Survey; Massachusetts 211 Data, 2021; Center for Health Information and Analysis (CHIA) Massachusetts Inpatient Discharges and Emergency Department Volume; Behavioral Risk Factor Surveillance System, 2019; MA DPH COVID-19 Community Survey; and the Youth Risk Behavior Survey.

The FY22 BILH CHNA Key Informant Interviews, Focus Groups were used to ask participants about mental illness and mental health, where participants voiced concerns about mental health for youth and adults.

c. Housing Stability / Homelessness

The same multi-faceted approach with a triangulation of data is used to analyze housing stability/homelessness issues, including: FY22 BILH CHNA Key Informant Interviews, Focus Groups, and Community Survey; American Community Survey (U.S. Census Bureau); Massachusetts 211 Data, 2021; Center for Health Information and Analysis (CHIA) Massachusetts Inpatient Discharges and Emergency Department Volume; Behavioral Risk Factor Surveillance System, 2019; and the MA DPH COVID-19 Community Survey. For more information please see the housing information above.

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

The same multi-faceted approach with a triangulation of data is used to analyze the chronic disease issues, including: FY22 BILH CHNA Key Informant Interviews, Focus Groups, and Community Survey; County Health Rankings, 2016; Center for Health Information and Analysis (CHIA) Massachusetts Inpatient Discharges and Emergency Department Volume; Massachusetts Deaths, 2017; Behavioral Risk Factor Surveillance System, 2019; and the MA DPH COVID-19 Community

Survey.

The Behavioral Risk Factor Surveillance System, 2019 was used to identify the percent of Adults who are Obese (22.40%) and diagnosed diabetes among adults aged >=18 years (5.90%).

6. Community Definition

Specify the community(ies) identified in the Applicant's BID Needham FY22 CHNA/IS

Add/Del Rows	Municipality	If engagement occurs in specific neighborhoods, please list those specific neighborhoods:
<div><div>+</div><div>-</div></div>	<div>Needham</div>	
<div><div>+</div><div>-</div></div>	<div>Dedham</div>	
<div><div>+</div><div>-</div></div>	<div>Westwood</div>	
<div><div>+</div><div>-</div></div>	<div>Norwood</div>	

7. Local Health Departments

Please identify the local health departments that were included in your BID Needham FY22 CHNA/IS . Indicate which of these local health departments were engaged in this BID Needham FY22 CHNA/IS . For example, this could mean participation on an advisory committee, included in key informant interviewing, etc. (Please see page 24 in the Community 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
<div><div>+</div><div>-</div></div>	Needham	Needham Public Health Department	Timothy McDonald	tmcdonald@needhamma.gov	Tim McDonald is the Needham Director of Public Health. He serves on BID Needham's Community Benefits Advisory Committee and was a key informant interview for the BID Needham FY22 CHNA/IS.
<div><div>+</div><div>-</div></div>	Dedham	Dedham Health Department	Kylee Sullivan	Ksullivan@dedham-ma.gov	Kylee Sullivan is the Dedham Director of Public Health. Kylee was a key informant interview for the BID Needham FY22 CHNA/IS.
<div><div>+</div><div>-</div></div>	Westwood	Westwood Public Health	Margaret Sullivan	msullivan@townhall.westwood.ma.us	Margaret Sullivan is the Public Health Nurse for the Town of Westwood. She was a key informant interview for the BID Needham FY22 CHNA/IS.
<div><div>+</div><div>-</div></div>	Norwood	Norwood Health Department	Sigalle Reiss	sreiss@norwoodma.gov	Sigalle Reiss is the Norwood Director of Public Health. She was a key informant interview for the BID Needham FY22 CHNA/IS.

8. CHNA / CHIP Advisory Committee

Please list the community partners involved in the CHNA/CHIP Advisory Committee that guided the BID Needham FY22 CHNA/IS . (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	Westwood Council on Aging	Lina Arena DeRosa	Director	larenaderosa@townhall.westwood.ma.us	7813298799
	Education	Westwood Schools	Matthew Kuklantz	Assistant Principal	mkuklantz@westwood.k12.ma.us	7813267500
	Housing	Needham Housing Authority	Debra Tambeau	Resident Service Coordinator	dtambeau@needhamhousing.org	7814443011
	Social Services	Needham Community Council	Sandra Robinson	Executive Director	srobinson@needhamcommunitycouncil.org	7814442415
	Planning + Transportation	Charles River Regional Chamber	Lise Elcock	VP, Membership & Development	lqelcock@charlesriverchamber.com	6172441864
	Private Sector/ Business	Bulfinch Foundation / BID Needham Board of Trustees	Leslie Medalie	Chair	leslie@learypr.com	

Add/Del Rows	Sector Type	Organization Name	Name of Primary Contact	Title in Organization	Email Address	Phone Number
	Community Health Center	Fenway Health	Cyndi Locke	Director of Clinic Operations	CLocke@fenwayhealth.org	6179276102
	Community Based Organizations	Dedham Food Pantry	Carol Burak	Board Member	carol.burak@gmail.com	
<div>+ -</div>	Housing	Family Promise Metrowest	Sue Crossley	Director	director@familypromisemetrowest.org	5083184820
<div>+ -</div>	Private Sector	BID Needham Board of Advisors	Janet Barrett	Advisor	Janet.E.Barrett5@gmail.com	
<div>+ -</div>	Private Sector	BID Needham Board of Advisors	Wanita Kennedy	Advisor	wdkennedy@me.com	
<div>+ -</div>	Community-based organizations	Livable Dedham	Diane Barry Preston	Volunteer	Dbarrypreston@gmail.com	6173472726
<div>+ -</div>	Private Sector	BID Needham Board of Trustees	Virginia Carnahan	Trustee	virginia.carnahan@gmail.com	
<div>+ -</div>	Additional municipal staff (such as elected officials, planning, etc.)	Dover Council on Aging	Janet Claypoole	Director	coadirector@doverma.org	5083155734
<div>+ -</div>	Local Public Health Departments/Boards of Health	Needham Public Health Department	Tim McDonald	Director	tmcdonald@needhamma.gov	7814557940
<div>+ -</div>	Private Sector	BID Needham	Kathy Davidson	Chief Nursing Officer	kdavids2@bidneedham.org	
<div>+ -</div>	Community health centers	Fenway Health	Frank Fleming	Associate Director of Integrated Behavioral Health Services	FFleming@fenwayhealth.org	6179276277

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

9. Engaging the Community At Large

Thinking about the extent to which the community has been or currently is involved in the BID Needham FY22 CHNA/IS, 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
<input checked="" type="checkbox"/> Assess Needs and Resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Please describe the engagement process employed during the "Assess Needs and Resources" phase.	<p>BID Needham engaged the community through surveys, focus groups and key informant interviews. The hospital conducted an online and paper survey over a period of 6 weeks in Fall 2021. The survey was distributed through CBAC members and community partners including towns, schools, Councils on Aging and Chambers of Commerce. We worked specifically with food pantries, housing authorities, and other organizations serving those who are most impacted by inequities, in order to engage those populations. The survey was translated into Armenian, Cape Verdean, Simplified Chinese, Traditional Chinese, Haitian, Hindi, Khmer, Portuguese, Russian, Spanish, and Vietnamese. Gift card drawings were offered to participants to encourage participation.</p> <p>Beth Israel Lahey Health also engaged a social media firm with expertise in marketing and engaging BIPOC and LEP individuals, to promote engagement with the survey. The firm utilized three types of marketing channels to target diverse audiences during their peak media consumption, including diverse print publications, precision audio, and digital advertising.</p> <p>Key informant interviews were conducted with municipal, public health and other trusted community leaders representing organizations that serve those most impacted by inequities.</p> <p>The hospital also held 4 focus groups to garner more detailed information from residents, engaging English language learners, older adults, youth and parents of youth with mental health issues. Focus group participants were offered \$50 Visa gift cards in exchange for their time. More detailed information about all methods of engagement will be outlined in the FY2022 CHNA.</p>					
<input checked="" type="checkbox"/> Focus on What's Important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Please describe the engagement process employed during the "Focus on What's Important" phase.	<p>BID Needham will hold two virtual Community Listening sessions in February 2022. The listening sessions will be co-hosted by community partners including Councils on Aging, places of worship and Human Rights Committees and will be also be promoted through food pantries and housing authorities to engage those most impacted by inequities. The listening sessions and breakout groups will be facilitated by "community champions," residents or community leaders who can encourage participation. Invitations will be sent through CBAC members, community partners, and some paid media which will be focused on engaging hardy reached populations. More detailed information will be outlined in the FY2022 CHNA.</p>					
<input checked="" type="checkbox"/> Choose Effective Policies and Programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Inform	Consult	Involve	Collaborate	Delegate	Community - Driven / -Led
Please describe the engagement process employed during the "Choose Effective Policies and Programs" phase.	One of the discussion topics at the February Community Listening sessions will focus on effective policies and programs. This feedback will be brought to the CBAC meeting in March 2022 for discussion and prioritization by the CBAC members. More detailed information will be outlined in the FY2022 CHNA.					
<input checked="" type="checkbox"/> Act on What's Important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Please describe the engagement process employed during the "Act on What's Important" phase.	One of the discussion topics at the February Community Listening sessions will be prioritizing the unmet health needs in the service area. The hospital will be looking to residents for feedback on key topics and any needs that may have been missed during the initial data collection. Residents will be asked to rank order and prioritize the identified needs. This feedback will be brought to the CBAC meeting in March 2022 for discussion and incorporation into the Implementation Strategy. More detailed information will be outlined in the FY2022 CHNA.					
<input checked="" type="checkbox"/> Evaluate Actions	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Please describe the engagement process employed during the "Evaluate Actions" phase.	Once the needs have been identified and prioritized, and potential solutions have been discussed and added to the Implementation Strategy, BID Needham will propose methods to evaluate the actions in the Implementation Strategy, which will be reviewed and approved by the CBAC and the BID Needham Board of Trustees. More detailed information will be outlined in the FY2022 CHNA.					

10. Representativeness

Approximately, how many community agencies are currently involved in BID Needham FY22 CHNA/IS within the engagement of the community at large?

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)?

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.

The hospital's community outreach goals for the CHNA included reaching a diverse audience. The guiding principles for BID Needham's FY 22 CHNA/IS process were equity, collaboration, engagement, and capacity building.

The Community Benefits Advisory Committee represents a diverse group of organizations including Councils on Aging, schools, housing authorities, mental health providers and food pantries. Engaging these organizations in each step of the CHNA process improves engagement for hardly reached populations and/or those most impacted by inequities, and ensures their interests are represented.

In addition, these populations are engaged throughout the CHNA, particularly during the survey. The survey was translated into Armenian, Cape Verdean, Simplified Chinese, Traditional Chinese, Haitian, Hindi, Khmer, Portuguese, Russian, Spanish, and Vietnamese, and was promoted to diverse populations through media outreach by a social media firm that BILH engaged for this purpose.

Working with community partners, including food pantries, housing authorities and other community-based organizations that serve hardly reached populations was the method BID Needham used to reach groups that may face inequities. For the focus groups, outreach through Councils on Aging and the traveling meals program allowed us to reach older adults, while community-based outreach through schools, the YMCA and other youth-based organizations allowed us to outreach to youth and their parents. In addition, the hospital engaged English language learners through ESL classes at local organizations such as the community college and library.

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.

BID Needham strives to engage the community throughout the CHNA process. The guiding principles for BID Needham's FY 22 CHNA/IS process were equity, collaboration, engagement, and capacity building.

The Community Benefits Advisory Committee (CBAC) consists of representatives from local health departments, municipal staff, education, housing, social services, transportation/planning, private sectors, community health centers, and community-based organizations. The CBAC was involved in each step of the planning, execution and strategy development. Engaging these community members in each step ensures a transparent process.

In addition, many members of BID Needham's engagement process meet twice a year when BID Needham holds a semi-annual "Community Resource Group." With over 100 members who represent community organizations in the hospital's Community Benefits Service Area, this group is engaged in person and over email to share resources and engage on priorities for the organizations, including the hospital's CHNA. BID Needham relied on engaging this group to assist with community outreach for the surveys, focus groups and listening sessions. Key informant interviews were conducted with municipal or trusted community-based leaders and others in the community who serve or represent hardly-reached populations.

To your best estimate, of the people engaged in BID Needham FY22 CHNA/IS

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

0

Number of people who reside in suburban area

2,000

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?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who decides the strategic direction of the engagement process?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who decides how the financial resources to facilitate the engagement process are shared?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who decides which health outcomes will be measured to inform the process?	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

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*.

BID Needham involved the Community Benefits Advisory Committee in each step of the planning, execution and strategy development for the CHNA. Engaging these community members in each step ensures a transparent process. The hospital undertook a community engagement planning process with the CBAC in advance of the CHNA (March and June 2021 meetings) to identify hard-to reach, and then continued this engagement throughout the data collection, feedback, prioritization and strategy development.

In addition, the FY2022 CHNA process was presented at the hospital's Annual Public Community Benefits meeting in September 2021. Sharing and discussing this process at the annual public meeting, before BID Needham began the FY 22 CHNA/IS, enabled the hospital to promote the process, obtain input on the process, and request assistance with reaching hard-to reach cohorts. The hospital also invited comments and suggestions at the public meeting, thereby underscoring BID Needham's commitment to a transparent and engaged process.

Finally, the hospital focused on capacity building as a means of equity and transparency, by welcoming residents to co-facilitate focus groups and community listening sessions. Community members and community-based organizations were invited to participate in evaluation workshop/trainings, be trained and paid for co-facilitation of focus groups and/or breakout sessions during Community Listening Sessions. These steps, partnered with community engagement throughout the data collection, prioritization and planning through interviews, surveys, focus groups and listening sessions ensure a transparent process that engages the community.

13. Formal Agreements

Does / did the BID Needham FY22 CHNA/IS 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

In a few sentences, can you describe the nature of the verbal agreement?

BID Needham has a Community Benefits Advisory Charter that states "through active and engaged participation, the Advisory Committee shall assist and advise BID Needham with ongoing community engagement activities and Community Benefits

efforts." Through participation in CBAC meetings where community engagement was discussed, CBAC members verbally agreed to assist with the planning, execution, community engagement, and strategic direction of the CHNA/IS process.

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	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Written Objectives	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clear Expectations for Partners' Roles	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Clear Decision Making Process (e.g. Consensus vs. Voting	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflict resolution	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflict of Interest Paperwork	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

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:

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: BID Needham FY22 CHNA/IS
- B) Applicant: Beth Israel Deaconess Hospital-Needham
- C) A link to the DoN CHI Stakeholder Assessment

**Beth Israel Deaconess Hospital—Needham
CT DoN Community Health Initiative Narrative**

A. Community Health Initiative Monies

The breakdown of Community Health Initiative (“CHI”) monies for the Proposed Project is as follows. Please note, all totals are presented in the order calculated, beginning with the Maximum Capital Expenditure (“MCE”).

	Total	Description
MCE	\$2,358,540.00	
CHI Monies	\$117,927	(5% of Maximum Capital Expenditure)
Administrative Fee	\$4,717.08	(4% of the CHI Monies, retained by Applicant)
Remaining Monies	\$113,209.92	(CHI Monies minus the Administrative fee)
Statewide Initiative	\$11,320.99	(10% of remaining monies, paid to State-wide fund)
Local Initiative	\$101,888.93	(90% of remaining monies)
Evaluation Monies	\$10,188.89	(10% of Local Initiative Monies, retained by Applicant)
CHI Monies for Local Disbursement	\$91,700.04	

B. Overview and Discussion of CHNA/DoN Processes

The Community Health Initiative (“CHI”) processes and community engagement for the proposed Determination of Need (“DoN”) Project¹ will be conducted by Beth Israel Deaconess Hospital—Needham (“BID Needham” or the “Hospital”). BID Needham is a 58-bed acute care hospital primarily serving Needham, Dedham, Westwood and Norwood (*hereinafter referred to as the Primary Service Area*). The Hospital provides inpatient and outpatient health services, 24-hour emergency services, and offers more than 776 physicians on staff. In addition to its commitment to clinical excellence, BID Needham is committed to being an active partner and collaborator with the communities it serves. To that end, the Hospital conducts a Community Health Needs Assessment (“CHNA”) in the Hospital’s Primary Service Area every three years. The Hospital is currently conducting a CHNA and anticipates it will be approved by the Hospital’s Board in the fall of 2022.

The CHNA serves to:

- Assess community health need, defined broadly to include health status, social determinants, environmental factors, and service system strengths and weaknesses;
- Engage the community, including local health departments, service providers across sectors and community residents, as well as BID Needham leadership and staff; and
- Identify the leading health issues and the population segments most at-risk based on a review of the quantitative and qualitative information gathered by the assessment

¹ This Application requests approval for the acquisition of one (1) computed tomography scanner to be located on the Hospital’s main campus.

BID Needham utilizes a participatory, collaborative approach to carry out each CHNA and is committed to exploring health in its broadest context. Throughout the CHNA process, BID Needham will rely on the input and oversight of a Steering Committee, its standing Community Benefits Advisory Committee (“CBAC”) and key Hospital leadership. Accordingly, the CHNA report will illustrate key findings of the assessment process, which continues to explore a range of health behaviors and outcomes; social and economic issues; including the social determinants of health; health care access and gaps; and strengths of existing resources and services.

C. Advisory Committee Duties

BID Needham is committed to a transparent and community engaged process with respect to its CHNA and this CHI. The Hospital’s CBAC membership intentionally fulfills all sector requirements outlined in the CHI guidelines and will serve as the decision-making body for this CHI. As outlined in the CBAC’s Charter, its scope of work will include:

- Assisting BID Needham staff with appropriate engagement with residents from targeted communities and community partners around the CHI.
- Determining the Health Priority(ies) for CHI funding based upon the needs identified in the 2022 CHNA/CHIP and in alignment with the Department of Public Health’s Health Priorities and the Executive Office of Health and Human Services’ Focus Areas.
- Selecting strategies to address the identified Health Priorities².
- Advising BID Needham staff and leadership on the solicitation process and awardee selection.

D. Timeline for CHI Activities

Given the Hospital is in the process of conducting a new CHNA, the timeline may ultimately be longer than the timeline set forth in the Department’s CHI Guidelines. However, the Applicant asserts using the 2022 CHNA will be more beneficial to the community because it will provide a more current foundation on which to base the CHI. The timeline for CHI activities is as follows:

- Six weeks post-approval: The CBAC will begin meeting and reviewing the 2022 draft CHNA to commence the process of selecting Health Priorities.
- Three – four months post-approval: The CBAC will select the Health Priorities for funding.
- Four – five months post-approval: The CBAC participates in a Conflict of Interest disclosure and eligible CBAC members select the CHI strategies.
- Five – six months post-approval: The CBAC advises on the funding method to use and assists with the development of parameters for funding and evaluation.
- Seven – nine months post-approval: Funding decisions are made
- Ten – twelve months post approval: Disbursement of funds begins.
- Twelve months to four and a half years post-approval: Strategies are implemented.

² Prior to the selection of Health Priority strategies, BID Needham will institute a formal Conflict of Interest disclosure process for all CBAC members in order to determine which members can advise on the determination of CHI strategies.

- Four and half to five years post-approval: Evaluation of funded projects.

E. Administrative Monies

Applicants submitting a Tier 1 CHI are eligible to retain a four percent (4%) administrative fee. Accordingly, BID Needham is requesting \$4,717.08 in administrative funding. These monies will support promotion of meetings, interpretation/translation, community engagement, stipends for community resident participation, additional staff time for these efforts.

F. Evaluation Overview

BID Needham is seeking to use 10% of local CHI funding (\$10,188.89) for evaluation efforts. These monies will allow BID Needham to retain the expertise of the BILH Director of Evaluation and Data to develop appropriate evaluation metrics of the CHI-funded projects.

#3

Publication of Notice of Intent

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Office of Facilities Management
Department of Planning and Engineering

Invitation for Bids (IFB) for **Drinking Water Initiative - Installation of Water Bottle Refill Stations Package 2B - ELECTRICAL ONLY**

For information specific to this particular IFB, please submit questions in writing to Audrey Ng, Water and Sustainability Project Manager, Boston Public Schools Facilities Management Department, Planning & Engineering, 1216 Dorchester Avenue, Boston, MA 02125, or contact Audrey Ng at ang@bostonpublicschools.org.

The City of Boston Public Schools (The City), acting by and through it's Office of Facilities Management, Planning & Engineering Department (the Awarding Authority), invites sealed bids for the above titled Project, subject to all applicable provisions of law, including, without limitation, Section 39F and 39K through 39P of Chpater 30, and sections 29 and 44A-44J, inclusive, of Chapter 149 of the Genral Laws, as amended and in accordance with the terms and provisions of the contract entitled **"Drinking Water Initiative - Installation of Water Bottle Refill Stations Package2B - ELECTRICAL ONLY"**.

SCOPE OF WORK: In general includes, but is not limited to the following: Demolition of existing drinking fountains for replacement with water bottle refill stations and the installation of water bottle refill stations at new locations without existing drinking water infrastructure.

PLANS AND SPECIFICATIONS will be available after **12pm on Wednesday November 10, 2021** electronically by email by contacting:
Audrey Ng
Water and Sustainability Project Manager
ang@bostonpublicschools.org

Electrical Filed Sub Bids shall be submitted to the Awarding Authority, 2nd floor, 1216 Dorchester Avenue, Boston, MA 02125 before **12pm on Wednesday December 29, 2021** at which time and place respective bids will be opened and read aloud. Late bids will not be accepted.

The date for the General Bid opening will not change. General Bids shall be submitted to the Awarding Authority, 2nd floor 1216 Dorchester Avenue Boston, MA 02125, before **12pm Wednesday December 15, 2021** at which time and place respective bids will be opened and read aloud. Late bids will not be accepted. The General Bids will hold a temporary estimate for Electrical Filed Sub Bids, until a change can be made to reflect the official, awarded price.

The deadline for submitting questions regarding this bid will be no later than 12pm on Thursday December 23, 2021 at the Office of Facilities Management, 1216 Dorchester Avenue, 2nd floor, Boston, MA 02125, or by email by contacting:
Audrey Ng
Water and Sustainability Project Manager
ang@bostonpublicschools.org

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Office of Facilities Management
Department of Planning and Engineering

Invitation for Bids (IFB) for **Drinking Water Initiative - Installation of Water Bottle Refill Stations Package 2A - ELECTRICAL ONLY**

For information specific to this particular IFB, please submit questions in writing to Audrey Ng, Water and Sustainability Project Manager, Boston Public Schools Facilities Management Department, Planning & Engineering, 1216 Dorchester Avenue, Boston, MA 02125, or contact Audrey Ng at ang@bostonpublicschools.org.

The City of Boston Public Schools (The City), acting by and through it's Office of Facilities Management, Planning & Engineering Department (the Awarding Authority), invites sealed bids for the above titled Project, subject to all applicable provisions of law, including, without limitation, Section 39F and 39K through 39P of Chpater 30, and sections 29 and 44A-44J, inclusive, of Chapter 149 of the Genral Laws, as amended and in accordance with the terms and provisions of the contract entitled **"Drinking Water Initiative - Installation of Water Bottle Refill Stations Package2A - ELECTRICAL ONLY"**.

SCOPE OF WORK: In general includes, but is not limited to the following: Demolition of existing drinking fountains for replacement with water bottle refill stations and the installation of water bottle refill stations at new locations without existing drinking water infrastructure.

PLANS AND SPECIFICATIONS will be available after **12pm on Wednesday November 10, 2021** electronically by email by contacting:
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Audrey Ng
Water and Sustainability Project Manager
ang@bostonpublicschools.org

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Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs

MEPA Office

100 Cambridge St., Suite 900
Boston, MA 02114
Telephone 617-626-1020

The following should be completed and submitted to a local newspaper:

PUBLIC NOTICE OF ENVIRONMENTAL REVIEW
PROJECT: Greater Cambridge Energy Program
LOCATION: Cambridge, Boston and Somerville, MA
PROPOSER: NSTAR Electric d/b/a Eversource Energy

The undersigned is submitting an Environmental Notification Form ("ENF") to the Secretary of Energy & Environmental Affairs on or before

December 15, 2021 (date)

This will initiate review of the above project pursuant to the Massachusetts Environmental Policy Act ("MEPA", M.G.L. c. 30, s.s. 61-62I). Copies of the ENF may be obtained from:

Epsilon Associates, Inc. (Proponent's Agent)
Attn: Corinne Snowdon
3 Mill & Main Place, Suite 250
Maynard, MA 01754
978-897-7100

Electronic copies of the ENF are also being sent to the Conservation Commission and Planning Board of
Cambridge, Boston and Somerville (Municipality).

The Secretary of Energy & Environmental Affairs will publish notice of the ENF in the Environmental Monitor, will receive public comments on the project for 20 days, and will then decide, within ten days, if an Environmental Impact Report is needed. A site visit and/or remote consultation session on the project may also be scheduled. All persons wishing to comment on the project, or to be notified of a site visit and/or remote consultation session, should email MEPA@mass.gov . Mail correspondence will continue to be accepted, though responses may be delayed. Mail correspondence should be direct to the Secretary of Energy & Environmental Affairs, 100 Cambridge St., Suite 900, Boston, Massachusetts 02114, Attention: MEPA Office, referencing the above project.

By NSTAR Electric d/b/a Eversource Energy (Proponent)

Dec 20

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12/20

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5 7 3 8 2 9 6 1 4
6 9 4 1 7 5 8 2 3

#4

Factor 4 – Independent CPA Analysis

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

Beth Israel Lahey Health, Inc.

For the Years Ending September 30, 2021
Through September 30, 2025



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

One International Place
Boston, MA 02110-1745

December 2, 2021

Jamie Katz, Esq.
General Counsel
Beth Israel Lahey Health, Inc.
20 University Road, Suite 700
Cambridge, MA 02138

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

Dear Mr. Katz:

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

Sincerely,

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December 2, 2021

Jamie Katz, Esq.
General Counsel
Beth Israel Lahey Health, Inc.
20 University Road, Suite 700
Cambridge, MA 02138

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

Dear Mr. Katz:

We have performed an analysis related to the reasonableness and feasibility of the financial projections (the “Projections”) of Beth Israel Lahey Health Inc. (“Beth Israel Lahey Health”, “BILH” or “the Applicant”), related to the expansion of computed tomography (“CT”) services by reactivating one CT unit at the Beth Israel Deaconess Hospital-Needham (“BID-N”) Department of Radiology (“Radiology”), located at 148 Chestnut Street Needham, MA 02492 (the “Proposed Project”). Previously, BID-N obtained permission from Massachusetts Department of Public Health (“DPH”) in February 2021 to replace its existing CT unit with a new CT unit from General Electric Company (“GE”) and to locate that new unit at BID-N. However, given the requirement for additional CT services, Beth Israel Deaconess Hospital-Needham is requesting approval to operate a second unit, which will initially be the old GE CT unit (the “2009 CT”), so that BID-N will be able to operate a total of two CT units in its Department of Radiology.

This report details our analysis and findings with regard to the reasonableness of assumptions used in the preparation of the Projections and feasibility of the projected financial results prepared by the management of BILH (“Management”). This report is to be used by BILH in connection with the filing of Massachusetts Department of Public Health Determination of Need (“DoN”) application 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 consolidated five-year financial projections for the Applicant for the fiscal years ending September 30, 2021 through 2025 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 surplus¹ of approximately 7.5 percent of cumulative projected net patient service revenue for BILH for the five years from FY 2021 through 2025. 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 BILH's assets. A detailed explanation of the basis for our determination of reasonableness and feasibility is contained within this report.

II. RELEVANT BACKGROUND INFORMATION

The Applicant 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, behavioral health providers, post-acute care providers and other caregivers. BILH's member entities serve the health needs of patients and communities of Boston and other surrounding communities in Eastern Massachusetts. BILH's purpose is to support the patient care, research, and educational missions of its member entities. BILH's member hospitals include BID-N and the following hospitals: Addison Gilbert Hospital; Anna Jaques Hospital; Beth Israel Deaconess Medical Center ("BIDMC"); Beth Israel Deaconess Hospital-Milton; Beth Israel Deaconess Hospital-Plymouth; Beverly Hospital; Lahey Hospital &

¹ Operating EBITDA surplus represents the sum of operating income, interest expense and depreciation and amortization.

Medical Center; Lahey Medical Center, Peabody; Mount Auburn Hospital; New England Baptist Hospital; and Winchester Hospital (collectively known as “BILH Hospitals”). BILH’s vision is to have a broader impact on the health care industry and patient populations in Massachusetts by sharing best practices, investing in foundational infrastructure to support population health management, and encouraging true market competition based on value.

BILH also operates Beth Israel Lahey Health Performance Network, LLC (“BILHPN”), a value-based physician and hospital network and Massachusetts Health Policy Commission (HPC) certified Accountable Care Organization (“ACO”), whose goal is to partner with other community hospitals and other providers throughout Eastern Massachusetts to improve quality of care while effectively managing medical costs, with the goal of providing the highest quality health care in the most efficient way. Through BILHPN, BILH and its participating community partners are working to align the incentives and efforts needed to dramatically improve the health of broad populations and to focus intently on caring for patients at the right time, in the right location, and in the community whenever possible. BIDMC is contracted to participate in BILHPN and currently participates in its subsidiary ACO, Beth Israel Deaconess Physician Organization, LLC d/b/a Beth Israel Deaconess Care Organization or “BIDCO”.

As noted, the Applicant intends to reactivate the 2009 CT unit within the Beth Israel Deaconess Hospital-Needham, Department of Radiology. BID-N provides CT services, including CT-guided procedures and diagnostic exams at a single location in the main hospital building.

External factors have created volume demands that could not have been foreseen when the initial CT scanner was built and installed in 2009. Having a second CT scanner in service would allow BID-N to better meet current patient demands and create flexibility to meet BID-N patients’ needs in the future. The second 2009 CT unit would enable BID-N to avoid the interruptions and delays that occur when the location’s current single CT scanner is out of operation for maintenance and/or repair. With only one current CT in operation, whenever there is downtime due to repairs, scheduled maintenance, or lengthy interventional procedures are being performed, it increases the waiting time for both BID-N inpatients and Emergency Department (“ED”) outpatients.

Patient volumes in BID-N's CT have on average been 31.3 percent higher than previous norms since July 2020, with the most recent three months averaging 41.0 percent higher.

Accommodating the surge of ED/inpatients has strained BID-N's outpatient resources and the ability to serve the needs of BID-N's communities, creating the prospect that patients must travel from distances and lose important, perhaps critical, time to obtain their care. The added capacity of a second CT will help increase the efficiency of transferring patients to and from the ED and increase capacity to meet the increased demand and create efficiencies within the BID-N facility for both inpatients and outpatients. The current single CT unit is located directly across from the ED elevator, essentially serving as an ED-sited CT scanner. The 2009 CT would provide better access for scheduled outpatient CT procedures.

The current CT unit sits on the ground floor, directly below the ED and is in service 24 hours a day, seven days a week. The single unit serves the diagnostic needs of ED patients as well as inpatients requiring exams, and any remaining capacity is used for outpatient diagnostic exams throughout the day.

The need for the Proposed Project is based on the existing needs of the Applicant's, and particularly BID-N's, Patient Panel. It will also help to address anticipated growth in the need for CT services based on BID-N's current Patient Panel trends of increasing acuity and an aging population, as described in the DoN. The Applicant seeks to expand the number of CT's within its Department of Radiology address delays in access to care, thereby improving the patient experience, the timeliness of clinical decision making, and health outcomes, while also improving administrative efficiencies. The current CT unit operates at full capacity. As noted above, there is no back-up unit if a unit requires service and, as discussed in more detail below, there are significant clinical and operational barriers to moving patients to CT scanners at other sites.

The current constraints, leading to delays in scheduling of scans, are caused by the following factors: (1) the increase in inpatient census at BID-N; (2) the increase in acuity of inpatients at BID-N; (3) the increase in ED patients at BID-N (including code stroke and trauma patients)—all of which translate into an increase in the number of candidates for whom a CT scan is appropriate; and (4) the increase in the need for CT-guided procedures for both

inpatients and outpatients. The additional CT unit will reduce delays in access, especially during peak demand times, and reduce significant wait times for CT-guided procedures (e.g. tissue biopsies, abscess drainage, and cardiac procedures), and provide an alternative for patients who, without ready access to CT services at BID-N, will be obliged to travel to another facility, perhaps much farther away, for these services. Also, the retained second CT will better enable BID-N to respond in moments of crisis, such as when, recently, three code strokes were called within 30 minutes.

The Proposed Project is consistent with Massachusetts' cost containment goals for multiple reasons. As a threshold matter, the Proposed Project maximizes use of existing hospital space, equipment, facilities, and ancillary services, reduces administrative inefficiencies caused by capacity constraints, and most importantly, increases timely patient access to care in an appropriate setting. There will virtually be no cost incurred by reactivating the 2009 CT, which will be utilized as the second CT for the foreseeable future. Also, with respect to cost containment, we note that a significant percentage of services planned for the additional CT unit are included as a component of an inpatient stay or an interventional procedure. With respect to the limited number of standalone outpatient diagnostic exams that are anticipated to be performed on the second CT unit, in addition to having to satisfy applicable prior authorization requirements, every order is subject to review by radiologists. BID-N also is currently implementing an electronic clinical decision support tool, in accordance with federal law, to ensure that physicians ordering advanced imaging consult appropriate use criteria. BID-N will be implementing the Medicare Part B Appropriate Use Criteria for Advanced Diagnostic Imaging in time for the 2022 effective date. The Proposed Project will not impact existing payer contracts.

In sum, the expanded CT services capacity will ensure that BID-N patients, including vulnerable patients in BID-N's Community Benefits Service Area ("CBSA"), and, in particular, inpatients and patients in need of CT-guided procedures, will have timely access to essential hospital-based imaging services from a low cost provider of high-quality services.

III. SCOPE OF REPORT

The scope of this report is limited to an analysis of the five-year Projections for the fiscal years ending September 30, 2021 through 2025, 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 understands the prospective financial information was developed as of October 28, 2020 and is still representative of Management's expectations as of the drafting of this report. BDO has not audited or performed any other form of attestation services on the projected financial information related to the operations of BILH.

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 or projections 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 is 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 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. Financial Model for BILH for the periods ending September 30, 2021 through September 30, 2025;
2. Draft BILH Application Form for DoN Application, including narrative;

3. Audited Financial Statements for Beth Israel Lahey Health, Inc. for Seven Month Period Ended September 30, 2019 and Fiscal Year Ended September 30, 2020;
4. Audited Financial Statements for Caregroup, Inc., Seacoast Regional Health Systems, Inc. and Lahey Health Systems, Inc. for Fiscal Years Ended September 30, 2017 and 2018;
5. Beth Israel Lahey Health, Inc. draft patient volume tables for Fiscal Years Ended September 30, 2019 and 2018;
6. BILH's Fiscal Year 2021 Operating and Capital Budgets Finance Committee Presentation as of December 18, 2020;
7. BILH's Fiscal Year 2021 Budget for Growth in Patient Volume and Consolidated Statement of Revenue and Expenses;
8. RMA Annual Statement Studies, published by The Risk Management Association;
9. Definitive Healthcare data;
10. IBISWorld Industry Report, Hospitals in the US, dated January 2021;

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 table presents the Key Metrics, as defined below, which compare the forecasted operating results of the performance of BILH after the affiliation to market information from RMA Annual Studies ("RMA"), IBISWorld, and Definitive Healthcare to assess the reasonableness of the Projections.

Key Financial Metrics and Ratios

Projected

Beth Israel Lahey Health, Inc.	2021	2022	2023	2024	2025
Profitability					
Operating Margin (%)	0.2%	1.4%	1.5%	1.6%	1.6%
Excess Margin (%)	0.7%	2.0%	2.1%	2.1%	2.1%
Debt Service Coverage Ratio (x)	3.3x	4.0x	4.2x	4.6x	5.6x
Liquidity					
Days Available Cash and Investments on Hand (#)	141.5	137.9	136.0	134.8	133.7
Operating Cash Flow (%)	5.6%	6.8%	6.8%	6.8%	6.8%
Solvency					
Current Ratio (x)	4.1x	4.0x	4.0x	4.0x	4.1x
Ratio of Long Term Debt to Total Capitalization (%)	38.3%	36.1%	33.9%	31.6%	29.3%
Ratio of Cash Flow to Long Term Debt (%)	23.8%	31.8%	34.8%	37.9%	40.9%
Net Assets Without Donor Restrictions (\$ in thousands)	\$ 2,205	\$ 2,306	\$ 2,423	\$ 2,554	\$ 2,699
Total Net Assets (\$ in thousands)	\$ 2,845	\$ 2,977	\$ 3,117	\$ 3,272	\$ 3,441

Key Financial Metrics and Ratios

Projected

Industry Data (1)

Beth Israel Lahey Health, Inc.	2021	2022	2023	2024	2025	RMA - Medical and Surgical Hospitals	IBIS - Hospitals in the US	Definitive Healthcare
Profitability								
Operating Margin (%)	0.2%	1.4%	1.5%	1.6%	1.6%	2.2%	NA	-5.6%
Excess Margin (%)	0.7%	2.0%	2.1%	2.1%	2.1%	1.1%	NA	2.7% (2)
Debt Service Coverage Ratio (x)	3.3x	4.0x	4.2x	4.6x	5.6x	NA	NA	NA
Liquidity								
Days Available Cash and Investments on Hand (#)	141.5	137.9	136.0	134.8	133.7	NA	NA	24.8
Operating Cash Flow (%)	5.6%	6.8%	6.8%	6.8%	6.8%	NA	5.6%	NA
Solvency								
Current Ratio (x)	4.1x	4.0x	4.0x	4.0x	4.1x	NA	2.1x	1.7x
Ratio of Long Term Debt to Total Capitalization (%)	38.3%	36.1%	33.9%	31.6%	29.3%	37.5%	NA	NA
Ratio of Cash Flow to Long Term Debt (%)	23.8%	31.8%	34.8%	37.9%	40.9%	NA	NA	NA
Net Assets Without Donor Restrictions (\$ in thousands)	\$ 2,205	\$ 2,306	\$ 2,423	\$ 2,554	\$ 2,699	NA	NA	NA
Total Net Assets (\$ in thousands)	\$ 2,845	\$ 2,977	\$ 3,117	\$ 3,272	\$ 3,441	\$60,308	NA	NA

Footnotes:

(1) Industry data metrics based on each data source's respective definitions and may differ from the definitions listed below. Further, we note industry metrics only include hospitals and do not reflect health systems, including physician organizations.

(2) Profit before taxes margin from RMA data and 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 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 is calculated.

Key Financial Metrics and Ratios	
Ratio Definitions	Calculation
Profitability	
Operating Margin (%)	Operating Income Divided by Total Operating Revenue
Excess Margin (%)	Excess Income Divided by (Total Operating Revenues + Non-Operating Revenue)
Debt Service Coverage Ratio (x)	(Excess Income + Depreciation and Amortization + Interest) Divided by (Principal Payments and Interest)
Days Available Cash and Investments on Hand (#)	(Available Cash) Divided by [(Total Operating Expenses Less Depreciation and Amortization) Divided by 365 Days]
Operating Cash Flow (%)	(Operating Income + Depreciation and Amortization + Interest) Divided by Total Operating Revenue
Current Ratio (x)	Current Assets Divided by Current Liabilities
Ratio of Long Term Debt to Total Capitalization (%)	Long Term Debt Divided by Total Capitalization (Long Term Debt and Unrestricted Net Assets)
Ratio of Cash Flow to Long Term Debt (%)	(Operating Income + Depreciation and Amortization + Interest) Divided by Long Term Debt
Net Assets Without Donor Restrictions (\$ in thousands)	Total Unrestricted Net Assets
Total Net Assets (\$ in thousands)	Total Net Assets

1. Revenue

We analyzed the projected revenue within the Projections. Revenue for the Applicant includes net patient service revenue and other operating revenue. We note that the cumulative net patient service revenue comprises 87.1 percent of the cumulative total operating revenue from FY 2021 through FY 2025.

Total operating revenue for the Projections are expected to grow from \$5.87 billion in FY 2021 to \$6.77 billion in FY 2025. This represents a 3.7 percent compounded annual rate of return over the four-year period.

In order to determine the reasonableness of the projected revenue, we reviewed the underlying assumptions upon which Management relied. Based upon our review of the information provided and the discussions noted above, we understand Management relied upon historical operating results and anticipated demographic trends in the BILH service area. The projected four year compound annual total operating revenue growth rate (“CAGR”) between FY2021 and FY 2025 is below the historical two year CAGR between FY2017 and FY2019 and the range of annual revenue growth rates for the Applicant between FY 2017 and

FY 2019 as indicated in the table below. We excluded the performance for fiscal year 2020 in this comparison given it was significantly impacted by the unusual event related to global pandemic Covid-19.

	CAGR (2021 - 2025)	CAGR (2017 - 2019)	Annual Growth Range (2017 - 2019)
Revenue Projection	3.7%	6.1%	5.7% to 6.4%

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

2. Operating Expenses

We analyzed each of the categorized operating expenses for reasonableness and feasibility related to the Projections. The operating expenses in the analysis include salaries and benefits, depreciation and amortization, interest expenses, and supplies and other expenses. Total operating expenses are projected to grow 3.0 percent in FY 2021 as compared to FY2019. As noted above, we excluded the performance of FY 2020 given it was significantly impacted by the unusual event related to the COVID-19 global pandemic. After FY 2021, total operating expenses are projected to grow annually at 3.3 percent from FY 2022 through FY 2025. The annual growth in total operating expenses is slightly below the annual historical expense growth from FY 2017 to FY 2019 ranging from 4.2 percent to 5.2 percent.

Similarly, and as indicated in the table below, the projected four year compound annual total operating expense growth rate ("CAGR") between FY 2021 and FY 2025 is below the historical two year CAGR between FY2017 and FY2019 and the range of annual revenue growth rates for the Applicant between FY 2017 and FY 2019. The main driver of the slightly lower expense growth is related to the synergies from reallocating centralized service costs (e.g. human resource, marketing/communications, information technology, etc.) achieved from the integration of legacy health care systems. BILH was formed on March 1, 2019 through the combination of the hospitals and other affiliates of three legacy health care systems based primarily in the Eastern Massachusetts market, including the former CareGroup, Inc., Lahey

Health System, Inc. and Seacoast Regional Health Systems, Inc. The integration is expected to enable BILH to operate more efficiently and reduce administrative costs.

	CAGR (2021 - 2025)	CAGR (2017 - 2019)	Annual Growth Range (2017 - 2019)
Operating Expenses Projection	3.3%	4.7%	4.2% - 5.2%

Based upon the foregoing, it is our opinion that the operating expenses within the Projections reflect reasonable estimation of future expenses of the Applicant. We note that the projected total operating expenses as a percentage of total operating revenue range from 98.4 percent to 99.8 percent from FY 2021 to FY 2025. We further note that this level of total operating expenses is in-line with the historical total operating expenses as a percentage of total operating revenue which ranged from 98.8 percent to 101.5 percent from FY 2017 to FY 2019.

3. Capital Expenditures and Proposed Project Financing

The 2009 CT unit currently exists in proximity to BID-N's new primary CT unit and is the most cost effective option available to BID-N to expand its CT services capacity promptly and seamlessly. The reactivation of the 2009 CT scanner requires no additional buildout or disruption to the existing services. Hence, the Applicant doesn't expect any major capital expenditures required to reactivate the 2009 CT other than the inspection fees of \$5 thousand (to be performed by GE) and the legal fees associated with the Proposed Project. The costs are estimated to be less than \$100 thousand in total. In addition to the above outlay expenses, the incremental operating expense of the Proposed Project is from \$375 thousand to \$450 thousand. This represents the incremental annual labor costs, CT maintenance service costs and miscellaneous supply costs required to operate an additional CT unit.

We reviewed the financing plans for the Proposed Project. It is our understanding that the expenditures related to the Proposed Project are expected to be funded through the Applicant's cash on hand. We note that the cash and cash equivalents balance included in the Projections is approximately \$1.43 billion in FY 2021, of which the initial outlay expenses and the annual operating expenses of the Proposed Project represents approximately 0.03 percent. We note the model indicates a consistent level of the total cash balance through the projection period and the declining trend for the days available cash and investments on

hand. Based on the noted factors, there appears to be sufficient room to accommodate the financing for the Proposed Project within the Applicant's available capital without the need for debt financing.

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 7.5 percent of cumulative projected net patient service revenue for BILH for the five years from FY 2021 through 2025. Based upon our review of the relevant documents and analysis of the Projections, we determined the anticipated 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 patient panel or result in a liquidation of assets of BILH.

Respectively submitted,

Erik Lynch

Partner, BDO USA LLP

#5

HPC ACO Certification Approval Letter



The Commonwealth of Massachusetts
HEALTH POLICY COMMISSION
50 MILK STREET, 8TH FLOOR
BOSTON, MASSACHUSETTS 02109
(617) 979-1400

STUART H. ALTMAN
CHAIR

DAVID M. SELTZ
EXECUTIVE DIRECTOR

December 23, 2019

Eryn Gallagher
Beth Israel Lahey Performance Network
109 Brookline Avenue Suite 300
Boston, MA 02215

RE: ACO Certification

Dear Ms. Gallagher:

Congratulations! The Health Policy Commission (HPC) is pleased to inform you that Beth Israel Lahey Performance Network meets the requirements for ACO Certification. This certification is effective from the date of this letter through December 31, 2021.

The ACO Certification program, in alignment with other state agencies including MassHealth, is designed to accelerate care delivery transformation in Massachusetts and promote a high quality, efficient health system. ACOs participating in the program have met a set of objective criteria focused on core ACO capabilities including supporting patient-centered care and governance, using data to drive quality improvement, and investing in population health. Beth Israel Lahey Performance Network meets those criteria.

The HPC will promote Beth Israel Lahey Performance Network as a Certified ACO on our website and in our marketing and public materials. In addition, a logo is enclosed for your use in accordance with the attached Terms of Use. We hope you will use the logo to highlight the ACO Certification to your patients, payers, and others.

The HPC looks forward to your continued engagement in the ACO Certification program over the next two years.

Thank you for your dedication to providing accountable, coordinated health care to your patients. If you have any questions about this letter or the ACO Certification program, please do not hesitate to contact Mike Stanek, Manager, at HPC-Certification@mass.gov or (617) 757-1649.

Best wishes,

A handwritten signature in blue ink, appearing to read "David Seltz".

David Seltz
Executive Director

#6

Articles of Organization

IDENTIFICATION

no. _____
Filing Fee: \$15.00

Examiner

The Commonwealth of Massachusetts

William Francis Galvin

Secretary of the Commonwealth

One Ashburton Place, Room 1717, Boston, Massachusetts 02108-1512

ARTICLES OF AMENDMENT (General Laws, Chapter 180, Section 7)

Name
Approved

We, Kevin Tabb, M.D., *President / ~~*Vice President~~,

and Jamie Katz, *Clerk / ~~*Assistant Clerk~~,

of Beth Israel Lahey Health, Inc.,
(Exact name of corporation)

located at 109 Brookline Avenue, Suite 300, Boston, Massachusetts, 02215,
(Address of corporation in Massachusetts)

do hereby certify that these Articles of Amendment affecting articles numbered:

2

(Number those articles 1, 2, 3, and/or 4 being amended)

of the Articles of Organization were duly adopted at a meeting held on June 7 20 19, by vote of:

 members, 20 directors, or shareholders**,

☐ Being at least two-thirds of its members legally qualified to vote in meetings of the corporation; OR

☒ Being at least two-thirds of its directors where there are no members pursuant to General Laws,
Chapter 180, Section 3; 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.

Article II: The corporation is organized and shall be operated exclusively for charitable, scientific, and educational purposes within the meaning of Section 501(c)(3) of the Internal Revenue Code of 1986, as amended (the "Code"), and is organized and shall be operated exclusively for the benefit of, to perform the functions of, or to carry out the purposes of Beth Israel Deaconess Medical Center, Inc., Beth Israel Deaconess Hospital - Milton, Inc., Beth Israel Deaconess Hospital - Needham, Inc., Beth Israel Deaconess Hospital - Plymouth, Inc., New England Baptist Hospital, Mount Auburn Hospital, Lahey Clinic Foundation, Inc., Lahey Health Shared Services, Inc., Northeast Hospital Corporation, Winchester Hospital, Anna Jacques Hospital, Inc., Northeast Behavioral Health Corporation, and their affiliated organizations that are exempt from taxation under Section 501(c)(3) of the Code, and classified as other than a private foundation under Section 509(a)(1) or 509(a)(2) of the Code (collectively, the "Supported Organizations"). In this capacity, the corporation:

*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 so long as each article requiring each addition is clearly indicated.

C ☐
P ☐
M ☐
R.A. ☐

P.C.

(a) has been formed to maintain and operate charitable hospitals and services associated with charitable hospitals, to advance education and research in providing care to the sick and injured and in training health care professionals, and to promote the general health of the community, including, without limitation, a core commitment to (i) meeting the health care, including behavioral health, needs of at-risk, underserved, uninsured and government payer patient populations throughout the Commonwealth; and (ii) diversity and geographic representation from within the service areas of its affiliated safety net hospitals, Lawrence General Hospital, Cambridge Health Alliance, and Signature Healthcare Brockton Hospital, for so long as each such hospital maintains a clinical and/or contractual affiliation with the corporation.

(b) shall develop, provide and maintain, for the benefit of patients, patient families, employers, commercial payers, public payers, and the Commonwealth, a transformative, competitive model of care that provides the highest quality care in settings that are lower cost, clinically appropriate and both accessible and convenient to and for patients and their families;

(c) shall support the Supported Organizations, which may include support by gift, grant, guarantee, or other means, including without limitation by becoming jointly and severally liable with the Supported Organizations and/or their affiliated organizations in connection with the indebtedness of some or all of such organizations; and


(d) may engage in any other charitable activities that may be lawfully carried on by a corporation formed under Chapter 180 of the Massachusetts General Laws and which is exempt from taxation under Section 501(c)(3) of the Code.

The foregoing amendment(s) will become effective when these Articles of Amendment are filed in accordance with General Laws, Chapter 180, Section 7 unless these articles specify, in accordance with the vote adopting the amendment, a *later* effective date not more than *thirty days* after such filing, in which event the amendment will become effective on such later date.

Later effective date: _____ .

SIGNED UNDER THE PENALTIES OF PERJURY, this 25 day of June, 20 19

Kevin Tabb, M.D.



_____, *President / ~~*Vice President,~~

Jamie Katz



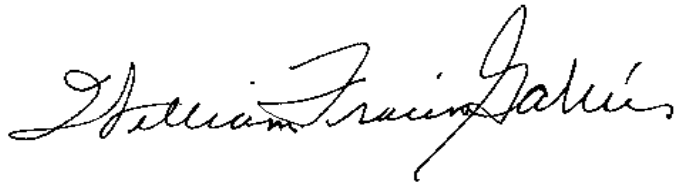
_____, *Clerk / ~~*Assistant Clerk,~~

**Delete the inapplicable words.*

THE COMMONWEALTH OF MASSACHUSETTS

I hereby certify that, upon examination of this document, duly submitted to me, it appears that the provisions of the General Laws relative to corporations have been complied with, and I hereby approve said articles; and the filing fee having been paid, said articles are deemed to have been filed with me on:

July 19, 2019 11:12 AM

A handwritten signature in black ink, reading "William Francis Galvin". The signature is written in a cursive style with a large, stylized "G" at the end.

WILLIAM FRANCIS GALVIN

Secretary of the Commonwealth

DB

Examiner

The Commonwealth of Massachusetts

William Francis Galvin

Secretary of the Commonwealth

One Ashburton Place, Room 1717, Boston, Massachusetts 02108-1512

DB

Name

Approved

ARTICLES OF ORGANIZATION

(General Laws, Chapter 180)

ARTICLE I

The exact name of the corporation is:

Beth Israel Lahey Health, Inc.

ARTICLE II

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

The corporation is organized and shall be operated exclusively for charitable, scientific, and educational purposes within the meaning of Section 501(c)(3) of the Internal Revenue Code of 1986, as amended (the "Code"), and is organized and shall be operated exclusively for the benefit of, to perform the functions of, or to carry out the purposes of Beth Israel Deaconess Medical Center, Inc., Beth Israel Deaconess Hospital – Milton, Inc., Beth Israel Deaconess Hospital – Needham, Inc., Beth Israel Deaconess Hospital – Plymouth, Inc., New England Baptist Hospital, Mount Auburn Hospital, Lahey Clinic Foundation, Inc., Lahey Health Shared Services, Inc., Northeast Hospital Corporation, Winchester Hospital, Anna Jaques Hospital, Inc., Northeast Behavioral Health Corporation and their affiliated organizations that are exempt from taxation under Section 501(c)(3) of the Code, and classified as other than a private foundation under Section 509(a) (1) or 509(a)(2) of the Code (collectively, the "Supported Organizations"). In this capacity, the corporation:

(a) has been formed to maintain and operate charitable hospitals and services associated with charitable hospitals, to advance education and research in providing care to the sick and injured and in training health care professionals, and to promote the general health of the community, including, without limitation, behavioral health, and the needs of at-risk, underserved, uninsured and government payer patient populations;

(b) shall develop, provide and maintain, for the benefit of patients, patient families, employers, commercial payers, public payers, and the Commonwealth, a transformative, competitive model of care that provides the highest quality care in settings that are lower cost, clinically appropriate and both accessible and convenient to and for patients and their families;

(c) shall support the Supported Organizations, which may include support by gift, grant, guarantee, or other means, including without limitation by becoming jointly and severally liable with the Supported Organizations and/or their affiliated organizations in connection with the indebtedness of some or all of such organizations; and

(d) may engage in any other charitable activities that may be lawfully carried on by a corporation formed under Chapter 180 of the Massachusetts General Laws and which is exempt from taxation under Section 501(c)(3) of the Code.

C

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P

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M

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R.A.

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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 so long as each article requiring each addition is clearly indicated.

PC.

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. All powers of members under Massachusetts law shall be exercised by the trustees.

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 4A - 4C.

ARTICLE V

The by-laws of the corporation have been duly adopted and the initial directors, president, treasurer and clerk or other presiding, financial or recording officers, whose names are set out on the following page, have been duly elected.

***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.

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 trustees, are as follows:

4.1. 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 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 Internal Revenue Code.

4.2. The trustees may make, amend or repeal the bylaws in whole or in part.

4.3. Meetings of the trustees (and meetings of any committees elected or appointed by the trustees) may be held anywhere in the United States.

4.4. No trustee 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.

4.5.(a) The corporation shall, to the extent legally permissible, indemnify each person who serves as one of its trustees or officers, or who serves at its request as a director, trustee or officer of another organization or in a capacity with respect to any employee benefit plan (each such person being called in this Section 4.5 a "Person") against all liabilities and expenses, including amounts paid in satisfaction of judgments, in compromise or as fines and penalties, and counsel fees, reasonably incurred by such Person in connection with the defense or disposition of any action, suit or other proceeding, whether civil or criminal, in which such Person may be involved or with which such Person may be threatened, while in office or thereafter, by reason of being or having been such a Person, except with respect to any matter as to which such Person shall have been adjudicated in any proceeding: (i) not to have acted in good faith in the reasonable belief that his or her action was in the best interests of the corporation or (ii), to the extent that such matter relates to service at the request of the corporation for another organization or an employee benefit plan, to not have acted in the best interests of such organization or of the participants or beneficiaries of such employee benefit plan. Such best interests shall be deemed to be the best interests of the corporation for the purposes of this Section 4.5.

(b) Notwithstanding the foregoing, as to any matter disposed of by a compromise payment by any Person, pursuant to a consent decree or otherwise, no indemnification either for said payment or for any other expenses shall be provided unless such compromise shall be approved as in the best interests of the corporation, after notice that it involves such indemnification, (a) by a disinterested majority of the trustees then in office; or (b) by a majority of the disinterested trustees then in office, provided that there has been obtained an opinion in writing of independent legal counsel to

the effect that such Person appears to have acted in good faith in the reasonable belief that his or her action was in the best interests of the corporation.

(c) Expenses, including counsel fees, reasonably incurred by any Person in connection with the defense or disposition of any such action, suit or other proceeding may be paid from time to time by the corporation in advance of the final disposition thereof upon receipt of an undertaking by such Person to repay the amounts so paid if such Person ultimately shall be adjudicated to be not entitled to indemnification under this Section 4.5. Such an undertaking may be accepted without reference to the financial ability of such Person to make repayment.

(d) The right of indemnification hereby provided shall not be exclusive. Nothing contained in this Section shall affect any other rights to indemnification to which any Person or other corporate personnel may be entitled by contract or otherwise under law.

(e) As used in this Section 4.5, the term "Person" includes such Person's respective heirs, executors and administrators, and a "disinterested" trustee or officer is one against whom in such capacity the proceeding in question, or another proceeding on the same or similar grounds, is not then pending.

4.6.(a) No person shall be disqualified from holding any office by reason of any interest. In the absence of fraud, any trustee or officer of this corporation, or any concern in which any such trustee or officer has any interest, may be a party to, or may be pecuniarily or otherwise interested in, any contract, act or other transaction (collectively called a "transaction") of this corporation, and

(1) such transaction shall not be in any way invalidated or otherwise affected by that fact; and

(2) no such trustee, officer or concern shall be liable to account to this corporation for any profit or benefit realized through any such transaction; provided, however, that such transaction either was fair at the time it was entered into or is authorized or ratified by a majority of the directors who are not so interested and to whom the nature of such interest has been disclosed. No interested trustee of this corporation may vote or may be counted in determining the existence of a quorum at any meeting at which such transaction shall be authorized, but may participate in discussion thereof.

(b) For purposes of this Section 4.6, the term "interest" shall include personal interest and also interest as a trustee, officer, stockholder, shareholder, overseer, member or beneficiary of any concern; and the term "concern" shall mean any corporation, association, trust, partnership, firm, person or other entity other than this corporation.

(c) No transaction shall be voided by reason of any provisions of this Section 4.6 which would be valid but for such provisions.

4.7. 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 (except that the corporation shall be authorized and empowered to pay reasonable compensation for services rendered and reimburse for reasonable expenses incurred on behalf of and for the benefit of the corporation); 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 Internal Revenue 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 Internal Revenue Code and shall not be a private foundation under Section 509(a) of the Internal Revenue Code.

4.8. If and so long as the corporation is a private foundation (as that term is defined in Section 509 of the Internal Revenue Code), then notwithstanding any other provisions of the articles of organization or the bylaws 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 Internal Revenue Code, and

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

4.9. Upon the 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 of the Supported Organizations as are at that time exempt from federal income tax under Section 501(c)(3) of the Internal Revenue Code.

4.10. The corporation shall not discriminate in administering its policies and programs or in the employment of its personnel on the basis of race, color, religion, national or ethnic origin, sex, handicap, gender, gender identity, sexual orientation, military status or otherwise.

4.11. All references herein: (i) to the Internal Revenue 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 Internal Revenue Code or said General Laws shall be deemed to refer to similar or successor provisions hereafter adopted.

ARTICLE VI

The effective date 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.

ARTICLE VII

The information contained in Article VII 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, MA 02215-3903

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:	Kevin Tabb, M.D.	64 Beethoven Ave, Waban, MA 02468	Same as Residential Address
Treasurer:	Kevin Tabb, M.D.	64 Beethoven Ave, Waban, MA 02468	Same as Residential Address
Clerk:	Jamie Katz	18 Barberry Rd, Lexington, MA 02421	Same as Residential Address
Directors: (or officers having the powers of directors)	Ann-Ellen Hornidge	79 Wilsondale St, Dover MA 02030	Same as Residential Address
	Kevin Tabb, M.D.	64 Beethoven Ave, Waban, MA 02468	Same as Residential Address
	Jamie Katz	18 Barberry Rd, Lexington, MA 02421	Same as Residential Address

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:

Not applicable

~~I/We~~, the below signed incorporator(s), do hereby certify under the pains and penalties of perjury that ~~I/we~~ have not been convicted of any crimes relating to alcohol or gaming within the past ten years. ~~I/We~~ do hereby further certify that to the best of my/~~our~~ knowledge the above-named officers have not been similarly convicted. If so convicted, explain.

IN WITNESS WHEREOF AND UNDER THE PAINS AND PENALTIES OF PERJURY, ~~I/we~~, whose signature(s) appear below as incorporator(s) and whose name(s) and business or residential address(es) *are clearly typed or printed* beneath each signature, do hereby associate with the intention of forming this corporation under the provisions of General Laws, Chapter 180 and do hereby sign these Articles of Organization as incorporator(s) this 23rd day of NOVEMBER, 2018,



David Spackman, 41 Burlington Mall Road, Burlington, MA 01805

Note: If an existing corporation is acting as incorporator, type in the exact name of the corporation, the state or other jurisdiction where it was incorporated, the name of the person signing on behalf of said corporation and the title he/she holds or other authority by which such action is taken.

SECRETARY OF THE
COMMONWEALTH

THE COMMONWEALTH OF MASSACHUSETTS

2018 NOV 27 AM 9:55

ARTICLES OF ORGANIZATION

(General Laws, Chapter 180)

1320882

CORPORATIONS DIVISION

I hereby certify that, upon examination of these Articles of Organization, duly submitted to me, it appears that the provisions of the General Laws relative to the organization of corporations have been complied with, and I hereby approve said articles; and the filing fee in the amount of \$ 35 having been paid, said articles are deemed to have been filed with me this 27 day of November 20 18.

Effective date: _____



WILLIAM FRANCIS GALVIN

Secretary of the Commonwealth

40848

TO BE FILLED IN BY CORPORATION

Contact information:

David Spackman

41 Burlington Mall Road

Burlington, MA 01805

Telephone: 781-744-3466

Email: David.G.Spackman@lahey.org

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

#7

Change in Service Form



Massachusetts Department of Public Health
Determination of Need
Change in Service

Version: DRAFT
6-14-17

DRAFT

Application Number: BILH-21111612-RE

Original Application Date: 01/14/2022

Applicant Information

Applicant Name: Beth Israel Lahey Health, Inc.

Contact Person: Alan Einhorn, Esq. Title: Attorney

Phone: 6173424094 Ext: E-mail: aeinhorn@foley.ocom

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

1 Facility Name: Beth Israel Deaconess Hospital - Needham, Inc. CMS Number: 220083A 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 (Current/ Actual)	Patient Days Projected	Occupancy rate for Operating Beds		Average Length of Stay (Days)	Number of Discharges	Number of Discharges
		Existing	Existing	Licensed	Operating	Licensed	Operating			Current Beds	Projected	(Days)	Actual	Projected
	Acute													
	Medical/Surgical									0%	0%			
	Obstetrics (Maternity)									0%	0%			
	Pediatrics									0%	0%			
	Neonatal Intensive Care									0%	0%			
	ICU/CCU/SICU									0%	0%			
<div>+ -</div>										0%	0%			
	Total Acute									0%	0%			
	Acute Rehabilitation									0%	0%			
<div>+ -</div>										0%	0%			
	Total Rehabilitation									0%	0%			
	Acute Psychiatric													

Add/Del Rows		Licensed Beds	Operating Beds	Change in Number of Beds (+/-)		Number of Beds After Project Completion (calculated)		Patient Days (Current/ Actual)	Patient Days Projected	Occupancy rate for Operating Beds		Average Length of Stay (Days)	Number of Discharges	Number of Discharges
		Existing	Existing	Licensed	Operating	Licensed	Operating			Current Beds	Projected		Actual	Projected
	Adult									0%	0%			
	Adolescent									0%	0%			
	Pediatric									0%	0%			
	Geriatric									0%	0%			
<div>+</div>	<div>-</div>									0%	0%			
	Total Acute Psychiatric									0%	0%			
	Chronic Disease									0%	0%			
<div>+</div>	<div>-</div>									0%	0%			
	Total Chronic Disease									0%	0%			
	Substance Abuse													
	detoxification									0%	0%			
	short-term intensive									0%	0%			
<div>+</div>	<div>-</div>									0%	0%			
	Total Substance Abuse									0%	0%			
	Skilled Nursing Facility													
	Level II									0%	0%			
	Level III									0%	0%			
	Level IV									0%	0%			
<div>+</div>	<div>-</div>									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
<div>+</div> <div>-</div>	Acquisition of a CT (proposed volume-number of scans)	1	1	2	16,708	21,000

Document Ready for Filing

When 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 Determination of Need" button.

This document is ready to file:

☐

Date/time Stamp:

E-mail submission to
Determination of Need

#8

Affidavit of Truthfulness and Compliance

This document is ready to print: ☐

Date/time Stamp:

#9

Affiliated Parties



Massachusetts Department of Public Health
Determination of Need
Affiliated Parties

Version: DRAFT
3-15-17

DRAFT

Application Date: 01/14/2022

Application Number: BILH-21111612-RE

Applicant Information

Applicant Name: Beth Israel Lahey Health, Inc.

Contact Person: Alan Einhorn Title: Attorney

Phone: 6173424094 Ext: E-mail: aeinhorn@foley.com

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
<div>+ -</div>	Hornidge	Ann-Ellen	9 Wilsondale Street	Dover	MA	Beth Israel Lahey Health, Inc.	Trustee/Officer			No		No
<div>+ -</div>	Hao	Yvonne	3520 35th Street NW	Washington	DC	Beth Israel Lahey Health, Inc.	Trustee/Officer			No		
<div>+ -</div>	Kimball, M.D.	Alexa	4 Monmouth Street	Brookline	MA	Beth Israel Lahey Health, Inc.	Trustee			No		
<div>+ -</div>	Canepa	John	83 Church Street	Watertown	MA	Beth Israel Lahey Health, Inc.	Trustee/Officer			No		
<div>+ -</div>	Jick	Daniel J.	15 Lawrence Road	Chestnut Hill	MA	Beth Israel Lahey Health, Inc.	Trustee			No		
<div>+ -</div>	Walsh	Jane	89 Turnpike Street	North Andover	MA	Beth Israel Lahey Health, Inc.	Trustee			No		
<div>+ -</div>	Sullivan, M.D.	Mary Anna	2529 Mystic Valley Parkway	Somerville	MA	Beth Israel Lahey Health, Inc.	Trustee			No		
<div>+ -</div>	Liesching, M.D.	Timothy	21 Fernway	Winchester	MA	Beth Israel Lahey Health, Inc.	Trustee			No	Care Dimensions	No
<div>+ -</div>	Valetta	Robert	112 Captains Road	Mashpee	MA	Beth Israel Lahey Health, Inc.	Trustee			No		
<div>+ -</div>	Tabb, M.D.	Kevin	64 Beethoven Ave.	Waban	MA	Beth Israel Lahey Health, Inc.	Trustee/Officer			No		Yes
<div>+ -</div>	Norman, M.D.	Nancy	71 Alban Street	Dorchester	MA	Beth Israel Lahey Health, Inc.	Trustee			No		
<div>+ -</div>	Linde	Doug	One Baldwin Circle	Weston	MA	Beth Israel Lahey Health, Inc.	Trustee			No		
<div>+ -</div>	Gupta	Yogesh	451 Malborough St., Unit 3E	Boston	MA	Beth Israel Lahey Health, Inc.	Trustee			No		
<div>+ -</div>	Grant	Tom H.	One Reach Street, #5	Beverly	MA	Beth Israel Lahey Health, Inc.	Trustee			No		

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
<div><div>+</div><div>-</div></div>	Francisco	Betty	137 Park Street, 37	Dorchester	MA	Beth Israel Lahey Health, Inc.	Trustee			No		
<div><div>+</div><div>-</div></div>	O'Hanley	Ronald	27 Jackson Street, Apt. 240	Lowell	MA	Beth Israel Lahey Health, Inc.	Trustee			No		
<div><div>+</div><div>-</div></div>	McCullough, M.D.	Daniel	900 Cummings Center	Beverly	MA	Beth Israel Lahey Health, Inc.	Trustee			No		
<div><div>+</div><div>-</div></div>	Hannon	Trish	15288 Devon Green Lane	Naples	FL	Beth Israel Lahey Health, Inc.	Trustee			No		
<div><div>+</div><div>-</div></div>	Mandell, MD	James	47 Chatham Street	Brookline	MA	Beth Israel Lahey Health, Inc.	Trustee			No		
<div><div>+</div><div>-</div></div>	McKenna	Margaret	100 Belvidere Street	Boston	MA	Beth Israel Lahey Health, Inc.	Trustee			No		
<div><div>+</div><div>-</div></div>	Kington, MD, PhD	Raynard S.	189 Main Street	Andover	MA	Beth Israel Lahey Health, Inc.	Trustee			No		
<div><div>+</div><div>-</div></div>	Kerndl	John	30 Dalton Street, Apt. 1409	Boston	MA	Beth Israel Lahey Health, Inc.	Officer			No		Yes
<div><div>+</div><div>-</div></div>	Katz	Jamie	18 Barberry Road	Lexington	MA	Beth Israel Lahey Health, Inc.	Officer			No		Yes
<div><div>+</div><div>-</div></div>					MA							
<div><div>+</div><div>-</div></div>					MA							
<div><div>+</div><div>-</div></div>					MA							

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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.

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

This document is ready to file:

☐

Date/time Stamp:

E-mail submission to
Determination of Need

#10

Filing Fee



Beth Israel Deaconess Hospital
Needham Campus

BANK OF AMERICA

5-13/110 MA

CHECK DATE: 12/16/21

PAY FOUR THOUSAND SEVEN HUNDRED SEVENTEEN 08/100

TO THE
ORDER OF

COMMONWEALTH OF MASSACHUSETTS

CHECK AMOUNT

****\$4717.08

AUTHORIZED SIGNATURE

AUTHORIZED SIGNATURE

N 1241 (12/19)

Beth Israel Deaconess Hospital

CHECK DATE: 12/16/21

CHECK NO: 0000231273

INVOICE NUMBER	DATE	DESCRIPTON	GROSS AMOUNT	DISCOUNT	NET PAY
121521	12/15/21	NEW CT FILING FEE	4717.08	0.00	4717.08
VENDOR NO: B000003996			GROSS AMT TOT	DISCOUNT TOT	NET AMOUNT TOTAL
TOTALS >			4717.08	0.00	4717.08

REMITTANCE ADVICE