STAFF REPORT TO THE PUBLIC HEALTH COUNCIL FOR A DETERMINATION OF NEED					
Applicant Name	The Children's Medical Center Corporation				
Applicant Address	300 Longwood Ave. Boston, MA 02215				
Filing Date	August 10, 2021				
Type of DoN Application	Substantial Capital Expenditure, Substantial Change in Service				
Total Value	\$434,691,000				
Project Number	BCH-21071411-HE				
Ten Taxpayer Groups (TTGs)	Friends of Boston Children's Hospital, Shields Health Care Group				
Community Health Initiative (CHI)	\$21,734,550				
Staff Recommendation	Approval with Conditions				
Public Health Council	December 14, 2022				
Project Summary and	Regulatory Review				

The Children's Medical Center Corporation (Children's or Applicant) has submitted an application for a Proposed Project at three sites: Waltham, Needham and Weymouth. The Proposed Project includes expansion of outpatient operating rooms dedicated to ambulatory surgery, expansion of MRI; expansion of behavioral health services, and expansion of hospital clinical services in multiple specialties.

The combined gross square feet (GSF) of the Proposed Project is 336,257. The total value of the Proposed Project (based on maximum capital expenditure) is \$434,691,000. The CHI contribution is \$21,734,550.

Review of Applications for Substantial Capital Expenditures and Substantial Changes in Service is under the DoN regulation 105 CMR 100.000. The Department must determine that need exists for a Proposed Project, on the basis of material in the record, where the Applicant makes a clear and convincing demonstration that the Proposed Project meets each Determination of Need Factor set forth within 105 CMR 100.210. This staff report addresses each of the six factors set forth in the regulation.

Two groups registered as Ten Taxpayer Groups (TTGs). The Department received written comments and held a virtual public hearing on Dec. 9, 2021. Summary of the comments can be found in Appendix VI. The Department did not receive any comments in opposition to the Proposed Project.

The Department required an independent cost-analysis (ICA) for the Proposed Project. A summary of the ICA findings can be found in Factor 2 and Factor 4. The Department did not receive any written comments on the ICA from Parties of Record.

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## Background (CMCC, and Application Overview)

**The Children's Medical Center Corporation (CMCC or Applicant)** operates the only freestanding pediatric acute care hospital in Massachusetts, The Children's Hospital Corporation, d/b/a Boston Children's Hospital (BCH). BCH is a 415- bed facility located in Boston's Longwood Medical Area with satellite campuses in Brookline, Lexington, Dartmouth, Peabody and Waltham and physicians' offices in Brockton, Milford, Norwood, and Weymouth. Its mission is to provide the highest quality pediatric health care to enhance the health and well-being of the children and families in the local community as well as conducting research, and training.

BCH provides a full continuum of pediatric care across all disease types, and specialized pediatric care to patients with conditions that often could not have been prevented. BCH comprises a network of pediatric subspecialists in New England, that includes primary care, through Children's Hospital Primary Care Center and the Pediatric Physician's Organization at Children's (PPOC). BCH also serves pediatric behavioral health needs for Massachusetts children, including those having acute and complex needs by offering inpatient, ambulatory behavioral health, and an integrated behavioral health ambulatory program with its community pediatric physician practices including, Mass Health Accountable Care Organization (ACO) patients.

#### **Application Overview (Proposed Project)**

The Applicant has submitted an application for a Proposed Project that includes construction at the following three sites:

- Waltham: Renovation and expansion of 78,395 gross square feet at an existing site at 9 Hope Avenue, Waltham.
  - o the expansion of clinical areas, including existing infusion, sleep disorders, radiology, and behavioral health services, including the establishment of a medical-psychiatric ("med-psych") partial hospitalization program.
- **Needham**: a new site that involves new construction of an ~224,000 gross square foot facility at 380 First Avenue, Needham. The proposed facility would include:
  - o eight operating rooms (4 new, 4 relocated from Lexington) for ambulatory surgery;
  - o hospital outpatient space to include phlebotomy, physical and occupational therapy, ophthalmology, and diagnostic radiology; and
  - o one MRI unit.
- Weymouth: a new site that involves new construction, of ~33,862 gross square feet at 200 Libbey Parkway, Weymouth.<sup>1</sup> This facility would include diagnostic and therapeutic outpatient hospital services, including audiology, speech therapy, vision function testing, phlebotomy, echocardiography and radiology, including one MRI Unit<sup>2</sup>

<sup>&</sup>lt;sup>1</sup> The Weymouth Facility is in part a relocation of services currently being provided in Weymouth by the Applicant's physicians.

<sup>&</sup>lt;sup>2</sup> Such diagnostic and therapeutic hospital services will be co-located with physician office space relocated from 541 Main Street in Weymouth, the lease for which space is expiring in 2024.

A map of current and proposed BCH sites can be found in Appendix II

The Applicant asserts that each component of the Proposed Project is integral and not separable from the other components. Table 1 shows an overview of the Proposed Project components.

	Existing # of Units	Change in # (+/-)	Proposed # of Units	
Operating Rooms				
Waltham	6	0	6	
Needham	0	8	8	
Lexington <sup>3</sup>	4	(4)	0	
Total	10	4	14	
MRI Units				
Waltham	1	0	1	
Needham	0	1	1	
Weymouth	0	1	1	
Total	1	2	3	

Table 1: Overview of the Proposed Project

The Applicant states that the Proposed Project will preserve and enhance the Applicant's services in the community and help to provide more timely, accessible, and cost-effective care for lower-acuity patients not requiring treatment at the Hospital's main campus. Additionally, the Proposed Project will increase community access to pediatric sub-specialty care, including gastroenterology, ophthalmology, orthopedics, and psychiatry. The Proposed Project will provide access to specialized and interdisciplinary pediatric care teams, which is especially important for patients with chronic conditions The Proposed Project will provide space to support an integrated and cross-disciplinary approach to care, incorporating behavioral health supports, physical therapy, and occupational therapy, addressing time-sensitive acute needs and the ongoing, lifetime care needs of children with chronic or congenital conditions.

The Applicant states that much of the pediatric specialty care delivered by BCH affiliated physicians occurs in their physicians' office which is a separate medical office setting from the hospital use space. While these services are not subject to DoN review, all three sites have a physician office component.

Appendix II shows the specific services in the Proposed Project, both those under the Proposed Project and Subject to DoN and those provided by the Physician Office Practices (not subject to DoN review).

<sup>&</sup>lt;sup>3</sup> The four ORs in Lexington are operated jointly with Beth Israel Deaconess Medical Center under an existing arrangement approved by the Department of Public Health.

### Patient Panel<sup>4</sup>

The Applicant provided four years of Patient Panel data for fiscal years (FYs) 2018 to 2021.<sup>5</sup> As shown in Table 2, CMCC's Massachusetts Patient Panel increased by 14% over the four-year period. Table 3 provides an FY21 patient demographic profile for CCMC's Massachusetts patients.

#### Table 2: CMCC MA Patient Panel<sup>6</sup>

					Change Rate (%)
	FY18	FY19	FY20	FY21	FY18-FY21
Unique Patients	219,857	229,342	209,610	251,058	14%

#### Table 3: CMCC MA Patient Demographic Profile (FY21)

	FY21	
Count	251,058	
Gender		
Female	51.5%	
Male	48.4%	
Unknown	0.0%	
Age		
0-2 years	16.6%	
3-5 years	11.6%	
6-10 years	18.3%	
11-15 years	21.0%	
16-18 years	11.8%	
19+ years	20.6%	
Race/Ethnicity <sup>7</sup>		
Asian, Non-Hispanic	4.9%	
Black, non-Hispanic	9.7%	
Hispanic	16.0%	
White, non-Hispanic	60.7%	
Another Race, non-Hispanic	7.0%	
Multiracial, non-Hispanic	1.7%	
Patient Origin		

<sup>&</sup>lt;sup>4</sup> As defined in 105 CMR 100.100, Patient Panel is the total of the individual patients regardless of payer, including those patients seen within an emergency department(s) if applicable, seen over the course of the most recent complete 36-month period by the Applicant or Holder.

<sup>&</sup>lt;sup>5</sup> The Applicant states that data for 2020 are substantially skewed by the effect of the COVID-19 pandemic. Additionally, COVID-19 has resulted in a short-term reduction in utilization. The Hospital expects utilization will return to pre-pandemic levels.

<sup>&</sup>lt;sup>6</sup> While the Hospital serves a national and international patient base, the Patient Panel data presented includes only Massachusetts residents.

<sup>&</sup>lt;sup>7</sup> Race/Ethnicity excludes unique patients listed as "Unknown" and therefore has a different denominator than the total count listed above.

HSA 1: Western MA	1.8%
HSA 2: Central MA	6.3%
HSA 3 Northeast	17.3%
HSA 4 Metro West	34.6%
HSA 5 Southeast	14.5%
HSA 6: Boston	20.3%
Unknown	5.1%

Staff notes the following observations about the data from Tables 2 and 3:

- Age: The 11-15 year age cohort is the largest age cohort, followed by the 0-2 year cohort.
- **Race/Ethnicity:** Patients identified primarily as 60.7% of CMCC's statewide patient population identified as White, non-Hispanic (60.7%) and Hispanic (16%)
- **Patient Origin:** CMCC's Massachusetts patients reside mainly in Eastern Massachusetts, particularly in MetroWest / HAS 4 (34.6%) and Boston / HSA 6 (20.3%).

Payer Mix is addressed in Table 4. Medicaid comprises 40.4% of total charges, with the highest percentage of Medicaid in Boston / HSA 6 (62.0%) and Western MA / HSA 1 (59.5%). HSA 4, where the Proposed Project sites are located, has the lowest percentage of Medicaid at 22.7%.

			All Other					
Payor Mix <sup>8</sup>	Medicaid	Blue	Harvard	Other	Other	Tufts	Total	
FY 21		Cross	Pilgrim	Comm/HMO	Govt/Self			
HSA 1: Western MA	59.5%	18.5%	1.5%	14.2%	4.4%	2.0%	100%	
HSA 2: Central MA	36.5%	31.9%	8.2%	14.0%	4.0%	5.4%	100%	
HSA 3 Northeast	40.3%	27.9%	8.8%	14.7%	3.6%	4.8%	100%	
HSA 4 Metro West	22.7%	36.8%	12.4%	17.6%	3.9%	6.7%	100%	
HSA 5 Southeast	45.1%	28.3%	8.4%	11.0%	4.6%	2.5%	100%	
HSA 6: Boston	62.0%	14.4%	7.2%	8.7%	5.3%	2.4%	100%	
Unknown	37.3%	27.0%	9.9%	12.8%	6.3%	6.5%	100%	
Total	40.4%	28.0%	9.1%	13.7%	4.4%	4.5%	100%	

#### Table 4: Payer Mix by Health Service Area

### Factor 1: a) Patient Panel Need

Through the Proposed Project, the Applicant states it will expand outpatient capacity to alleviate capacity constraints at BCH's Main Campus and existing outpatient facilities, ensuring its Patient Panel need is met. The Applicant points to long wait times for services on its Main Campus as an indication of current capacity constraints.

The Applicant attributes Patient Panel need for expanded access to services to the following:

<sup>&</sup>lt;sup>8</sup> Payor mix based on percentage of total charges.

- 1. Difficulty accessing the Longwood campus / Access for Patients Statewide
- 2. Insufficient capacity in key specialties, evidenced by substantial appointment backlogs (MRI, surgery, sleep services, behavioral health, and eye care)

#### 1. Difficulty Accessing the Longwood Campus / Access for Patients Statewide

The Applicant states that it has learned through interactions with patients and its providers, as well as community focus groups, that traveling to Longwood is a substantial barrier to care for patients that reside outside of Boston. As seen below in Table 5, a growing number of patients are traveling from throughout the state to seek care from BCH. An increasing number of these individuals are traveling from Western and Central Massachusetts, as well as the Southeast. The Applicant states that access for families was a major consideration in determining site locations, ensuring they were situated near major roadways (e.g. Route 128, Route 3, the Mass Pike) and have free parking, which is especially important for those unable to access public transportation. The Waltham site also has access both by bus and the commuter rail.

	Total Ambulatory Visits			Am	bulatory Su	ırgeries
	FY17	FY 19	% Change	FY17	FY 19	% Change
	Count	Count	FY17-FY19	Count	Count	FY17-FY19
HSA 1 (Western MA)	9,632	11,541	19.8%	397	496	24.9%
HSA 2 (Central MA)	33,573	37,785	12.5%	1,573	1,686	7.2%
HSA 3 (Northeast)	96,147	100,217	4.2%	3,362	3,584	6.6%
HSA 4 (MetroWest)	168,062	177,837	5.8%	5,670	5,924	4.5%
HSA 5 (Southeast)	70,250	78,936	12.4%	2,926	3,248	11.0%
HSA 6 (Boston)	137,123	144,035	5.0%	2,055	2,144	4.3%
Unknown	30,465	33,757	10.8%	1,135	1,193	5.1%
Total	545,252	584,108	7.1%	17,118	18,275	6.8%

#### <u>Table 5</u>: Utilization Statistics (FY19) based on Patient Origin

Data from the current Waltham site and the physician practices in Weymouth further illustrate the statewide nature of the Applicant's Patient Panel.

- 125 towns make up 80% of its primary service area for Waltham's patient population.<sup>9</sup>
- Patients who received ambulatory surgery at Waltham reside in over 400 zip codes.
- 138 zip codes make up 80% of Waltham's primary service area for ambulatory surgery.
- 58 zip codes make up 80% of its primary service area for Weymouth's patient population.<sup>10</sup>
- BCH physician practices draw from more than 430 zip codes, including 54 that make up 80% of their primary service area.

<sup>&</sup>lt;sup>9</sup> Based on an analysis of FY19 data on patient population, ambulatory surgical, outpatient MRI and physician practices statistics by zip code for the Applicant's Waltham location

<sup>&</sup>lt;sup>10</sup> Based on an analysis of FY19 data on patient population and physician practices statistics by zip code for the Applicant's Weymouth location

The Applicant expects that families located south of Boston (e.g., Quincy, Randolph, and Brockton) would find the Weymouth site convenient, while families west of Boston would be served by the Waltham and Needham sites.

Additionally, BCH cares for a high number of children with complex medical needs from throughout the Commonwealth. Many of the children and families referred to Boston Children's are living with multiple chronic conditions.

Children with special health care needs are those who have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition and who also require health and related services of a type or amount beyond that required by children generally.<sup>a</sup> They remain a sizable and diverse population. Children with special health care needs experience at least one type of ongoing health condition that results in an above routine need for health and related services.<sup>b</sup> As reported by the American Academy of Pediatrics, 21.1% of children in the Commonwealth have special health care needs (such as cancer, Down syndrome, asthma, and depression), and many of these children need to receive care from physicians who have completed extra training in specific areas of medicine for children: pediatric medical subspecialists or surgical subspecialists.

Children with medical complexity have serious, chronic, and often concurrent health conditions, as well as significant functional limitations, considerable health service needs, and high utilization. Estimates put the share of children with medical complexity at about 1-4% of US children, and spending for this cohort is disproportionately high. Medical complexity is a continuum of subjective, intersecting attributes<sup>c</sup> The Pediatric Medical Complexity Algorithm (PMCA) identifies individuals as having varying levels of chronicity and complexity, including physical, behavioral, and developmental diagnoses. The PMCA stratifies individuals ages 21 and younger into three categories: non-chronic, non-complex chronic, and complex chronic.

BCH's primary care arm cares for a higher share of children with complex medical needs than any other primary care provider in the Commonwealth (5.4% of its patients). BCH's MassHealth ACO has a higher percentage of children with complex medical needs (10.4%) than any other MassHealth ACO. A recent report from the Health Policy Commission states that most inpatient stays among children with complex medical needs took place at only a few hospitals, with over one-third of such stays in 2018 taking place at BCH.<sup>d</sup>

In Massachusetts, children with medical complexity who have commercial insurance have nearly three times the outpatient utilization of other children (9.4 office visits per person each year versus 3.3 visits for other children); and for MassHealth beneficiaries, children with medical complexity have 6.6. office visits per year compared to 2.9 for non-CMC.<sup>e</sup> This illustrates the large amount of care needed for this group as well as the time burden that is required to access such care. Children with medical complexity are cared for and interact with numerous providers and systems and require coordination of care across multiple settings and systems of care.

Timely access to the range of services these children need, in a coordinated way, is critical. Among the access challenges facing such patients and families is traveling to BCH Longwood to access care, that often requires multiple providers, and multiple visits. Patients and their families experience challenges

traveling to Longwood, especially when the patient is sick. Through the Proposed Project the Applicant will coordinate care for such patients in the community alongside BCH's community partners, thereby reducing travel time, and stress on patients and their families.

## 2. Insufficient capacity in key specialties, evidenced by substantial appointment backlogs (MRI, surgery, sleep services, behavioral health, and eye care)

BCH is seeing demand for pediatric services increase statewide. Table 6 shows overall patient utilization for the last four FYs. Visits, including total ambulatory visits, ambulatory surgeries, and MRI encounters, increased by 9.1% over the past four years. <sup>11</sup>

<u>Table 6</u> : CMCC Overall utilizatior	(Massachusetts Patients)
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	FY18	FY19	FY20	FY21	Change
					Rate (%)
					FY18-FY21
Total BCH visits	555,374	584,108	515,872	606,157	9.1%

Exacerbating demand within the BCH system is the decline in the availability of pediatric community hospital care.<sup>f</sup> In 2019, BCH received about 500 transfers from Massachusetts academic medical centers (AMCs) for care that those facilities were unable to provide.

The Applicant states that pediatric patients are experiencing long wait times for appointments, ambulatory surgery, and MRI imaging services. In 2019, 48.1% of BCH care was provided in outpatient settings. Appointment volume for ambulatory services is anticipated to grow approximately 2.8% per year, driven in part by an industry-wide shift from inpatient settings to outpatient settings. Through the Proposed Project, the Applicant plans to make these services more accessible, convenient and operate more efficiently. With these sites, the Applicant anticipates a shift in subspecialty physician office services, ambulatory surgery and MRI imaging from Longwood to the Proposed Project sites. To demonstrate need for additional capacity, the Applicant provided wait times for each of the new/expanded services included in the Proposed Project. The majority of pediatric subspecialty services have wait times above 30 days. This is shown in Table 7. The acronym SNP refers to a Service Not Provided.

Table 7: Average wa	ait for appointments	s and planned service	expansions/contractions

Specialty	Average Lag Time To Appointment (Days)*	Waltham	Needham	Weymouth
<b>BCH Physician Office Practic</b>	es			
Cardiology	33	Expanding	Service Not Provided (SNP)	Expanding
Endocrinology	74	No Change	SNP	Expanding

<sup>&</sup>lt;sup>11</sup> Includes Boston Children's faculty physician office visits in non-licensed space.

Gastroenterology	47	SNP	Shift from Waltham	Expanding
			and Expanding	
Gastroenterology	64	SNP	Shift from Waltham	Expanding
Subspecialty			and Expanding	
Neurology	54	Expanding	SNP	Expanding
Neurosurgery	19	Expanding	SNP	SNP
Nutrition	47	SNP	Shift from Waltham	SNP
			and Expanding	
Ophthalmology (New	97-132	Contracting	Shift from Waltham	Expanding
Appointments)			and Expanding	
Ophthalmology (Follow-	150-268	Contracting	Shift from Waltham	Expanding
Up)			and Expanding	
Orthopedic	19	Contracting	Shift from Waltham	Expanding
Surgery/Sports Medicine			and Expanding	
Otolaryngology	28	Expanding	SNP	Expanding
Plastics	29	Expanding	SNP	Expanding
Psychiatry	29	Expanding	SNP	Expanding
Pulmonary	39	Expanding	SNP	Expanding
Sleep	60-90	Expanding	SNP	SNP
Urology	24	Expanding	SNP	Expanding
Hospital Services				
Dental Clinic <sup>12</sup>	73	SNP	SNP	SNP
Sleep Lab	120	Expanding	SNP	SNP
MRI with Sedation <sup>13</sup>	40	SNP	SNP	SNP
MRI without Sedation	19	SNP	New	New
Operating Rooms	Varies By Specialty	No change	New	SNP

\*Days between when appointment is scheduled and the date of service

#### MRI

The Proposed Project will add two 3T MRI units (one in Needham and one in Weymouth), which allow for faster scans and higher image resolution than more commonly used machines in the community.

The current wait time for sedated MRIs, which are offered only at Longwood, is 40 days (about 28% of scans require sedation). The wait time for non-sedated MRIs is 19 days. As of December 2021, BCH is operating its MRI scanners at approximately 90% utilization.<sup>14</sup> As of Spring 2022, there was a backlog of 1,560 patients waiting for an MRI appointment to be scheduled.

In the region, there are limited dedicated pediatric MRI providers other than those at the Applicant's facilities (particularly on the South Shore, proximate to the proposed Weymouth MRI). Therefore, pediatric patients who need an MRI must choose between imaging at adult-focused facilities or traveling further to one of the Applicant's locations. The Applicant explains that adult-focused facilities

<sup>&</sup>lt;sup>12</sup> While the dental clinic is not expanding at the satellites, the dental surgical capacity is

<sup>&</sup>lt;sup>13</sup> Longwood only

<sup>&</sup>lt;sup>14</sup> Utilization is based on an average of 50 minutes of scanning time plus 5 minutes for room turnover.

often do not accommodate the MRI needs of pediatric patients, which at times necessitates a repeat MRI, thus delaying the time it takes for patients to get imaging results.

According to the Applicant, the addition of a dedicated pediatric MRI unit in Needham and Weymouth will allow ambulatory scans serviced in Boston to shift to these locations. This additional capacity will allow them to reduce the backlog of sedated scans which can only be done on the Boston campus and provide better access to pediatric focused MRI to patients in the community.

According to the Applicant's projections, the MRIs at Needham and Weymouth are expected to run at 87.5% utilization (with built in downtime for maintenance and holidays) and perform 2,100 scans a year by 2031. MRI at Waltham is currently operating at 101% utilization. System-wide, the Applicant projects 25,644 outpatient MRI studies in FY2031, 6,225 more than in FY2019 (a 32% increase). Projected volumes are shown in Table 8.

	FY24	FY31	% Change
Body	1,774	2,297	29.5%
Musculoskeletal	4,362	5,167	18.5%
Neurological	13,583	17,591	29.5%
Fetal	419	589	40.6%
Total	20,138	25,644	27.3%

#### Table 8: Projected Outpatient MRI Studies by Organ System FY24-FY31

The Applicant states that this increase is due to a concerted effort since 2012 to transition pediatric scanning away from modalities that use ionizing radiation (e.g., CT scans) toward those that do not (e.g., MRI).<sup>g</sup> Additionally, BCH anticipates further shifts to MRI from CT and fluoroscopy for body imaging. The Applicant provided data demonstrating its efforts to reduce CT utilization: The compound annual growth rate of outpatient (Boston, Waltham, and Needham) CT utilization from 2019 to 2031 is low at 0.4%, versus a projected CAGR of outpatient MRI scans of 2.6% across all locations (Boston, Waltham, Peabody, Needham, and Weymouth) from 2019 to 2031.<sup>15</sup>

Several clinical indications (including assessment of ventricular size in patients with hydrocephalus, imaging of children with new onset of seizures, newborns in need of neuroimaging, imaging of children with inflammatory bowel disease, and imaging of children with appendicitis) that were previously imaged with CT scans have shifted towards MRI.<sup>h</sup> The Applicant anticipates additional similar shifts in the future and notes that the major limitation to expanding the use cases for MRI is access, not technology.

<sup>&</sup>lt;sup>15</sup> Outpatient MRI scans for 2019 includes Boston, Waltham, and Peabody. Outpatient MRI scans for 2031 includes Boston, Waltham, Peabody, Needham, and Weymouth.

#### Surgery

Taking into account turnover time between cases, BCH aims to achieve 85% utilization of its ORs at Longwood, leaving a buffer to accommodate emergent and unplanned surgeries, enable efficient patient flow, and to avoid delays and cancellations. In 2019, the Longwood ORs averaged 91% utilization with several months at 94% utilization. Ambulatory ORs have lower optimal utilization given that they do not accommodate emergent surgeries, etc. BCH targets a utilization rate of 71-73% for its staffed ambulatory ORs.

Currently, BCH's 10 satellite ambulatory ORs run at about 71% utilization. In order to maintain a sufficient buffer in the Longwood ORs, BCH is seeking to push 180,000 minutes of surgery a year (about 57.7 hours a month) out to the satellites. The Applicant states that shifting ambulatory cases from Longwood to the Waltham site, will free up capacity at Longwood to accommodate more complex cases. The Applicant cites the increase in average minutes per surgical case in Longwood from 80 in 2005 to 147 minutes in 2019 as evidence of its efforts to direct more complex cases to Longwood and improve access to ambulatory surgical services in the community.

The Proposed Project would reorganize surgery capacity across the BCH system in order to relieve pressure on the Longwood campus while increasing day surgeries in Waltham and Needham. Overall capacity would increase by four ORs, which would help BCH address its backlog of unscheduled cases (4,791, with an average wait time of 3.1 months; see Table 9).<sup>16</sup>

	Unbooked cases	Months to clear backlog
Orthopedic Surgery/Sports Medicine	840	2.6
Urology	703	4.1
ORL	702	3.2
Ophthalmology	564	5.4
Gastroenterology	476	1.4
Plastics	407	4.2
Dental	406	5.1
General Surgery	178	2.3
Dermatology	174	7.9
GYN	84	3.0
Pain	57	1.5
TOTAL	4,591	3.1

#### Table 9: BCH Systemwide Ambulatory Surgical Case Backlog

The Applicant proposes to close the 4 ORs it uses in Lexington while adding eight ORs at the Needham facility (with only six ORs initially staffed), for a net increase of 4 ORs. The number of ORs at Longwood (28) and Waltham (6) would not change. BCH proposes to discontinue using the ORs at the Lexington facility because they are undersized relative to current standards, given the growing volume of medical technology equipment in the ORs (about 365 sq. ft.; current standards call for 600 sq. ft. ORs). The Applicant notes that historically, surgical minutes have grown by 2.1% a year, which would increase

<sup>&</sup>lt;sup>16</sup> The Applicant states that the backlog reflects an additional 25% increase in case load relative to the surgical volume delivered in the last 12 months.

utilization of the 14 ORs to 73% by 2028, requiring the staffing of the remaining two operating rooms in 2029 (see Table 10).

	Planned	Staffed	Utilization
2019	9.5 rooms	9.5 rooms	71.0%
2024*	9.5	9.5	72.3%
2025	14.0	12.0	58.4%
2026	14.0	12.0	64.7%
2027	14.0	12.0	70.1%
2028	14.0	12.0	73.3%
2029	14.0	14.0	64.6%
2030	14.0	14.0	67.0%
2031	14.0	14.0	68.4%

\*Years 2020-2023 omitted

The Applicant asserts that increasing capacity in Needham will make these services more accessible for patients in the suburbs who typically travel to BCH's Longwood campus (in 2019, 12% of its day surgery patients resided in Boston). BCH plans to use each surgery location differently: ambulatory patients likely to need an extended recovery stay will be scheduled in Waltham (where there is a 12 bed surgical unit), whereas highly specialized equipment-dependent cases that do not require an extended stay will be performed at Needham. Figure 1 features projections for FY24-FY31, with overall volume projected to increase 45.5% over FY18, driven by higher utilization at Needham, Waltham, and Boston.





\*Except for FY18 and FY19, volume is projected.

#### Sleep Services<sup>17</sup>

As of March 2022, the wait to see a sleep specialist at a BCH facility was about 90 days, with an additional 120 days for a sleep study. The Applicant notes that since the COVID-19 pandemic, the prevalence of sleep apnea, insomnia, and other pediatric sleep disorders has skyrocketed. Prior to the COVID-19 pandemic, obstructive sleep apnea (OSA) was estimated to affect 2-5% of children.<sup>i</sup> BCH receives about 250 orders per month for sleep studies and does not anticipate a decrease in demand. The Proposed Project will expand services for the only dedicated pediatric sleep program in New England, in Waltham, addressing the need for patients to travel an average of 20 miles for sleep medicine care.<sup>j</sup> Expanding sleep services will allow the Applicant to reduce this backlog and make sleep services accessible to patients outside of Boston.

#### **Behavioral Health**

BCH is the only facility in the Commonwealth that provides inpatient psychiatric care for children and adolescents with severe co-occurring medical and psychiatric disorders. Many Massachusetts children seeking psychiatric care are boarded in emergency departments (EDs) because the state lacks the specialized inpatient capacity appropriate for their needs. BCH's ED boarding census is consistently near 60 patients (compared to 15-20 patients prior to the COVID-19 pandemic). Since the COVID-19 pandemic, demand for inpatient pediatric and adolescent services has risen substantially due to increases in anxiety, depressive symptoms, and social and emotional challenges.<sup>k,I</sup>

To address the needs of these patients, the Proposed Project would add a med-psych partial hospitalization program in Waltham. The program would provide intensive behavioral health services during the day and allow patients to return home in the evening. Additionally, the program will treat conditions such as somatic symptom and related disorders, eating disorders, and chronic medical illnesses (diabetes, seizures, etc.) complicated by psychiatric conditions. According to a 2017 survey, there is substantial need for mental health services in Waltham itself: 14.8% of middle schoolers in the city reported seriously considering suicide within the past year, compared to 8.6% of middle schoolers in Massachusetts.<sup>m,18</sup>

The Applicant also plans to add behavioral health services at its proposed facilities in Weymouth and Needham. The Applicant asserts that the availability of these services onsite at Weymouth and Needham, along with MRI imaging capability, will allow for children with underlying behavioral health issues who may have medical issues requiring MRI to successfully complete exams.

#### Eye care

From 2017-2019, BCH ophthalmology visits increased 11.8%, outstripping the increase in overall ambulatory visits (7.1%). There is currently a 5.4 month wait to schedule an ambulatory ophthalmology surgery. The Proposed Project would expand ophthalmology services at the Needham site from the Waltham site, where there is not sufficient space to expand services.

The Applicant highlighted disparities in vision screening in the Commonwealth: recent survey data

<sup>&</sup>lt;sup>17</sup> Sleep services are not a DoN-required service

<sup>&</sup>lt;sup>18</sup> DATA SOURCE: Waltham Partnership for Youth. (2018, August). Waltham Youth Behavior Risk Survey.

shows that 72% of children in households above 400% of the federal poverty level (FPL) received screening, compared to 56% of children in households below the FPL.<sup>n</sup> While 74% of white children received screening, the share was lower among Hispanic children (56%), Black children (59%), and Asian children (63%).<sup>o</sup>

#### **Dental care**

Many children in families with low incomes struggle to access dental care because only 35% of providers treat MassHealth patients (with an even smaller share, 26%, billing at least \$10,000 to the program in 2014).<sup>p</sup> Children with special health needs also encounter access issues: only 10% of general dentists (comprising 80% of dental practitioners) recently reported treating children with special health needs often; 70% reported rarely or never treating such children.<sup>q</sup> Children with special health needs often require general anesthesia for the treatment of caries. At BCH certain specialty services, have a 73-day wait to see a dentist followed by a 39-day wait for a surgical procedure if needed. Dental surgical cases are booking out 5.1 months. The Applicant proposes expansion of ambulatory surgical services in the community with the goal of reducing the wait time for pediatric dental surgery.

#### **Gastroenterology & Nutrition Services**

BCH has established programs that care for children with swallowing disorders that cause lung disease (the Aerodigestive Disease Center), and also swallowing and behavioral disorders that result in malnutrition (the Growth and Nutrition Program). The Applicant states that access to these programs is limited due to long wait times. In addition, the Applicant is limited in its ability to meet the needs of children with feeding disorders, compared to programs in other states. Through the Proposed Project, the Applicant will expand its Growth and Nutrition Program to the Needham facility, and with coordination with other BCH specialties, aims to reduce the use of gastronomy/feeding tubes, when unnecessary, and the associated risk of hospitalization and complications. The Applicant notes the importance of behavioral health supports in Gastroenterology: BCH cares for approximately 18,000 unique patients annually, approximately 8% of whom suffer from inflammatory bowel disease (IBD) and are at high risk for depression.

#### Analysis of Factor 1a) Need

**Difficulty Accessing Longwood Campus**: Currently, BCH patients experience barriers to accessing care, including time and expense of traveling into Boston, and missed time away from work and school for appointments. Delays in accessing care can result in sicker patients that require more intensive treatment. The Applicant has designed the Proposed Project to enable access to ambulatory care services in the community to support convenient access to patient-centered facilities that are easier to access and to navigate for patients and families.

The proposed sites will also support access to care for surrounding communities, which have documented unmet need for the services BCH is expanding. In addition, the Applicant aims to shift ambulatory care from Longwood to the community sites in order to reduce wait times for access to services, which can lead some patients to seek care at further distances, and from providers outside of the BCH system. Additional, behavioral health services, the need for which has increased as a result of

the COVID-19 pandemic, will expand to improve access to behavioral health services and other BCH care for these patients.

Staff find that the Proposed Project will support an integrated and cross-disciplinary approach to care, and will incorporate behavioral health supports, which are important for patients with comorbid behavioral health conditions.

**Insufficient Capacity:** Staff find that based on the historical and projected data provided by the Applicant, it has demonstrated need to expand access to pediatric specialty care outside of Boston/Longwood Campus in order to address Patient Panel need for BCH services at Longwood and at the community sites. However, the expanded specialty care outside of the Longwood Campus is necessary to address the identified capacity constraints, not to permit the Applicant to expand its Patient Panel. Consequently, Staff recommend a condition to Approval that ensures that BCH does not replace the freed-up capacity at its Longwood site with additional patients who could be served by BCH satellite locations and other licensed facilities or physician offices. This is described further in Condition 3.

The Applicant is anticipating staffing two of the four net new ORs through 2028 and adding the remaining two in 2029. While staff finds that the need for the 4 operating rooms has been demonstrated, the impact of the 2 additional ORs on the need and timing of opening the remaining 2 additional ORs has not been determined. Prior to licensing the final 2 ORs, BCH must submit data demonstrating that they are at the projected need level for all of the ORs to be open. This must include data as described in Condition 2.

Staff has reviewed the information submitted by the Applicant and finds that the Applicant has made a sufficient case for adding additional MRI units, ORs and clinical ancillary services. With the conditions listed in this section, staff finds that the Proposed Project meets the requirements of Factor 1a.

## Factor 1: b) Public Health Value, Improved Health Outcomes And Quality Of Life; Assurances Of Health Equity

#### Public Health Value: Improved Outcomes and Quality of Life

The Applicant asserts that the Proposed Project will improve health outcomes and quality of life of the Patient Panel in the following ways:

#### **Transportation / Location**

The Applicant argues that the Proposed Project sites will feature improved accessibility for patients seeking the specialty care described herein.

According to BCH, families who drive to Longwood state that they desire affordable parking close to the building entrance that consists of spaces large enough to accommodate wheelchairs and other

mobility aids. The project sites would feature parking lots and sidewalks larger and smoother than those in Longwood as well as other elements, such as raised crosswalks and curbless drop-off areas.

The Applicant states that the proposed sites have been designed to prioritize patient flow (*e.g.*, the Needham facility would site gastroenterology exam and procedure rooms in proximate areas and would organize ophthalmology services so patients will not need to walk long distances). The siting of services is also intended to improve the ability of families to schedule multiple appointments on the same day at the same location (which helps to reduce missed days at school/work). The facilities have been designed to meet the needs (and reduce the anxiety) of patients with autism as well as those who experience sensory sensitivity. BCH seeks input on facility design from family representatives.

Many of BCH's patients have multiple chronic conditions that need to be managed by interdisciplinary care teams (which may include physicians, psychologists, nurses, social workers, and dietitians). BCH is striving to co-locate multi-disciplinary services, including through integration of mental health services throughout departments. In addition to mental health services, multidisciplinary care is particularly beneficial for children with pain management issues, chronic conditions such as inflammatory bowel disease, and aerodigestive disorders. The Needham facility would augment BCH's gastroenterology capabilities and be staffed with interdisciplinary care teams and supported by other co-located services, including behavioral health. Additionally, the Needham facility's planned expansion of the Growth and Nutrition Program would help reduce wait times and create a new space where families can engage in feeding therapy and nutrition education.

The Applicant notes that MassHealth patients who need transportation to and from appointments can use the PT-1 program. The Waltham facility is located directly adjacent to an MBTA bus stop and is proximate to the Waltham commuter rail station. The Needham and Weymouth facilities are not served by public transit.

The key service lines being expanded through the Proposed Project all have significant impact on the health of children, providing pediatric-focused care to ensure better health outcomes.

#### • Orthopedics and Sports Medicine

Research suggests that shifting pediatric orthopedic care from the main campuses of academic medical centers to satellite locations can improve efficiency without compromising patient safety.<sup>r</sup> Although pediatric orthopedic surgery has large upfront costs, it can yield significant benefits through health-related quality of life.<sup>s</sup> Additionally, effective, pediatric-focused post-surgical care can help improve long-term outcomes for children, especially as with regards to opioid dependency.<sup>t</sup>

#### • Ophthalmology

BCH has the only surgery program in the Commonwealth that uses adjustable sutures to treat strabismus (a disorder in which the eyes do not look in the same direction at the same time), which improves the likelihood of a successful surgery. The Needham site will feature expanded ophthalmology services, which would help reduce the wait times for ophthalmology screenings and procedures.

#### Behavioral Health

Numerous metrics demonstrate that the demand for pediatric behavioral health services significantly outweighs supply The Proposed Project adds a med-psych partial hospitalization program. This program, which would provide behavioral health services during the day and allow patients to return home in the evening, would help reduce wait times and emergency department boarding for children seeking psychiatric care. The program would also treat conditions including somatic symptom disorder, eating disorders, and chronic medical illnesses (diabetes, seizures, etc.) that are complicated by psychiatric conditions.

#### • Imaging

Dedicated pediatric radiology facilities have the proper equipment, technology, and staff to meet the needs of children undergoing MRI, thus reducing the need for anesthesia and the likelihood that patients will have to return for a repeat MRI. In an internal review of repeat imaging studies, BCH found that 84% of pediatric patients who received an MRI for epilepsy in the community needed to have a repeat MRI at BCH due to the outside exam providing insufficient detail. The Proposed Project's two MRI machines would reduce wait times and expand access to imaging administered in a dedicated pediatric setting.

#### • Ambulatory Surgery

In its "Optimal Resources for Children's Surgical Care" document, the American College of Surgeons highlights the importance of ambulatory surgical centers as a treatment option for children.<sup>u</sup> Specifically trained pediatric anesthesiologists within BCH's surgical program can help shorten hospital stays or avoid inpatient stays by utilizing regional anesthesia and by leveraging pain management techniques so patients can recover from procedures at home. The Applicant expects that continued innovation will allow more surgical cases to be handled as day surgeries.

#### • Infusion

Children diagnosed with immunodeficiency disease, IBD, sickle cell, diabetes, and other chronic diseases require easy access to infusion services often on a weekly basis for life. The Proposed Project would expand outpatient infusion services, which is more convenient for many patients than inpatient infusion therapy. Amid the capacity challenges presented by the COVID-19 pandemic, some patients even received infusion therapy in the ED. Expanded outpatient infusion services would help free up inpatient and ED capacity while providing a convenient option for patients who need infusion.

#### • Dental

As previously noted, children covered by MassHealth and children with special health needs face challenges accessing dental care. BCH is equipped to treat the dental needs of children with special health needs and has committed to treating patients regardless of payor. The additional satellite OR capacity in the Proposed Project would reduce BCH's dental surgery wait times and expand access to disease management and education to help prevent future oral health problems.

#### • Gastroenterology

For patients with physical illnesses that impair feeding, the default treatment is to simply place a gastrostomy tube. While this intervention may be lifesaving for some children, it may increase risk of complications and hospitalization among some children with special needs.<sup>v</sup> By expanding the growth and nutrition program at the Needham facility, BCHs hope to reduce the number of gastrostomy tubes placed and also reduce hospitalizations.

#### Analysis: Improved Outcomes and Quality of Life

The Applicant proposed specific outcome and process measures to track the impact of the Proposed Project, which staff have reviewed, and which will become a part of the reporting requirements. The measures are listed in Appendix I.

Staff find that the various elements of the Proposed Project will contribute to improved health outcomes, quality of life, and patient satisfaction.

#### Public Health Value: Health Equity

In 2019, 38.2% of the Applicant's patients were covered by MassHealth, which is consistent with the overall proportion of children and young adults in the Commonwealth who are on MassHealth (approximately 40%). The Applicant asserts that the Proposed Project will provide needed services to MassHealth patients. BCH has identified barriers to care for their patients, particularly those on MassHealth, and has identified transportation as one key barrier. As discussed above, the Applicant is locating the expanded services in communities outside the Main Campus in part to make them more accessible to these patients. The Applicant has also been tracking metrics on health disparities by race/ethnicity and language, particularly in connection with its BCH ACO. A BCH analysis of MRI missed care opportunities revealed that, compared to white children, Black and Latino children were over 50% more likely to have missed an MRI scan, and those who live in areas of high social vulnerability were 30% more likely to have a missed an MRI scan. This prompted BCH to explore whether transportation barriers were a contributing factor and ultimately led to BCH's proposal to add two MRI units at the Proposed Project sites.

The Applicant will make interpreters (in more than 35 languages) available at the Proposed Project locations, and consistent with all of the Applicant's facilities, to assist patients and families. In 2020, the BCH ACO launched an interpreter services pilot program that is expanding to all primary care practices.

The Applicant states that it contributes to the following system-wide equity initiatives:

- "Building Careers in Health and STEM": Career program for high schoolers to increase the number of minority and/or first-generation college students in health careers, including nursing.
- COACH (Community, Opportunities, and Advancement at Children's Hospital) Internship Program: Places Boston-area high schoolers in positions across the hospital and provides professional development workshops.
- BCH administers an additional program that employs undergraduate pre-medical students from backgrounds underrepresented in medicine as medical scribes with faculty mentorship.

The Applicant argues that expanding its services in these locations will help address the unmet needs of MassHealth's pediatric membership and reduce barriers to access for these children.

#### Analysis: Health Equity

Given BCH's stated intent for the Proposed Project to increase access specifically for MassHealth patients, and that the HSA in which the sites are located (HSA 4) has the lowest percentage of Medicaid patients for BCH, a condition is required to ensure that the percentage of BCH's MassHealth patients, both overall and specifically at these sites, does not materially decrease. This is further described in the conditions section (Condition 4).

Staff finds that the Applicant's planned language access services are appropriate for patients receiving care at BCH sites. The Applicant has appropriately outlined at a high level a case for improved health outcomes and has provided reasonable assurances of health equity for the Patient Panel, with the above condition.

#### Analysis of Factor 1b) Public Health Value

As a result of information provided by the Applicant and additional DoN Staff review of the Proposed Affiliation's impact on equitable access to care, Staff finds the Applicant has sufficiently outlined a case for improved health outcomes and health equity.

### Factor 1: c) Efficiency, Continuity of Care, Coordination of Care

With the Proposed Project, BCH is striving to co-locate multi-disciplinary services, including through integration of mental health services at both the Needham and Weymouth facilities, as described in Factor 1b.

The selection of sites for the Proposed Project provides continuity for patients: BCH already has facilities in Waltham and Weymouth. BCH maintains that patients who prefer to be seen at Longwood will be able to continue to do so and that patients will continue to choose where to schedule their appointments. BCH points out that patients often choose to visit the location where their established provider(s) practice and that therefore many suburban patients would continue to receive care at Longwood even after the new facilities open.

The Applicant plans to provide wrap-around services that help providers to determine a diagnosis and develop a treatment plan in order to support the timely coordination of care. For example, each location will have phlebotomy and physical/occupational therapy services. Seventeen percent of BCH's ambulatory visits require phlebotomy, and walk-in phlebotomy sites make access to phlebotomy easier and increase the likelihood that children who have conditions requiring frequent blood testing (*i.e.*, diabetes) undergo testing at the recommended intervals, helping to keep the underlying condition under control. The physical therapy team works closely with physicians, nurses, patient care coordinators, and others inside and beyond the BCH system to achieve this goal. The physical therapy staff works with a variety of diagnoses including musculoskeletal, neurologic, and orthopedic disorders; sports injuries; gait disorders; balance and coordination deficits; movement disorders; congenital

conditions; infant torticollis and plagiocephaly; delayed gross motor development; posture deviations, and equipment and seating needs. The occupational therapy services provided are aimed at helping the patients to maximize functional independence and participation in all occupations, across several environments (*e.g.*, home, work, school, community). Occupational therapists work with the patient and caregivers to help regain and/or develop the skills necessary for the highest level of functions and independence.

BCH uses a consistent electronic health record across all sites of care that is accessible systemwide. The Applicant states that BCH's clinical programs work extensively with families (and, as needed, other clinical areas) to confirm they have all the information they need for their visit to go smoothly. Staff are available to assist patients who would like help navigating the site for any reason.

#### Analysis of Factor 1c) Efficiency, Continuity, and Coordination

Coordinated care has been associated with lower utilization of services, better patient experiences, depression management, and cost management.<sup>w</sup> Coordinated care is important for patients with complex health care needs whose care often requires multiple providers. <sup>x</sup> Care coordination can also help patients and families navigate the complexities of healthcare system.<sup>y</sup> Staff find that the Proposed Project will improve care coordination and efficiency. Making care more coordinated and efficient can also reduce the time between diagnosis and treatment, which has been shown to improve outcomes, quality of life and patient satisfaction.

BCH was intentional about where it sited services in the Proposed Project so it could leverage existing resources. For example, the Waltham campus has services that operate 24/7, so the facility requires resources such as security and food amenities. Expanding sleep services at that location eliminates the need to replicate those resources. Similarly, the delivery of infusion services requires resources including code teams. Expanding infusion at the Waltham location leverages the current set of response teams.

As a result of information provided by the Applicant and with additional analysis, Staff finds the Applicant has met the requirements of Factor 1c.

## Factor 1: d) Consultation

The Applicant has provided evidence of consultation, both prior to and after the Filing Date, with all government agencies that have licensure, certification, or other regulatory oversight, which has been done and will not be addressed further in this report.

## Factor 1: e) Evidence of Sound Community Engagement through the Patient Panel

The Department's Guideline<sup>19</sup> for community engagement defines "community" as the Patient Panel, and requires that at minimum, the Applicant must "consult" with groups representative of the

<sup>&</sup>lt;sup>19</sup> Community Engagement Standards for Community Health Planning Guideline

Applicant's Patient Panel. Regulations state that efforts in such consultation should consist of engaging "community coalitions statistically representative of the Patient Panel."<sup>20</sup>

The Applicant states that it has consulted, and continues to consult, a variety of healthcare and government stakeholders with regards to the Proposed Project. To ensure sound community engagement throughout the development of the Project, the Applicant took the following actions:

- Outreach to health departments in communities where the Proposed Project sites are located (Waltham, Needham, and Weymouth) as well as communities along major transportation access points for these communities (Framingham, Brockton, Randolph, Quincy, and Milton).
- Presentation and discussion at the BCH ACO Patient and Family Advisory Council meeting on December 30, 2020.
- Presentation and discussion with the Hospital's Family Advisory Council on March 16, 2021.
- Presentation and discussion with the Applicant's Board Committee on Community Health in March 2020, September 2020, and June 2021.
- Provider community outreach to the BCH primary care providers (Pediatric Physicians' Organization at BCH) and Atrius Health, both of which have significant referring relationships to the Hospital
- Outreach to other healthcare entities, including the Massachusetts League of Community Health Centers, Beth Israel Lahey Health, Beth Israel–Needham, South Shore Hospital, Shields MRI, and the Massachusetts Hospital Association.
- Patient advocacy outreach to the Massachusetts Association for Mental Health, the Massachusetts Society for the Prevention of Cruelty to Children, and the Crohn's and Colitis Foundation.
- Outreach to community/human service organizations in target communities (*e.g.*, Boys and Girls Clubs, YMCA/YWCA, Community Action Program Agencies, interfaith organizations, and multicultural organizations).

#### Analysis of Factor 1e) Community Engagement

As a result of information provided by the Applicant and with additional analysis, Staff finds that the Applicant has met the provisions of Factor 1(e).

## Factor 1: f) Competition On Price, Total Medical Expenses (TME), Costs And Other Measures Of Health Care Spending

The Applicant states that the Proposed Project will compete based on price, TME, costs, and other measures of healthcare spending based on the following:

<sup>&</sup>lt;sup>20</sup> DoN Regulation 100.210 (A)(1)(e). <u>at https://www.mass.gov/files/documents/2018/12/31/jud-lib-105cmr100.pdf</u>

• The Applicant states that reimbursement levels are currently lower at BCH satellites than they are in Longwood and that this would continue under the Proposed Project. CMCC reports that reimbursement rates at satellites for the state's leading private payors (Blue Cross Blue Shield, Harvard Pilgrim Health Care, and Tufts Health Plan<sup>21</sup>) are lower than those at Longwood for ambulatory surgery, MRI, CT, diagnostic radiology, and ultrasound. This is shown is Table 11.

#### Table 11: Weighted Average BCBC, HCPC, and Tufts Differential: Longwood versus BCH Satellites

Service	Differential
Ambulatory Surgery	-22%
MRI	-27%
Diagnostic Radiology	-37%
Ultrasound	-46%
СТ	-35%

- BCH satellite locations are all reimbursed at the same rate; therefore, Needham and Weymouth would be reimbursed at the same level as Waltham. The Applicant anticipates that by shifting certain procedures from Longwood to Needham, it will reduce costs to payors.
- The Applicant asserts that for MRI and the most common procedures in operating rooms, BCH's prices are competitive with community hospitals. Additionally, according to BCH, its rate for MRIs is 20% lower than Boston rates. The Applicant states that the Needham location will provide a less costly location for some procedures currently performed at Longwood and will consolidate day surgery to achieve economies of scale.
- As discussed in factor 1b, BCH has been transitioning surgical procedures, such as endoscopy, to ambulatory settings (which have lower prices than inpatient surgeries) and proposes to continue this trend with the Proposed Project.
- Increased access to pediatric-tailored MRI services may reduce the need for costly repeat imaging.
- The Proposed Project would expand BCH's outpatient infusion services. This should decrease the likelihood that patients seek infusion services at more expensive settings (inpatient or the emergency department).
- The Applicant notes that because it administers an ACO, and is thus responsible for the total cost of care for ACO members, it is increasingly aligned with the Commonwealth's cost containment goals. Indeed, the BCH ACO served 111,328 members in 2020,<sup>22</sup> or about 20% of pediatric MassHealth ACO enrollees (the highest percentage among MassHealth ACOs). In general, BCH ACO takes on 75% of the risk for the ACO.

#### Analysis of Factor 1f) Competition

<sup>&</sup>lt;sup>21</sup> Data prior to the merger of Harvard Pilgrim and Tufts Health Plan was used.

<sup>&</sup>lt;sup>22</sup> This is roughly 50% the number of total unique patients BCH had in FY20 (209,610).

Staff finds that the Proposed Project has demonstrated potential to reduce costs through improving access to services in a lower-cost setting. For certain procedures, ambulatory surgery offers significant costs savings and improved 30-day outcomes relative to inpatient surgery for appropriately selected patients.<sup>z</sup> The Applicant will also shift ambulatory care from Longwood to the proposed three sites, where reimbursement levels are lower. The Applicant has also demonstrated that reducing delays in access to care, as well as improving existing services, can reduce delays in diagnosis and treatment and reduce the need for more intensive, more costly care.

As a result of the information provided by the Applicant and additional analysis, Staff finds that the Applicant has met the requirements of Factor 1(f).

## Proposed Reporting Measures for FACTOR 1

As a result of information provided by the Applicant and additional analysis, Staff finds that the Applicant has demonstrated that the Proposed Project has met Factor 1(a-f). The Applicant proposed specific outcome, and process measures to track the impact of the Proposed Project which Staff has reviewed, and which will become a part of the reporting requirements, in addition to the measures suggested by Staff. Reporting must include a description of numerators and denominators, where applicable.

## Factor 2: Cost containment, Improved Public Health Outcomes and Delivery System Transformation

#### **Cost Containment**

Within the Determination of Need regulation, two factors, in part, require the Department to consider cost containment as it pertains to the Proposed Project: Factor 2, which requires that a project meaningfully contribute to the Commonwealth's cost containment goals, and Factor 4, as it relates to any independent cost analysis required for a given project to demonstrate whether the project is consistent with the Commonwealth's cost containment goals. Because both factors require the Department to analyze the Proposed Project's impact on health care cost containment in the Commonwealth, the Department has considered the cost containment-specific portions of both Factor 2 and Factor 4 in this section.

In response to this factor, the Applicant states that the project will meaningfully contribute to the Commonwealth's cost containment goals for the following reasons, in addition to those already mentioned in the Factor 1f discussion above:<sup>23</sup>

<sup>&</sup>lt;sup>23</sup> The Applicant's rationale for this sub-factor is very similar to its rationale for Factor 1F (Competition On Price, Total Medical Expenses, Costs And Other Measures Of Health Care Spending).

- By providing timely and appropriate ambulatory care—including enhanced access to specialists and improved management of chronic diseases—BCH reduces the need for more expensive care later in life.
- The Applicant argues that "clustering" pediatric specialty volume at the proposed sites will create economies of scale in the deployment of specialized medical equipment and pediatric professionals.

#### **Analysis: Cost Containment**

Pursuant to G.L. c. 111 § 25C(h) and to support the Department's understanding of the Proposed Project's impact on the Commonwealth's cost containment goals, an independent cost-analysis (ICA) was required. There were no comments received from parties of record about the ICA.

The ICA was prepared by FTI Consulting, Inc. (FTI) who concluded that the Proposed Project is consistent with the Commonwealth's cost containment goals as it is predicted to result in an overall change in healthcare costs (spending) of 1.25%, combined, for both imaging and ASC services, which is below the HPC's current statewide target benchmark for growth in total health care expenditures (THCE), which is 3.1%.

#### <u>Market</u>

In Massachusetts, there are large numbers of entities providing a wide variety of outpatient services to pediatric patients. Six health systems with specialized facilities are presented by FTI for analyses of pricing, share and services: Baystate, BCH, Boston Medical Center, Mass General, Tufts, and UMass. Tables include "all other providers", with many providers having a less than 1% share in a service line. While all entities providing the relevant services are used in the analysis, the six largest players are the ones individually presented.

The service areas are defined as 75% of the specific service lines' current from that visit originates, or for new facilities, from current BCH facilities to create radii and then apply to new facilities.

Service areas are large, with Needham's service areas across ASC, MRI and imaging encompassing much of Eastern MA and part of Central MA. BCH data confirmed to FTI the broad draw area for services.

- There are six BCH facilities located physically within the Needham service areas, including BCH Waltham, BCH Needham, BCH Weymouth, BCH main campus, BCH Lexington, and BCH Brookline. There are six or more Mass General Brigham facilities, three Boston Medical Center facilities, and the Tufts facility (including the Children's Hospitals for each) located within the Needham service areas.
- There are five BCH facilities located within the Waltham service areas, including BCH Waltham and BCH Needham. There are six or more Mass General facilities, three BMC facilities, and two Tufts facilities located physically within the Waltham service areas.

• There are five BCH facilities located physically within the Weymouth service areas, including BCH Needham. There are six Mass General facilities, three Boston Medical facilities, and one Tufts facility located physically within the Weymouth service areas.

#### Combined Service Area (Needham, Waltham, Weymouth)

Unless otherwise explicitly stated, data refers to pediatric patients (ages 0-18)

- Pediatric **MRI** shares in 2019 above 2% (by system): 31.4% BCH, 9.3% MGB, 2.2% Tufts; many individual providers located across the state provided MRI to pediatric patients in the service area
  - Statewide payer mix: 55.5% Commercial, 44.5% Medicaid; BCH is 53.0% Commercial, 47.0% Medicaid
  - Commercial share: 30.0% BCH, 8.6% MGB
  - MassHealth / Medicaid share: 33.1% BCH, 10.2% MGB, 3.6% Tufts; 3.2% Boston Medical
- Pediatric **Imaging** shares in 2019 above 2%: 17.4% BCH, 9.0% MGB; many individual providers located across the state provided MRI to pediatric patients in the service area
  - Statewide payer mix: 46.5% Commercial, 53.5% Medicaid; BCH is almost the same at 46.2% Commercial, 53.8% Medicaid
  - Commercial share: 17.2% BCH, 9.7% MGB
  - MassHealth / Medicaid share: 17.5% BCH, 8.3% MGB, 3.3% Boston Medical
- Pediatric **ASC** shares in 2019 above 2%: 15.7% **MGB**, 12.5% BCH
  - Statewide payer mix: 39.4% Commercial, 60.6% Medicaid; BCH is 44.9% Commercial, 55.1% Medicaid
  - Commercial share: 19.6% MGB, 13.9% BCH
  - MassHealth / Medicaid share: 13.1% MGB, 11.3% BCH, 3.5% UMass, 3.4% Tufts

#### **Projections**

The FTI methodology for future projection assumed that the service utilization <u>rates</u> for each service and within each demographic group do not change over time and that volume changes proportionally with population

Visits Diverted to New BCH Facilities<sup>24</sup>:

<sup>&</sup>lt;sup>24</sup> Systems mentioned in this section comprised at least 2% of the visits that would divert to BCH. This analysis uses 2019 data, so does not reflect the Tufts closure announcements from 2022.

- For ASC, FTI estimates approximately 800 net new visits (based on the 2019 APCD data) would divert to the new BCH facilities. Of these, 47% would come from BCH, 9% from MGB, 3% from UMass, and 2% from Tufts.
- For Imaging services, FTI estimates approximately 12,400 net new visits (based on the 2019 APCD data) would divert to the new BCH facilities. Of these, 20% would come from BCH, 10% from MGB, 4% from UMass, and 2% from Tufts.
- For MRI, FTI estimates approximately 2,400 net new visits (based on the 2019 APCD data) would divert to the new BCH facilities. Of these, 29% would come from BCH, 9% from MGB, 4% from UMass, 2% from Boston Medical and 2% from Tufts.
- These percentages are not projected to change significantly over time.
- Predicted shifts were found by FTI to be generally consistent with the analysis and assessment BCH submitted to DPH

#### **Pricing**

Across service lines at the six primary systems, BCH has the highest average estimated price. It has the highest relative price for MRI and imaging overall, while Tufts has the highest relative price for ASC.

System	Facility	MRI	ASC	Imaging
ВСН	All Visits	1.97	1.36	2.02
Baystate	All Visits	0.91	0.58	1.47
<b>Boston Medical</b>	All Visits	1.27	1.14	1.26
Mass General	All Visits	0.93	1.01	1.06
Tufts	All Visits	1.43	1.58	1.82
UMASS	All Visits	0.66	0.84	1.56
Other	All Visits	0.67	0.94	0.72

#### Table 12: Relative Prices for Systems in Analysis

Source: Massachusetts All-Payer Claims Database. Statewide claims, commercial, 2019.

The greatest increase in healthcare costs is expected in MRI, followed by all imaging (which includes MRI) and a very small increase in costs for ASC services. Note that this is for commercial prices only.

**Table 13: Estimated Changes in Healthcare Costs** 

Year	Change in Healthcare costs – MRI Services	Change in Healthcare costs – ASC Services	Change in Healthcare costs – All Imaging Services	Combined Change – Imaging + ASC Services
2025	+4.26%	+0.12%	+1.92%	+1.25%
2030	+4.26%	+0.12%	+1.92%	+1.25%
2035	+4.24%	+0.12%	+1.91%	+1.24%
2040	+4.22%	+0.12%	+1.89%	+1.23%

Source: Massachusetts All-Payer Claims Database. Statewide claims, commercial, 2019.

Economic analysis of the more specialized services to be added or expanded at a specific BCH location - e.g., partial hospitalization, GI, and sleep services - show similar results in regard to cost. There is a small net increase in the medical spending rate that is consistent with cost containment goals.

#### Other services (GI, Partial Hospitalization, Sleep):

- GI: Estimated diversions from higher-cost providers would reduce costs by .66% by 2040.
- Sleep: Volumes are sufficiently small that FTI does not expect expansion of these services at the Waltham location to have a significant impact on costs.
- Partial Hospitalization: Unlikely to have a consequential impact on cost and may reduce costs by improving access to these services for patients waiting in the ED or other higher-cost services.

#### Predicted Change in Market Share

For ASC, BCH's share of visits increases by less than 1 percentage point and for Imaging (inclusive of MRI services), by 2 percentage points. The largest change in shares is for MRI, where BCH's new facilities increase BCH's total share of MRI visits, yet by less than 4 percentage points.

The visit shares do not change significantly from those projected for 2019 based on diversion estimates, with the change in total BCH's visits share only increasing less than 1 percentage point (between 0.2 and 0.3 percentage points across all 3 service lines).

	Service	Original 2019 Share	New 2019 Share	Projected 2025 Share	Projected 2030 Share	Projected 2035 Share	Projected 2040 Share
	ASC	14.3%	14.9%	15.2%	15.2%	15.3%	15.3%
Commercial	Imaging	19.1%	21.2%	21.6%	21.6%	21.7%	21.7%
	MRI	30.2%	33.9%	34.2%	34.2%	34.3%	34.3%
	ASC	14.9%	15.5%	15.7%	15.9%	16.0%	16.0%
Medicaid	Imaging	20.5%	22.5%	22.8%	23.0%	23.2%	23.2%
	MRI	31.8%	35.2%	35.7%	35.9%	36.0%	36.0%

#### Table 14: Projected Shares for BCH by Year (Combined Service Area, Patients Aged 0 – 18)

Source: Massachusetts All-Payer Claims Database. Combined service area claims, 2019.

FTI looked at the Herfindahl-Hirschman Index (HHI) measure of concentration, which associates price increases with changes in market shares. Because the HHIs and changes in HHIs determined for ASC and all imaging services are below the Department of Justice's thresholds, modifications to price due to changes in concentration were not undertaken and changes in health care costs are assumed to be entirely driven by patient redistribution among facilities whose prices may differ. Stated alternatively, the changes in share and concentration levels do not demonstrate a concentration/share basis of concern about increased pricing or bargaining power by BCH.

#### Table 15: HHIs and Changes in HHI

Service	HHI (2019)	HHI (2025)	2019-2025 ) change in HHI	HHI (2040)	2019-2040 change in HHI
ASC	710	726	+16	729	+19
MRI	1278	1492	+214	1497	+220
All Imaging	794	871	+77	876	+82
Source: Massachusette	11 Danon Claim	a Databasa S	tatowido alaima	commonal 2010	

sachusetts All-Paver Claims Database. Statewide claims. commercial. 2019

#### **ICA Summary Points**

- The ICA analyses, including current and future demand, utilization, payer mix, shifts in location of care, and estimated current and projected shares of BCH and other facilities in defined service areas, support the conclusion that the Proposed Project is consistent with health-care cost-containment goals, including as measured by the expected impact on rate of change in medical spending for commercial patients for these services.
- Cost containment: The project is consistent with the Commonwealth's cost-containment goals. BCH gains only limited projected share as compared to its alternatives in the defined areas, and the impact on the estimated rate of change in medical spending across services for commercial payers is below 1%.
- BCH's prices / payer spending: Volume will shift from (higher cost) BCH-Longwood to BCH's (lower cost) new locations for ambulatory surgery and imaging services. The combined, estimated impact is a small increase in spending for commercial payers.
- Utilization of higher-versus lower-priced providers: Utilization will shift from higher-priced BCH Longwood to the lower-priced new locations, in addition to shifts from other facilities (both higher- and lower-priced) to the new locations. The impact is a net small increase in medical spending rate for commercial payers, consistent with cost-containment goals.
- Utilization by location: The analyses performed predict shifts from BCH-Longwood (and other providers') urban locations to the new facilities. There are shifts from higher- to lower-cost facilities, and vice versa; overall, the net change is small.
- <u>BCH market share</u>: Small increases in BCH's market share for individual services, as well as its aggregate market share, are projected. The project is not likely to increase rates for commercial payers due to increased bargaining leverage.
- BCH's asserted patient panel need: Analyses of population and utilization projections yield results consistent with the Applicant's assertions its patient panel's need.
- Payer mix: BCH's payer mix is not anticipated to change substantially; there will continue to be a mix of MassHealth and commercial patients across the new locations.
- Shifts from urban to suburban do not necessarily imply urban residents switching to suburban locations, rather suburban residents choosing new locations that may be closer to their residence

- There are shifts from both lower to higher and higher to lower cost facilities. On balance the change is small.
- FTI followed the HPC focus on factors that can be influenced by policy or market participant behavior (e.g. prices, supply-induced demand) versus external factors (e.g. shifts in underlying health status or the aging of the population
- Approximately 62% of children in the combined service areas for the new facilities are white, 13% are African American, 10% are Asian. These are consistent with and further supported by the BCH Application data which included detailed data by race/ethnicity and other characteristics of the current patient panel served by BCH including at the satellite locations.
- BCH patients skew somewhat younger than the overall pediatric patients in the area, and also are somewhat more likely to be insured by commercial insurance, although both the overall population and the BCH population have between 45-55% MassHealth/Medicaid
- The proposed project supports access for ACO participants, as the service areas of the BCH ACO includes each of the 3 facilities.
- The impact of the new locations on relative prices is projected to be a small increase in overall average spend for providers in the shorter term as well as projected over the longer term (through 2040) yet below the current estimated cost-containment goals.
- BCH payer mix is not expected to change substantially or adversely.

#### **Analysis: Cost Containment**

The Proposed Project's stated intent is to increase access and by doing so with the expansion of two of its ambulatory locations and the addition of a new location in Needham will move some services from a higher-cost location in Longwood to lower-cost ambulatory locations. The consolidation of specific service types (e.g. gastroenterology at Needham) will also allow for more efficient care for children with complex needs. The ICA affirmed the projections of the Applicant and there were no comments from Parties of Record to the contrary. Assuming the assumptions made in the ICA remain accurate, the projected market share growth resulting from the Proposed Project is minimal. While CCMC is a high-cost provider and the largest provider of pediatric specialty care, the market shifts are expected to be from both high and low cost providers. It is also expected to increase access for the BCH ACO members in those areas.

The assumptions of the ICA regarding the minimal increase in market share, and the small projected increases in costs to commercial payers, are based on the assumption that BCH's Patient Panel is not significantly increasing, nor that new patients will be brought into the Longwood campus for medical care that can appropriately be provided in the satellite locations, once the capacity constraints at Longwood have been alleviated by the Proposed Project. In order to meet that assumption, Staff recommends a condition, previously discussed in Factor 1a and detailed in Condition 3, to ensure that BCH does not replace the freed-up capacity at its Longwood site with additional patients who could be appropriately treated in the satellite locations. This will ensure that the Proposed Project does not lead to additional increased to healthcare costs. Staff notes that, given the goals of this Proposed Project and the Applicant's previously-approved construction project at the Longwood site, it is appropriate for

more acute or medically complex patients (who cannot be treated in the satellite setting) to receive medical care on the main campus. Such care may separately increase total healthcare costs, but provides appropriate access for patients. The standard conditions also require reporting to the Department in the event that a Performance Improvement Plan (PIP) is required by the Health Policy Commission.<sup>25</sup>

Staff finds that, with the conditions detailed at the end of the report, while there is a small overall increase in health care costs, the Proposed Project is consistent with the Commonwealth's efforts to meet the health care cost containment goals, and therefore meets those components of factors 2 and 4.

#### **Improved Public Health Outcomes**

The Applicant states that BCH takes a long-term view of public health outcomes, providing specialized services responsive to the needs of children with conditions that often could not have been prevented. However, such services, through timely intervention and ongoing supportive care, can mitigate the impact of such conditions and help children become the healthiest adults they can be. The Applicant anticipates that the Proposed Project will expand access to services encompassed in this Application, including behavioral health. Such improved access will, in turn, ensure timely and early access to coordinated care, particularly for children with complex medical needs. Coordinating all aspects of a child's care, with appropriate support services, regardless of payer, ensures that they grow into healthy adults, which results in healthier communities.

#### **Analysis: Public Health Outcomes**

As discussed previously, including the section analyzing Factor 1f, BCH has been shifting procedures to ambulatory-based settings and anticipates continuing this trend at the facilities in the Proposed Project. For example, the Proposed Project would make sleep and ophthalmology services more available in a community care setting. Overall, the Proposed Project aims to enhance community access to the Applicant's integrated pediatric delivery system, which comprises inpatient medical and surgical care, intensive care, neonatal intensive care, emergency services, and more than 150 ambulatory programs and services. The Proposed Project would include interpreter and social work services at each of the sites.

#### **Delivery System Transformation**

The Proposed Project would provide care to the members of the BCH ACO, which has a number of programs to integrate community-based services and healthcare. The ACO strives to promote health equity in primary focus areas of population management, behavioral health, asthma management,

<sup>&</sup>lt;sup>25</sup> The standard condition set forth at 105 CMR 100.310(A)(18) indicates that should the HPC find that Holder of a determination of need required to develop and file a PIP is not fully complying with the PIP, the Holder must report to the Department as to why the Holder should still be deemed in compliance with the terms and conditions of the determination of need approval.

social determinants of health, and complex care. For example, through its flexible services program, the ACO recently launched food insecurity and housing support programs that refers patients to community-based organizations. The ACO also links children with qualifying levels of medical or social complexity with community organizations for additional case management. The Proposed Project would further the ACO's efforts in these areas, particularly behavioral health and complex care. The Applicant states that the Proposed Project would allow BCH to broaden engagement with community organizations outside of Boston and improve patient outreach. Additionally, as discussed above in the section analyzing Factor 1B, the Applicant has been tracking metrics pertaining to disparities (by race, ethnicity, and language) in outcomes and access to care, particularly with regard to its ACO. In 2020, the ACO launched an interpreter services pilot program that will spread to all BCH primary care practices.

The Pediatric Physicians Organization at Children's (PPOC), BCH's leading primary care arm, has embedded its health needs assessment into its EHR to facilitate SDOH screening. According to the Applicant, the sites in the Proposed Project would contribute to this effort. As noted in the section analyzing Factor 1B, MassHealth patients who need transportation to and from appointments can use the PT-1 program, and BCH is exploring the feasibility of expanding a program that provides rideshare transportation for patients. The Applicant engages with various community health partners and network affiliates (see Table 16 below) to provide specialized pediatric services to patients and families.

Bost Phys	ton Children's Satellite & sician Office locations	Primary Care/Specialty Network Affiliations	Community Health Center Partners	Community Hospital Staffing Partnerships	Alliances & Specialty Services Arrangements
Main Me Merth Bosto Bosto Bosto Bosto Bosto Bosto We	Campus in Boston's Longwood dical District a Eliot Community Health Center n Children's at Lexington n Children's at North Dartmouth n Children's at Peabody n Children's At Waltham n Children's Physicians Brockton n Children's Physicians Milford n Children's Physicians Norwood n Children's Physicians aymouth	PPOC—Pediatric Physicians' Organization at Children's Atrius Health Lahey Clinical Performance Network (LCPN) Mt Auburn/Cambridge IPA (MACIPA) South Shore Medical Center South Shore PHO	Bowdoin Street Community Health Center Brookside Community Health Center Charles River Community Health Center Dimock Center East Boston Community Health Center Mattapan Community Health Center South Cove Community Health Center South End Community Health Center Southern Jamaica Plain Community Health Center Upham's Corner Community Health Center Whittier Street Community Health Center	Beth Israel Lahey Health (Beverly, Winchester) Cape Cod (eff. 7/2021) (*) Milford Regional Southcoast Health (Fall River, New Bedford, Wareham) South Shore (Weymouth)	Catholic Medical (NH) Connecticut Children's (CT) Dana-Farber Cancer Institute (Joint Program) Baystate Medical Center Beth Israel Deaconess Med Center Boston Medical Center Brigham and Women's Dartmouth-Hitchcock (NH) Elliot Hospital (NH) Franciscan Children's Hasbro Children's Hasbro Children's Hasbro Children's Maine Medical Center (ME) Mass Eye & Ear Institute Massachusetts General Hospital UMass Memorial Medical Center
(*) Penc	ding Health Policy Commission approval.				University of Vermont Med Center (VT)

#### Table 16: BCH community health partners and network affiliate

#### **Analysis: Delivery System Transformation**

Central to the goal of Delivery System Transformation is the integration of social services and community-based expertise. The Applicant has described how patients in the panel are assessed and

how linkages to social services organizations are created. The Applicant described a focus in 2021 on SDoH and root causes of health inequities.

## **SUMMARY for FACTOR 2**

As a result of information provided by the Applicant and additional analysis, Staff finds that with recommended conditions, the Applicant has demonstrated that the Proposed Project has met Factor 2.

## Factor 3: Relevant Licensure/Oversight Compliance

The Applicant has provided evidence of compliance and good standing with federal, state, and local laws and regulations and will not be addressed further in this report.

## Factor 4: Demonstration of Sufficient Funds as Supported by an Independent CPA Analysis

Under Factor 4, the Applicant must demonstrate that it has sufficient funds available for capital and operating costs necessary to support the Proposed Project without negative effects or consequences to the existing Patient Panel. Documentation sufficient to make such finding must be supported by an analysis by an independent CPA. The CPA examined a range of documents and information in developing its report including 10 years of financial projections (Projections) for the Applicant (fiscal years 2021-2030), Audited Consolidated Financial Statements for the Applicant, historical results, and third party industry data. Additionally, it calculated Key Metrics (profitability, liquidity, and solvency) to assist in determining reasonableness of the Applicant's assumptions and feasibility of the Projections.

#### Revenue

The CPA reports that ~81% of revenue is derived from Net Patient Service Revenue (NPSR).<sup>26</sup> NPSR is projected to increase between 2.5% and 3.7% annually over the projection period which the CPA states is within range or below actual growth of 7.5% in FY2017, 6% in FY2018, and 6.2% in FY2019.<sup>27</sup> Growth in NPSR in the projections is attributed to 1) an increase to projected bedded patient days resulting from a recovering in volume from COVID levels and additional growth in service; 2) increased gross charges per statistic (from FY2023-FY2030, gross charges are projected to increase 3% per year); and 3) the payment on account factor, which reflects anticipated increases in payer rates of 1-3% annually from FY2023-FY2030. The 11-year compound annual growth rate (CAGR) for total operating revenue in the Projections of 2.9% is below Children's revenue growth rates in the prior three fiscal years (FY2017 through FY2019). The CPA found the projected revenue growth to be reasonable and feasible for the Applicant.

<sup>&</sup>lt;sup>26</sup> The CPA report states that the FY20 results for the Applicant were significantly impacted by the COVID-19 pandemic. Specifically, the Applicant cancelled or postponed all nonessential or elective procedures, non-urgent admissions, clinic visits, and research visits. As a result, FY 2020 results were deemed not meaningful from a historical trending perspective, and the CPA focused its analytical procedures on pre-COVID-19 historical results. CPA Report page 10, footnote 1.
<sup>27</sup> The projections include an increased number of clinic visits and surgical cases beginning in FY2025 related to the Proposed Project.

#### **Operating Expenses**

Operating expenses included in the analysis are salaries and benefits, supplies and other expenses, direct research expenses of grants, health safety net assessment, depreciation and amortization, costs related to asset dispositions, and interest and net interest rate swap cash flows. Salaries and benefits accounted for ~57% of total operating expenses, while "supplies and other expenses" accounted for ~25% throughout the projection period. Salaries and benefits are projected to increase 2.3% to 3.6% each year from FY2021-FY2030 (this projection was determined based on projected growth in FTEs due to growth in bedded patient days/adjusted patient days). Additionally, spending on supplies is projected to increase 3.1% to 9.5% each year from FY2021-FY2030. The CPA found the operating expenses projected to be based on reasonable assumptions and feasible for the Applicant.

#### **Capital Expenditures and Cash Flows**

The CPA reviewed the project costs (\$435m) within the projections, which are included in FY2021 to FY2027. The Applicant's Board of Trustees approved a maximum capital expenditure of \$435m on June 7, 2021. The CPA explained that the project will be funded through the Applicant's net assets and cash flows with no additional financing anticipated. Because the projections indicate total cash on the balance sheet of approximately \$350 million for each year, in addition to investments unrestricted as to use averaging approximately \$3.5 billion over the projection period, the CPA concluded that it appears feasible for the Applicant to fund the project without financing.

#### **CPA's Conclusion of Feasibility**

The Projections exhibit cumulative operating earnings before interest, taxes, and amortization (EBITDA) surplus of 9.8% of cumulative projected revenue for FY2021-30, which the CPA found to be reasonable and feasible. The CPA 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 Children's assets."

#### Analysis of Factor 4

Staff is satisfied with the CPA's analysis of the Applicant's decision to proceed with the Proposed Project. As a result, Staff finds the CPA analysis to be acceptable and that the Applicant has met the requirements of Factor 4.

#### Independent Cost Analysis for the Proposed Project

As noted in Factor 2, the Project was required to undergo an Independent Cost-Analysis (ICA) to evaluate whether the Proposed Project would be consistent with the health care cost containment goals of Massachusetts. Please see the cost section of Factor 2 for discussion and analysis of the ICA.

#### **Factor 4 Analysis**

Staff finds that the CPA analysis to be acceptable. As previously stated, the cost containment element of Factor 4 is met, with conditions. Thus, Factor 4 is met.

### Factor 5: Assessment of the Proposed Project's Relative Merit

The Applicant considered and rejected two alternatives to the Proposed Project (and also rejected the status quo) because they concluded that these alternatives would incur higher capital costs and are infeasible or less operationally efficient than the Proposed Project. The Applicant analyzed alternatives on a site-by-site basis (see tables below). The Applicant states that the financial feasibility of the Proposed Project depends on completion of both the Waltham and Needham facilities.

The Applicant rejects proceeding under the status quo (with no new facilities and perhaps renovations to expand capacity at the flagship campus) as impractical and cost-prohibitive. The main primary care ambulatory building in Longwood (Fegan) was built in 1967. The Applicant states that there is no space left in the building and the cost of modernizing individual clinical space to meet current day patient needs is very high.

	Proposed Project	Alternative #1	Alternative #2
Description	78,395 GSF of renovation within existing Waltham facility and construction of 224,000 GSF Needham Facility	New eight-story building on Waltham campus	Renovation of existing Waltham facility and leasing and renovation of a building in Needham
Quality	Comparable	Comparable	Comparable
Efficiency	Most operationally efficient	Less operationally efficient design (and significant challenges expected in obtaining local approvals); capacity may be insufficient to accommodate future growth	N/A (deemed infeasible due to height limitations)
Costs	Lowest capital cost (approximately \$326 million); most operationally efficient	Higher capital cost (approximately \$460 million)	Highest capital cost (approximately \$597 million)

#### Table 17: Factor 5 Alternatives Waltham and Needham Facilities

#### Table 18: Factor 5 alternatives Weymouth Facility

	Proposed Project	Alternative #1	Alternative #2
Description	Leasing and fit-out of approximately 38,362 GSF	Leasing and fit-out of alternate site	Leasing and fit-out of alternate site
	at 200 Libbey Parkway	(considered by BCH in 2019)	(considered by BCH in 2019)
Quality	Comparable	Comparable	Comparable
Efficiency	Comparable	Less desirable due to concerns regarding landlord expansion execution	Less desirable due to structural parking Requirements

Costs Approximately \$38 million	Approximately \$34.6 million plus parking garage costs	Approximately \$35.1 million plus parking garage Costs
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#### Analysis of Factor 5

Staff finds that the Applicant has appropriately considered the quality, efficiency, and capital and operating costs of the Proposed Project relative to potential alternatives. As a result of information provided by the Applicant, staff finds the Applicant has reasonably met the requirements of Factor 5.

## Factor 6: Fulfillment of DPH Community-based Health Initiatives Guideline: Overall Application

Summary and relevant background and context for this application: The Applicant is engaged in a different process to fulfill their Community Health Initiative (CHI) requirements associated with this DoN project application. The application is for three connected projects for licensed satellite sites outside of the geographic area for the primary location and includes renovation of an existing site and development of two new sites for pediatric care. The Applicant has completed a Community Health Needs Assessment (CHNA) that covers the geographies for each of the sites with distinct community engagement processes. The Applicant completed a CHNA in 2019 covering two of the locations and has shared with Department staff the new CHNA which, supported by a consultant, covers and ensures consistency across all three geographies. Staff requested and received further information on the Applicant's commitment to ongoing needs assessment, plans to collaborate with regional hospital and health system partners and other community planning processes, and plans for the administrative allowance. This further information was necessary to evaluate committee structures, community engagement, and use of Administrative Funds, specific to the three sites.

To fulfill Factor 6 requirements, the Applicant submitted the final CHNA from 2019, and a draft of the upcoming CHNA to include each geography covered in the application, a self-assessment, an overview CHI narrative, a Community Engagement Plan, and stakeholder assessments.

The Applicant has agreed that a significant focus of its CHI work should include health equity and racial disparities in healthcare. This will include \$5 million of their CHI commitment dedicated to local approaches related to cardiometabolic disease.

**The Community Health Needs Assessment** was released in 2019 by the Applicant. The 2019 CHNA coincided with the Boston city-wide collaborative CHNA/CHIP process, and the Applicant worked with its advisory body to extend assessment and engagement to its service area outside of Boston, including Waltham and Weymouth. The third site is covered in the upcoming CHNA to be released later in 2022. The 2019 Community Health Needs Assessment was developed through key informant interviews, focus groups, a community-wide survey, and secondary data collection and analysis. The city-wide Needs Assessment identified Housing Affordability and Access, Economic Mobility, Mental and Behavioral Health, and Access to Services as priorities. The Community Profiles for the satellite sites covered in the 2019 Assessment identified similar and slightly more specific areas of focus, including Substance Use, Learning Difficulties, and Asthma. The upcoming CHNA will employ similar engagement methods, adding a youth forum, to tailor to children and their families, and will include an expanded geographical scope. Using the upcoming CHNA, the Applicant will engage its Advisory Committee to select priorities and identify focus geographies and strategies for implementation with the funds associated with this Proposed Project.

**The Self-Assessment** provided a summary of community engagement processes and sociodemographic information, data and highlights related to topics and themes of communityspecific needs. Through service area-specific data analysis, surveys, focus groups and key informant interviews, the Applicant and stakeholders identified the key priorities and strategies identified in the current (2019) and upcoming (2022) CHNAs.

**Stakeholder Assessments** submitted provided information on the engaged individuals' engagement levels (e.g. their personal participation and role) and their analysis of how the Applicant engaged the respective community in community health improvement planning processes. Several stakeholder assessments were submitted for each of the processes, and the information provided in these forms was largely consistent with each of the self-assessments conducted by the Applicant.

**The Overview Narrative and Community Engagement Plan** provided background information for, and explanation of current Needs Assessment and project planning processes for the upcoming Community Health Needs Assessment final report. The Community Engagement Plan describes the Applicant's work to reduce barriers to participation and build leadership capacity throughout its CHI planning processes. Additionally, the Narrative explains the geographic need across the facility sites and provides justification of focus areas.

Additional information requested by staff, included more specifics on:

- Commitment to recurring CHNAs In its regularly conducted community health needs assessments, the Applicant is expected to include each of the communities with a project site. In the additional narrative and through ongoing communication, the Applicant detailed commitment to follow this expectation.
- **Opportunity to collaborate with regional hospitals** The Applicant committed to making an effort to collaborate with hospitals and health systems with a presence in each of the three geographic areas. Additionally, the Applicant will identify community health planning processes in each geography with which they will work to collaborate when appropriate, considering different roles in any efforts.
- **Timeline and Preliminary plans for Administrative Allowance** Initial plans for the administrative allowance associated with this project include support for facilitation and capacity building in the Healthy Communities investment strategy, and reduction in barriers to participation across all investment strategies related to this Application.

*Summary Analysis*: As a result of information provided by the Applicant and additional analysis, staff finds that with the conditions outlined below, and with their commitment to conduct ongoing Community Health Planning processes in the respective geographies of each satellite location, the Applicant has demonstrated that the Proposed Project has met Factor 6.

## Public Comments on the Application

Any person, and any Ten Taxpayer group, may provide written or oral comment at any time during the first 30 days following the Filing Date of an Application, or during the first ten days after a public hearing.

#### Public Hearing

The Department held a virtual public hearing in connection with the Proposed Project on December 9, 2021. A total of 34 people provided oral comments at the public hearing. Oral comments provided at the public hearing for consideration in DoN's review and analysis would be ones that address the Applicant's ability to meet the requirements of each of the relevant factors. The names of the speakers are listed in Appendix IV and a summary of the written comments is provided in Appendix VI. The transcript of the public hearing is available online on the DoN website.

#### Written Comment

Eighty-two people submitted written comments to the Department. Staff notes that some of the written comments were joint comments. Comments for consideration in DoN's review and analysis would be ones that address the Applicant's ability to meet the requirements of each of the relevant factors. The names of those submitting written comments are listed in Appendix V and a summary of the written comments is provided in Appendix VI. The full text of written comments is available online on the DoN website.

#### Ten Taxpayer Groups (TTGs)

Per the DoN Regulation, any ten taxpayers, organized as a group, may participate in the review of an Application for Determination of Need or request to amend a previously issued Notice of Determination of Need. Said group must register with the Department at any time during the first 30 days following the Filing Date of an Application, or during the first ten days after a public hearing held pursuant to 105 CMR 100.445.

Two ten taxpayer groups (TTGs) registered in connection with the Proposed Project. Table 19 below provides a brief overview of each registered TTG and their participation in the application review process.

#### Table 19: TTGs Overview

TTG Name	Date	Representative	Requested	Requested	Oral	Written
	Formed		Public	Independent	Comments	Comments
			Hearing	Cost	Provided at	Provided
				Analysis	Public	
				(ICA)	Hearing	

Shields	September	Kerry Whelan			
Health	3, 2021				
Care					
Group					
Friends of	September	Aimee		✓	✓
Boston	8, 2021	Williamson			
Children's					
Hospital					

### Findings and Recommendations

Based upon a review of the materials submitted Staff recommends approval of the Proposed Project with conditions. In addition to all applicable Standard Conditions, the Applicant must meet the conditions listed below. Failure of the Applicant to comply with these conditions may result in Departmental sanctions including revocation of the DoN. The conditions discretionary with the Department, pursuant to 105 CMR 100.552 are:

#### **Other Conditions**

#### Condition 1 – CHI

- 1. Of the total required CHI contribution of \$21,734,550.00
  - a. \$5,324,964.75 will be directed to the CHI Statewide Initiative
  - b. \$15,974,894.25 will be dedicated to local approaches to the DoN Health Priorities
  - c. \$434,691.00 will be designated as the Administrative Allowance
- 2. To comply with the Holder's obligation to contribute to the Statewide CHI Initiative, the Holder must submit a check for \$5,324,964.75 to Health Resources in Action (the fiscal agent for the CHI Statewide Initiative).
  - i. The Holder must submit the funds to HRiA within 30 days from the date of the Notice of Approval. co
  - ii. The Holder must promptly notify DPH (CHI contact staff) when the payment has been made.
- 3. The Holder shall continue to follow federal requirements for conducting triennial CHNAs. In developing CHNAs, Holder will continue to include the geography of each satellite location and make good faith efforts to collaborate with other area hospitals, as well as existing collaboratives and coalitions therein.

**Condition 2** – Before licensing the final 2 ORs at Needham, the Holder must demonstrate need to open the ORs. Data submitted must include:

- a. BCH satellite (combined) and Longwood OR utilization rate, by specialty
- b. With respect to BCH Systemwide Ambulatory Surgical Case Backlog, the number of unbooked cases and the months to clear the backlog by specialty:

- Orthopedic Surgery/Sports Medicine
- Urology
- ORL
- Ophthalmology
- Gastroenterology
- Plastics
- Dental
- General Surgery
- Dermatology
- GYN
- Pain

**Condition 3** - To ensure the Proposed Project is addressing ambulatory surgical patient panel need by reducing existing capacity constraints at BCH Longwood, one year after receiving the Notice of DoN, the Holder must provide as baseline data the below metrics and begin reporting the following information as part of an annual report required by 105 CMR 100.310 (A)(12):

With respect to surgical procedures at BCH Longwood:

- a. Acuity by case mix index
- b. Average minutes per surgical case

**Condition 4** – To ensure the Proposed Project is ensuring access to care for MassHealth patients with FY2019 as baseline data, the below metrics shall be reported after the sites open as part of an annual report required by 105 CMR 100.310 (A)(12):

- a. Payer mix by site and service for Needham, Weymouth, and Waltham
- b. Payer mix by HSA and service

The DoN program shall review the data received from BCH in accordance with Conditions 3 and 4 and any material decrease in measures 3a and 3b, or in the MassHealth payer mix for measures 4a and 4b shall be considered a Referral Indicator.

If the DoN Program finds any one or more of the Referral Indicators, the matter shall be referred to the Public Health Council (PHC) for review to determine whether CMCC is in violation of one or more of the conditions and thus out of compliance with the terms of this Notice of DoN.

Upon referral to the PHC based upon any one or more of the Referral Indicators, CMCC shall have an opportunity to show cause why the PHC shall not find one or more of the Referral Indicators.

### Recommendation

With inclusion of the above conditions, Staff recommends approval of this request for Substantial Capital Expenditure/Substantial Change in Service

## Appendix I Assessing the Impact of the Proposed Project

The Holder shall, on an annual basis, commencing with approval of this DoN, and continuing annually for a period of five years after the Project is complete, report on the following data elements, pursuant to 105 CMR 100.310(A)(12). Reporting will include a description of numerators and denominators.

- 1. The proportion (per 1,000) of children and families in non-Boston HSAs that are able to obtain the Applicant's pediatric specialty care.
- 2. The number of patients each year who obtain the following services in the community: outpatient behavioral health services, including partial hospitalization; gastroenterology services; and specialized pediatric MRIs.
- 3. The number of pediatric depression screenings performed for children with gastrointestinal disorders.
- 4. The number of Emergency Department visits and hospitalizations at BCH due to asthma, stratified by race.
- 5. Patient Origin (for Waltham, Weymouth, and Needham separately) by service and zip code.
- 6. Number of patients, by site that are new to the BCH Patient Panel (having their first visit with BCH) due to a visit at the Needham, Waltham, or Weymouth locations.
- 7. Number of patients, by site in BCH's existing Patient Panel that have an encounter at the Needham, Waltham, or Weymouth locations.

## Appendix II: Massachusetts Health Service Areas and Current and Proposed BCH sites (provided by Applicant)



Source: CCMC application (BCH facilities in orange; Proposed Project sites Needham, Waltham, and Weymouth in yellow). See Massachusetts Executive Office of Health and Human Services Regions, <u>https://matracking.ehs.state.ma.us/eohhs\_regions/eohhs\_regions.html</u>

# Appendix III: Services to be Provided by the Hospital and Affiliated Physician Groups

#### Legend:

Existing Services	
Expanding Services	
New Services	

	Services Provided	by Boston Children's Hospit	al Under the DoN
	Waltham	Needham	Weymouth
Behavioral Health			
Services			
Community Based Acute	х		
Treatment			
Med/Psych Day Program	Х		
12 Bed Inpatient Unit	Х		
All Other Diagnostic and			
Therapeutic Services			
Phlebotomy	X	X	X
Plaster room/Casting	X	X	X
Audiology	X		X
Speech Therapy	X		X
Vestibular Lab	X		
Nutrition	X	X	X
Echocardiograms	X		Х
Cardiac Street Tests	Х		Х
Visual Functions/Testing	Х	Х	Х
Urodynamics Lab	Х		
Breath Testing	Х	Х	X
Pulmonary Lab	X		X
Physical	х	х	Х
Therapy/Occupational			
Therapy			
Sleep	X		
Infusion	X		
Pharmacy	X	Х	
Peri-Operative Services			
Operating Rooms	X	X	
Inpatient Surgical Beds	X		
Radiology			
Diagnostic	X	X	Х
Fluro	Х	Х	Х
Ultrasound	X	X	X
СТ	X		
MRI	X	X	X
Interventional Radiology		x	

	Services Provided by Boston Children's Physician Office Practices		
	Waltham	Needham	Weymouth
Service			
Medical Subspecialties	Mix of Subspecialty	GI & Nutrition	Mix of Subspecialty
(Endocrinology, Derm,	Office Based	Office Based and Surgical	Office Based
GI/Nutrition,			
Immunology, Pulmonary)			
Anesthesia including Pain	Office Based and Surgical	Office Based and Surgical	
Management			
Cardiology	Office Based		Office Based
Dental	Surgery Only	Surgery Only	
Neurology	Office Based		Office Based
Neurosurgery	Office Based		
Ophthalmology	Office Based	Office Based and Surgical	Office Based
Orthopedic	Office Based and Surgical	Office Based and	Office Based
Surgery/Sports Medicine		Surgical	
Otolaryngology	Office Based and	Office Based and	Office Based
	Surgical	Surgical	
Plastic Surgery/Oral	Office Based and		
Maxial Facial Surgery	Surgical		
Psychiatry			
Surgery	Office Based and Surgical	Surgery Only	
Urology	Office Based and Surgical	Surgery Only	Office Based

## Appendix IV: Speakers at the Public Hearing

First Name	Last Name	Title and Organization	
Kevin	Churchwell	President and CEO of Boston Children's Hospital	
Dick	Argys	Executive Vice President, Chief Administrative Officer, Chief Culture Officer, Chief Operating Officer for Ambulatory & Satellites	
Lisa	Burgess	Family Advisory Council Member, Resident of Norton,	
Shari	Nethersole	Pediatrician, Executive director for Community Health at Boston Children's Hospital; Resident of Roslindale	
Mary	McGeown	Executive Director of the Massachusetts Society for the Protection of Cruelty to Children (MSPCC)	
Richard	Robertson	Pediatric Neuroradiologist, Associate Chief Medical Officer, Ambulatory and Satellite Operations; Radiologist-in-Chief and Chair (Emeritus)	
William	Lorenzen	Radiation and Health Services, Boston Children's Hospital; Resident of Waltham	
Elaine	Pinhiero	Resident of Needham	
Steve	Fishman	Surgeon-in-Chief ; Chief, Department of Surgery; Stuart and Jane Weitzman Family Chair in Surgery; Co-Director, Vascular Anomalies Center	
Sarah	Fleet	Pediatric Gastroenterologist at Boston Children's Hospital, and Director of the Growth and Nutrition Program.	
Magali	Garcia-Pletsch	Operations Director, Waltham Partnership for Youth	
Nina	Liang	City Council President, Quincy	
Thomas	Stanley	State Representative, 9th District Middlesex	
Joe	Cravero	Chair of the Department of Anesthesiology Critical Care Pain Medicine, Boston Children's Hospital	
Lisa	Hogarty	Senior Vice President, Real Estate Planning and Development	
Vanessa	Weisbrod	Director of Celiac Program at Boston Children's Hospital, Needham Resident	
David	Hunter	Chief of Ophthalmology Boston Children's Hospital, Belmont Resident	
Athos	Bousvaros	Vice Chair of Clinical Operations, Department of Pediatrics, Lexington resident	
Vincent	Coyle	Business Agent, Ironworkers at Local 7, Pembroke resident	
Richard	Garber	Pediatrician, Framingham Pediatrics	
Michael	Doucette	Retired Union Ironworker, Wilmington resident	

Matt	Selig	Executive Director of Health Law Advocate (HLA)
Julee	Blog	Executive Director Satellite Clinical Operations at Boston Children's Hospital
Monica	Lombardo	Vice President & Chief Advancement Officer, Boys & Girls Clubs of Metro South
Peggy	Montlouis	Community Health Educator, Randolph Public Health Department
Matt	Borrelli	Chair of Needham Select Board
Jonathan	Greenwood	Senior Director of Physical Therapy, Occupational Therapy, and Rehabilitation
		Services at Boston Children's Hospital
Andrew	Sharpe	
Rita	Mendes	Brockton Councilor-At-Large
Kira	Rose	Licensed Independent Social Worker and a Project
		Manager for the TEAM UP grant at Brockton Neighborhood Health Center.
David	DeMaso	Psychiatrist-in-Chief; Chairman, The Leon Eisenberg Chair in Psychiatry;
		Director, Office of Clinician Support, Boston Children's Hospital
Man Wai	Ng	Dentist-in-Chief, Department of Dentistry
Nicole	Oliva	Lexington resident
Laura	Wood	Chief Nursing Officer, Boston Children's Hospital

## Appendix V: Names of People Who Submitted Written Comments

First Name	Last Name	Title and Organization
Paul	Mina	President and CEO, United Way of Tri-County
Hilary and Geoffrey	Grove	Residents, Chestnut Hill
Brian	Palmucci	Ward Four City Councilor, Quincy
Stephenie	Schauberger	Resident, East Falmouth
Daniel	McCormack	Director, Weymouth Health Department
Elizabeth	Brown	CEO, Charles River Community Health
Lisa	Burgess	Boston Children's Hospital Family Advisory Council / Advisor Emeritus
Jennifer and Jeff	Robinson	Residents. Scituate
Vincent	Marturano	President & CEO. Old Colony YMCA
Michael	Davev	Council Representative of Local Union 51
Denise	Garlick	State Representative, 13th Norfolk District
Kate	Bazinsky	Resident, Newton
Anne	Mahoney	Councilor at Large
lan	Cain	Ward 3 Councilor
Charles	Phelan, Jr.	Ward 5 Councilor
Erica	Young	Executive Director, Waltham Boys & Girls Club
Diane	Gould	President & CEO, Advocates
Philip	Chong	President & CEO, Quincy Asian Resources, Inc.
Clarence	Richardson	President, Waltham Partnership for Youth (WPY) Board of Directors
Nina	Liang	City Councilor President, Quincy MA
Jeffrey	Thompson	Councilor, City of Brockton
John	Lally	Councilor, City of Brockton
Rita	Mendes	Councilor, City of Brockton
Moises	Rodrigues	Councilor, City of Brockton
Judith	Styer	Director of Health & Wellness, Framingham Public Schools
Aimee	Williamson	Parent Co-Chair of Boston Children's Family Advisory Council (FAC)
Winthrop	Farwell, Jr.	Councilor at Large, City of Brockton; Council President
Michael	Hess	Business Manager of Ironworkers Local 7
Thomas	Kerr, Jr.	Business Manger Financial Secretary/Treasurer of Pipefitters' Association Local Union 537
Lisa	Lambert	Executive Director, Parent Professional Advocacy League

Danna	Mauch	President and CEO, Massachusetts Association for Mental Health
Matt	Selig	Executive Director, Health Law Advocates (HLA)
Katherine	Coe	Resident, Plymouth
Katie	Litterer	Family Partnerships Coordinator & current member of the Family Advisory Council
Tracy Scatterday & Adam Delmolino		Residents, Arlington
Heidi	Anderson	President, Southfield Neighborhood Association
Yvonne	Spicer	Mayor, City of Framingham
Danna	Mauch	President & CEO, Massachusetts Association for Mental Health
Robert	Butler	President, Northeast Regional Council of Sheet Metal, Air, Rail, and Transportation Workers (SMART)
Jennifer	Curtis	Executive Director, South Shore Stars
Geoff	Potter	President, North Weymouth Civic Association
Greg	Reibman	President & CEO, Charles River Regional Chamber
William	McLaughlin	Business Manager of the International Union of Operating Engineers Local 4
Josephine	Rego	Resident, Foxboro
Robert	Hedlund	Mayor, Town of Weymouth
Chris	Duane	Boys & Girls Club of MetroWest
Daurice	Сох	Executive Director, Baystate Community Services (BSCS)
Arthur	Matthews	District Four Town Councilor, Town of Weymouth
Michael	Molisse	Councilor at Large, Town of Weymouth
Alan	Pero	International Supervisor, International Union of Operating Engineers Local 877
Thomas	Stanley	Representative, 9th Middlesex District Waltham/Lincoln
Marli	Caslli	Commissioner of Public Health, City of Quincy Health Department
Sue	Joss	CEO, Brockton Neighborhood Health Center
Peggy	Montlouis	Community Health & Wellness Educator, Town of Randolph Public Health Department
Dennis	Carman	President & CEO, United Way of Greater Plymouth County
Leif	Noremberg	Pediatrician, Briarpatch Pediatrics

Gena	O'Hara	Coordinator, Health Services Weymouth Public Schools
Daniel	Gutekanst	Superintendent of Schools, Needham Public Schools
Stephen	Kerrigan	President & CEO, Edward M. Kennedy Community Health Center
Benjamin	Jastrzembski	Ophthalmologist, Department of Ophthalmology, Instructor of Ophthalmology, Harvard Medical School
Monica	Lombardo	Vice President & Chief Advancement Officer Boys & Girls Clubs of Metro South
Ramey	Harris-Tartar	Pediatric Nurse Practitioner and Practice Manager in the MetroWest region, Resident of Needham
John	Fogarty	President Beth Israel Deaconess Hospital Needham
Dick	Argys	Boston Children's Executive Vice President, Chief Administrative Officer, Chief Culture Officer, and Chief Operating Officer for Ambulatory & Satellites
Julee	Bolg	Executive Director of Satellite Clinical Operations at Boston Children's Hospital
Athos	Bousvaros	Professor of Pediatrics, Harvard Medical School; Attending Physician in Gastroenterology, Boston Children's Hospital
Joseph	Cravero	Chair of the Department of Anesthesiology, Critical Care, and Pain Medicine, Boston Children's Hospital
David	DeMaso	Psychiatrist-in-Chief; Chairman, The Leon Eisenberg Chair in Psychiatry; Director, Office of Clinician Support, Boston Children's Hospital
Steven	Fishman	Surgeon-in-Chief ; Chief, Department of Surgery; Stuart and Jane Weitzman Family Chair in Surgery; Co-Director, Vascular Anomalies Center, Boston Children's Hospital
Sarah	Fleet	Pediatric gastroenterologist at Boston Children's Hospital and the Director of the Growth and Nutrition Program
Jonathan	Greenwood	Senior Director Physical Therapy, Occupational Therapy and Rehabilitation Services, Boston Children's Hospital
Lisa	Hogarty	Senior Vice President, Real Estate Planning and Development, Boston Children's Hospital

David	Hunter	Ophthalmologist-in-Chief; Richard Robb Chair in Ophthalmology; Professor and Vice Chair of Ophthalmology, Harvard Medical School
Umakanth Katwa, MD & Judith Owens, MD, MPH		Co-Medical Directors Sleep Center Boston Children's Hospital
Shari	Nethersole	Pediatrician, Executive Director for Community Health, Boston Children's Hospital
Man Wai	Ng	Dentist-in-Chief Boston Children's Hospital
Richard	Robertson	Boston Children's Radiologist-in-Chief, Emeritus
Doug	Vanderslice	Executive Vice President, Enterprise Services and System Chief Financial Officer
Laura	Wood	Executive Vice President, Patient Care Operations & System Chief Nursing Officer
William	Lorenzen	Radiation & health physicist, Boston Children's Hospital
Lisa	Burgess	Resident of Norton

## Appendix VI: Summary of Comments Submitted on the Proposed Project (Summarized by Factor)

#### Factor 1: Patient Panel Need

Boston Children's Hospital (BCH) is the only freestanding comprehensive pediatrics care system in Massachusetts. BCH provides services that are not available in other facilities, and that are tailored to meet the health care needs of a pediatric population. Currently, BCH has been addressing the needs of existing patients through the use of satellite locations, that allow for care to be provided closer to home. Existing capacity constraints on the main campus and satellite locations, coupled with an increasing need for pediatric behavioral health care in Massachusetts, a need that was further exacerbated by the COVID-19 pandemic, are reducing access to care for patients. Prolonged waiting can affect health outcomes, especially in developing children. Existing need for access to integrated pediatrics care, especially mental and behavioral healthcare is great.

- At the Longwood Campus, families weight for as long as eight months to obtain appointments for certain conditions and necessary tests.
- At BCH's ambulatory clinic in Boston, patient volume has surpassed existing capacity. BCH has worked to expand appointments and services outside of Boston, but due to space limitations and increasing volume, these measures have not alleviated capacity constraints.
- The waitlist for the Boston Sleep Program was three to four months before the COVID-19 pandemic. Wait times have decreased to two and a half months with the addition of two sleep beds in Waltham, and further decreases are expected with the additional capacity that will be added through the Proposed Project.
- Currently, 49 children are boarding at BCH on a medical floor or in the emergency room waiting for placement in an intensive psychiatric treatment setting. Last winter, the number was between 50 and 60 patients.
- The Growth and Nutrition Program has a waitlist of four to six months. Delays in accessing care for an infant or toddler with malnutrition or poor weight gain can adversely impact their future potential.
- BCH's Dental Department patients are racially, ethnically, and socioeconomically diverse, and half of patients have medically complex conditions and/or developmental disabilities. In 2019, prior to the COVID-19 pandemic, the Dental Department saw 28,500 outpatient visits and provided dental treatment to over 1,000 patient in the operation room (OR) using general anesthesia. Half of the OR procedures were completed at the Lexington outpatient surgical facilities, and 70-80% of patients who received OR treatment reside outside of Boston's suburban core.
- According to a recent article from JAMA Pediatrics, 25% of children in Massachusetts have a mental health disorder and approximately 50% of these children do not receive needed treatment or counseling for a mental health disorder.<sup>28</sup> Barriers to mental health services include the nonexistence of services, lack of capacity of mental health services for children at all levels and waiting lists for mental health services. This results in children waiting for very long

<sup>&</sup>lt;sup>28</sup> Whitney DG, Peterson MD. US National and State-Level Prevalence of Mental Health Disorders and Disparities of Mental Health Care Use in Children. JAMA Pediatr. 2019;173(4):389–391. doi:10.1001/jamapediatrics.2018.5399

periods of times, in often less than ideal settings, for appropriate care. The COVID-19 pandemic and associated disruptions adversely impact mental health of children: approximately 30% of parents at the start if the pandemic and 31% in October 2020, reported that their child's mental and emotional health was harmed. Further, adolescents, young children, LGBTQ+ youth, and children of color are particularly vulnerable to negative mental health consequences of the COVID-19 pandemic.<sup>29</sup> Access issues may exacerbate existing mental health issues among children.

• Recent studies have shown a decline over the past ten years in the number of U.S. hospitals with pediatric inpatient beds and pediatric inpatient units.

#### Factor 1: Health Outcomes

Through the Proposed Project BCH will be able to address need for care that is specialized for children, for services across the continuum of care. Procedures considered standard for adults often require very different processes for children. The Proposed Project will reduce wait times for children in need of appointments, consultations, and surgical procedures. With a focus on expanding access to care in its satellite locations, BCH will focus on creating a patient and family-centered experience. The satellite locations are smaller, less crowded, easier to navigate and more comfortable for patients and families than the Longwood campus. The physical space is adapted to meet the specific needs of a pediatric patient population. The sites provide affordable parking and design features that make it accessible for all patients. The site is close to the highway, supporting ease of access from multiple routes.

Making more care accessible closer to patient's homes will reduce the need for patients and families to travel into Boston to access care. Making care more accessible for patients and families will reduce the amount spent on traveling to appointments, and time lost away from work, and school. These features are especially important for pediatric patients that have more frequent contact with the healthcare services. Physical therapy and occupational therapy, essential components of surgical recovery, require multiple visits per week and complex care. BCH serves patients with complex medical needs, and providing multiple services allows for patients with complex needs to coordinate care and access care more easily across multiple providers and specialties.

When patients cannot be seen in a timely manner, this can lead to potentially preventable hospitalization. Timely access to diagnostic services reduces the potential for delayed or missed diagnoses. BCH Radiology provides unique MR services which has reduces the need for repeat exams and redundant imaging, and increase the use of MR without sedation, thereby reducing the need to travel to Boston for imaging with sedation. Pediatric anesthesia care is safer with Pediatric Anesthesiologists than with General Anesthesiologists. Through the Proposed Project, BCH will bring its leading pediatric anesthesia care to the ambulatory setting, which will improve access to this level of care for children. BCH's Pediatric anesthesia services include advanced integration with professions who are prepared to address the psychological and emotional needs of the pediatric surgical patient

<sup>&</sup>lt;sup>29</sup> Panchal N, Kamal R, Cox C, Garfield R, Chidambaram P. Mental Health and Substance Use Considerations Among Children During the COVID-19 Pandemic. Kaiser Family Foundation. 26 May 2021.

and families. BCH's pediatric anesthesia services have been shown to reduce the use of perioperative opioid and leads to better behavioral and functional outcomes after surgery.

#### Factor 1: Health Equity

Currently, barriers exist for patients that need access to BCH's services. The Proposed Project will expand access to culturally competent care in more convenient locations, to allow for more access to BCH's services. Lack of transportation is a significant barrier to accessing care. As an increasing number of low to moderate income families have relocated out of Boston towards Framingham, Randolph, Brockton, and Quincy due to rising housing costs. One of these surrounding communities, Brockton, is designated as a Medically Underserved Area (MUA) by the Federal Government.<sup>30</sup> The Proposed Project will address need in the communities in which the projects are sited, as well as surrounding communities that are medically underserved, racially/ethnically, linguistically and socioeconomically diverse, and communities that are impacted by health inequities. The Proposed Project will improve access to care for patients and families that experience barriers to accessing care particularly at BCH's Longwood Campus due to a lack of transportation, travel costs, and time required away from school and work.

#### Factor 1: Efficiency

The pediatric patient population has a need for a continuum of care that is integrated and medical records that are accessible by multiple care team. Healthcare of pediatric patients, both physical and behavioral, is becoming more complex, and the care for this population is increasingly shifting to multidisciplinary clinicals to allow for multiple providers to care for patients, thereby reducing the number of visits the patient has to make and supporting coordination of care across providers. For children with complex medical needs, such as cerebral palsy, feeding tubes, gastroesophageal reflux and orthopedic issues, will be able to schedule all of their specialties at one time, eliminating multiple visits.

Satellite facilities are more optimal for providing low-risk/low-complexity interventions for patients needing predictable care in satellite facilities designed for this purpose, and optimize the ability to perform more challenging, high-risk and less predictable procedures at BCH's main hospital facility. There are cost and operation inefficiencies with intermixing complex care and less resource intensive care. Many of the physician practices sited in the satellite locations rely on radiology services and locating imaging close to these programs will support collaboration and communication between radiologists and other clinicians and serve to enhance patient care and improve patient and family experience.

<sup>&</sup>lt;sup>30</sup> The Federal Government declared that seven continuous census tracts in Brockton made up a Medically Underserved Area (MUA). This meant that within this area, the medical needs of the population were not being met. MUAs and medically underserved population (MUPs) identify geographic areas and populations with a lack of access to primary care services.

#### Factor 1: Competition

The Proposed Project will improve access to a full range of high-quality, integrated pediatric care services in convenient, lower-cost settings. Expanding capacity will reduce delays in access to care and treatment which can prevent hospitalization and the need for more intensive care that will increase cost of care. Additionally, increasing access to multiple disciplines will reduce the number of visits required, and decrease the likelihood of duplication of services.

#### Factor 2: Delivery System Transformation

BCH works in collaboration with its community partners to: improve access to and quality of care for children, including behavioral health services for children; invest in upstream care; and address the social determinants of health (SDoH). Siting the Proposed Projects in the community will support BHC's collaboration with existing community partners, to carry out its community mission to implement programs that have the potential to result in long-term systemic changes that will improve health outcomes for all children.

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<sup>j</sup> See Pediatric Subspecialty Shortages Fact Sheets, American Academy of Pediatrics,

https://downloads.aap.org/AAP/PDF/Advocacy/Massachusetts SubspecialtyFactSheet.pdf

<sup>k</sup> See Karen Dineen Wagner, MD, PhD, New Findings About Children 's Mental Health During COVID-19, Psychiatric Times (October 7, 2020), <u>https://www.psychiatrictimes.com/view/new-findings-children-mental-health-covid-19</u>

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